EMERALD**HANDBOOKS**

THE EMERALD HANDBOOK OF RESEARCH MANAGEMENT AND ADMINISTRATION AROUND THE WORLD

EDITED BY
SIMON **KERRIDGE**
SUSI **POLI**
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OPEN ACCESS BOOK

The Emerald Handbook of Research Management and Administration Around the World

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About the Editors

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Makiko Takahashi is a Professor at the, Kanazawa Institute of Technology, Japan, and has been a Vice-Chair of RMAN-J (Research Manager and Administrator Network Japan) since the association's creation in 2014, following the Chair of establishment preparatory committee. For the past 20 years, she has devoted herself to the promotion of academia-industry collaboration, technology transfer, and research strategy while working in two national universities and one national research institute. Through these experiences, she proposed the necessity of the research administrative function for research strengthening in Japanese universities from 2008. And from 2011, she has contributed to the establishment of the first Japanese skill standard and educational programs under the MEXT URA (University Research Administrator) promotion program. She has recently been appointed Vice Chair and one of the founders of RMAN-J; Chair of INORMS (International Network of Research Management Societies) from 2021 to 2023; and recipient of an INORMS Award for Excellence in Research Management Leadership in 2021.

Therina Theron is the Senior Director, Research and Innovation at Stellenbosch University. She has been an Active Member of the Southern African Research and Innovation Management Association (SARIMA), and served as president 2019–2021. Therina holds a PhD in Medical Biochemistry but has also presented extensively in the field of research management and administration over the past nearly 20 years. She serves as Chair of the International Network of Research Management Societies (INORMS) 2023 congress hosted by SARIMA in Durban, South Africa. Therina is also co-Chair of the Association of Commonwealth Universities (ACU)'s Supporting Research Community steering committee.

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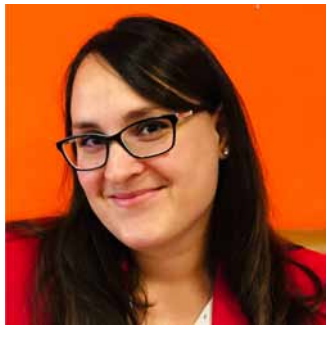

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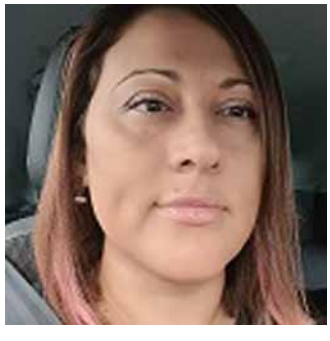

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Preface

Dr Celia Whitchurch, Honorary Associate Professor, IOE, UCL's Faculty of Education, London, UK

This Handbook is a timely contribution giving a state-of-the-art account of a profession that has developed over the years from what might be seen as purely regulatory and accounting roles, such as recording research income and expenditure, to more active roles, for example contributing to the writing of research grant applications, matching individuals and groups to specific income streams, and contributing to institutional research policy. As a result, research endeavour in institutions has become more integrated with institutional policymaking, and research managers perform a translational function between funders, academics and beneficiaries, for which transferable skills are required. They have, therefore, become research 'enablers' (King et al., 2023), 'science communicators' and 'policy analysts' (Poli, Oliveira, et al., 2023, Chapter 3.1), as well as managers *per se*. Their roles not only include knowledge exchange and project management, but also impact assessment, liaison with business and industry, public engagement and dissemination, in a world in which research is increasingly output and performance driven. This involves 'making things work' between different governance and value systems, particularly in international collaborations. Many of these types of roles put emphasis on the involvement of and feedback by stakeholders and users such as local communities and those participating in citizen science programmes. Those involved in such schemes are likely to be creating their own form of Mode 3 knowledge, i.e. 'situated' knowledge arising from practice that also involves stakeholders and users (Carayannis & Campbell, 2016; Whitchurch, 2023). At the same time, however, misrecognition of their roles and identities persists, particularly in respect of those elements of their work that are adjacent to academic activity.

The more analytic chapters give consideration to research management and administration both as a collective specialism, strengthened by national and international professional associations, and as a bespoke career, with the potential for individuals to develop their own niche within higher education, often poised between academic and professional forms of activity. In some cases, this also creates the opportunity to progress a career outside as well as within higher education. The increasing numbers of research managers with master's and doctoral qualifications mean that they may have direct experience of undertaking research, giving them the opportunity for greater career mobility, for example in project management, and/or in government agencies and policy-making bodies connected with funding research and technology. This can in turn create new divisions, between those with PhDs and those without, creating ambivalence about which world individuals belong to. It also sets up the potential for tension between the promotion of a collective identity, expressed via professional associations which give visibility to research managers' activities, and individual identities created by pursuing bespoke trajectories according to local circumstances. There are

also multicultural and multidisciplinary dimensions to cross-boundary work, particularly where research partnerships are aimed at global development. In this connection, 'cultural intelligence' is offered as a framework to help research managers navigate the complexities of diversity and internationalisation. All these factors can give rise to issues of where people belong, as well as potential misrecognition of their identities, which affects nomenclature, titles, career and promotion structures. These issues could be further explored as the literature develops.

It is apparent from the various contributions across countries that there are different levels of maturity for the different national groupings. Variables are likely to include the culture of an institution, the level of qualifications of individuals, particularly if they have a doctorate or academic experience, for example at the level of an early career researcher, and perhaps most critically, local relationships with academic colleagues. The debates across the chapters also raise issues about appropriate professional development for this group of staff, the extent to which this can be undertaken collectively, for example via training initiatives and the activities of professional associations such as conferences, and ways in which individuals might advance their skills and knowledge in the different spheres of research activity in which they may be involved. Practical examples are also given of research structures and cultures, and professional development frameworks, in different parts of the world. Thus, on the one hand, the book can be seen as a compendium mapping the contemporary profession internationally, and, on the other, as offering insights into the range of individual identities and aspirations that have emerged. The comparative dimension, across a broad range of countries, and indeed continents, makes it a particularly useful reference volume.

References

Carayannis, E. G., & Campbell, D. F. J. (2016). Mode 3 knowledge production: Systems and systems theory, clusters and networks. *Journal of Innovation and Entrepreneurship, 5*(17), 1–24.

King, D., Roberts, A., & Blohm, S. (2023). *Contributing to a positive research environment*. Research Consulting for Midlands Innovation. https://midlandsinnovation.org.uk/write/MediaUploads/Programmes/PRISMs/Research_Enablers_Report.pdf

Poli, S., Oliveira, C., & Zsár, V. (2023). From conceptualisation to action in the quest for understanding profiles and identities of research managers and administrators in the wider world. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 3.1, pp. 201–220). Emerald Publishing.

Whitchurch, C. (2023). Rehabilitating third space professionals in contemporary higher education institutions. *Workplace: A Journal for Academic Labor*, *33*, 24–35. https://ices.library.ubc.ca/index.php/workplace/index.

Preface

Nik Claesen, Managing Director of the European Association of Research Managers and Administrators, Brussels, Belgium

When I first heard about this book, I was impressed by the courage of these editors to take on such a huge task. They have taken on a mammoth challenge by combining a very broad geographical coverage with a description of the complexity of research management and administration (RMA).

The level of ambition of this book is however matched by the experience, expertise, and network of the editors. They are some of the most knowledgeable and connected practitioners of the global RMA community, and are at the forefront of research into RMA. They combine theory and practice and have an extensive frame of reference. I was therefore very excited at the undertaking of the major journey that has culminated in the completion of this book.

I am overjoyed to see the result of their labours, not only because it is interesting but also because it is highly relevant in the current international context. As the Managing Director of the European Association of Research Management and Administration (EARMA), I know the European context best and this book could not be more timely. Research Management and Administration has an amazing momentum across Europe, and in my view also across the world. With the awareness of RMA increasing around the globe, there is a need for three elements to advance the (emerging) research management and administration profession. Firstly, there is a need to understand the current situation better, both at the national level and the supra-national level. Secondly, there is a need to reach a better understanding of what research management and administration is, and what its role is within the (global) research and innovation ecosystem. Thirdly, it is of crucial importance that a much larger and more convincing evidence base is formed to allow all stakeholders, but especially policy makers, to take action and unlock the huge potential of research management and administration. This book advances all three aspects simultaneously while allowing the reader to understand differences across the world allowing them to take a step back from the national or organisational contexts and viewpoints. This will allow the reader to understand the complicated world of research management and administration better. Such understanding is crucial for the RMA community to move towards a mature profession.

Therefore, I regard this work not only as the next step in the state of the art of research into research management and administration but also a strong building block in the evidence base needed to create a better and stronger research management and administration community across the world. This is essential to allow for better research and innovation to take place and address the large challenges of our time. I salute and congratulate the editors, their regional editors, and the many authors for taking on this project and delivering such an impressive result.

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[1]https://earma.org/
[2]https://armanl.eu/
[3]https://darma.dk/
[4]https://fortrama.net/

We would also like to acknowledge the many colleagues, friends, and family members who have provided support, encouragement, and inspiration along the way. Although we are unable to mention everyone by name due to space constraints, we would like to mention a few.

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[5]https://www.ncura.edu/MembershipVolunteering/Programs/NCURAResearchProgram.aspx
[6]https://inorms.net/activities/raaap-taskforce/; https://bit.ly/raaap/

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Introduction and Structure

Simon Kerridge[a], *Susi Poli*[b] *and Mariko Yang-Yoshihara*[c]

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Introduction

Over the past decades, scholars and practitioners around the world have observed the emergence of professionals who actively engage in supporting research and related activities as research managers and administrators (RMAs). Research projects are becoming increasingly interdisciplinary, involving multiple institutions and often requiring large teams of researchers with different areas of expertise. There is also an increasing focus on research integrity and the need to provide guidance and support on issues such as research ethics, data management, and research governance. In addition, researchers are faced with increasing pressure to demonstrate the impact of their work. RMAs can provide support to ensure that research is conducted efficiently, ethically, and with impact, both in terms of academic outputs and broader societal effects.

Despite the surging interest in the profession and the developments in the field, there has been little effort to investigate RMAs in a comparative manner. An initiative was thus launched to put together observations from around the globe and across disciplines to provide a cross-regional and cross-cultural account of the professionals who actively engage in research support as RMAs. 127 authors contributed their observations on over 50 countries that reside across 7 regions: Africa, North America, South America, Asia, Australasia, Eastern Europe, Western Europe, and the Middle East.

Capturing wide ranging topics to communicate with varying audiences, the book is designed to serve multiple purposes. It is a handbook for individuals who are considering a career in research management and administration (RMA). It also serves as a reference text for those concerned with developing policies to support research.

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The handbook also provides knowledge for students who are otherwise unfamiliar with RMA as an occupation. Ultimately, the volume aims to offer evidence-based discussion as a foundation to promote not only the visibility and recognition of RMAs, but also social awareness about the profession.

The book was edited by three individuals who have come from diverse backgrounds while sharing a mutual interest in studying the emerging global trends in the field of RMA. Simon Kerridge (University of Kent) has been actively leading the field as principal investigator of the RAAAP surveys, while Susi Poli (Bologna University) has been researching RMAs utilising vast knowledge and experience on the subject. Mariko Yang-Yoshihara (Stanford University) brings in a critical perspective to provide cross-discipline, cross-cultural voices to the project. The Editors have been responsible for instilling and executing the book's overall vision, creating and providing guidelines for authors, and ensuring intellectual consistency over separate sections that involved both academic and practical knowledge.

The scope and scale of the book necessitated the involvement of 'Regional Editors' to assist in author identification and management, assist in the country-specific chapters and chapters within their expertise. Jan Andersen, Melinda Fischer, Mark Hochman, Fernanda Oliveira, Makiko Takahashi, Therina Theron, and Virág Zsár served as the Regional Editors, liaising with authors and keeping them accountable for their contribution to align with the book's vision.

Structure of the Book

The book is structured in two parts. Part 1 presents the chapters by researchers and practitioners with a goal to provide frameworks to help address the challenges and opportunities that RMA are faced with. We hope that these works will inform future research and help develop the best practices in the field. Part 2 brings together descriptions of the current state of research management and administration across countries. There are over 50 states and regions represented in these chapters, offering a comprehensive global overview of the RMA landscape. Authors from more than 40 countries, primarily practitioners with some scholars, have shared their observations and insights. Typically, the first part is more theoretical and 'academic' in nature, while the second part is more discursive and 'practitioner' focussed.

The book does not intend to provide a comprehensive understanding of the tasks and responsibilities of an RMA. Instead, it delves into the broader issues of the formation and evolution of these professional groups, which has become an essential part of the research ecosystem. Its focus is on explaining the reasons behind their existence and the significance of their roles in the increasingly globalised research landscape. The rationale, structure, and content of the book are as follows. For those seeking detailed technical information and practical guidance on research management and administration, it is recommended to explore the numerous RMA associations, many of which are discussed in this book, or visit the membership page of the International Network of Research Management Organisations (INORMS, n.d.). Additionally, there are print-based resources available, such as Kulakowksi and Chronister (2011), which has a US focus, and Andersen et al. (2017), which centres on Europe. Moreover, there are four academic journals dedicated to RMA: the *Journal of Research Administration,*[1] the *Research Management Review*,[2] the *Journal of Research Management and Governance,*[3] and the *Journal of Research Management and Administration.*[4]

[1] https://www.srainternational.org/resources/journal
[2] https://www.ncura.edu/Publications/ResearchManagementReview.aspx
[3] https://jrmg.um.edu.my/
[4] https://publications.coventry.ac.uk/index.php/jorma/index

Structure and Rationale

Part 1 is organised into four sections. Section 1 includes seven chapters covering the ***History*** of the development of RMA in different parts of the world. Section 2 has eight chapters focusing on the ***Context*** in which research management and administration operates. Section 3 comprises seven chapters, exploring the ***Identity*** of RMAs, while Section 4 delves into the ***Professionalism*** of RMAs. For a more detailed overview of Part 1 and guidance on how to navigate it, please refer to Chapter 1 (Yang-Yoshihara & Poli, 2023). Part 2 consists of a single section with 42 chapters, each offering a practitioner's perspective on the state of research management and administration in a specific geographic region. This section includes an introduction (Kerridge, 2023c, Chapter 5.1) outlining the chapter order, and a concluding chapter featuring contributions from all the Regional Editors (Kerridge, Andersen, et al., 2023, Chapter 5.44), which highlights both commonalities and differences among regions. Finally, Section 6 has a single entry (Yang-Yoshihara, Kerridge, et al., 2023, Chapter 6) featuring the Editors' reflection of the project and discussion of the key findings presented throughout this book.

Research Management and Administration

As in any other emerging fields, acronyms abound in the domain of RMA. To assist readers, we have provided a Glossary section that covers many country- and region-specific terms, as well as international expressions. However, some terms pose challenges, including the word 'RMA' itself. In this book, we employ 'Research Management and Administration' to refer to the field or domain, and 'Research Manager and Administrator' to denote an individual practitioner in the field. It is important to clarify that RMA is by no means an internationally agreed-upon term. For example, in North America, 'Research Administrator' is predominant, while in South America and Africa, 'Research and Innovation Manager' is more popularly used. In a recent survey (Kerridge, Dutta, et al., 2022), those identifying as working in the RMA field were asked to select their preferred title. Across 26 countries with at least 10 respondents totaling $n = 2{,}075$, no consensus emerged on a single term for the profession; all but two countries used seven or more of the provided terms. This underscores that, while there may be a shared understanding of the role of RMAs, there is no unified identity regarding the terminology used to describe them. This topic is explored in various chapters in Part 1.

Practicalities of the Book

This book is fully Open Access and available online, free of charge to a broader audience. Readers should note that each chapter consists of several parts, each beginning with an abstract to guide them. We intended each chapter to be self-contained, allowing readers to extract and read them as standalone articles. As such, there may be some recurring themes and inevitable repetition of ideas across chapters. Every chapter is provided with its own DOI (Digital Object Identifier), and we have utilized standard author-name citations to facilitate future retrieval. While the entire book boasts a comprehensive reference list with over 1,000 entries, each chapter also includes its own list of references. In general, we have encouraged citations from a variety of sources beyond academic articles, reserving footnotes primarily for straightforward web references. This means that documents from websites or specific web pages would normally be cited, while a website homepage would receive only a footnote.

Fig. 0.1 Author Group Photo, EARMA Conference, 25 April 2023, Prague, Czechia.

Left to right: Olaf Svenningsen, Research Lighthouse; Susi Poli, Alma Mater Studiorum University of Bologna; Virág Zsár, HÉTFA Research Institute; Patrizia Rampioni, Erasmus University of Rotterdam (NL); Makiko Takahashi, Kanazawa Institute of Technology; Francesca Mura, University of Padua; Sandra Mereu, Université Paris Cité; Zsuzsanna Angyal, Leiden University; Mirella Collini, Università degli Studi di Trento; Cristina Borras, Agency for Management of University and Research Grants; John Donovan, Technological University Dublin; Susie Cullinane, South East Technological University; Jakob Feldtfos Christensen, DIVERSIunity; Aurelija Povilaike, Research Council of Lithuania; Zygmunt Krasiński, Institute of Fundamental Technological Research, Polish Academy of Sciences; Eleonora Zuolo, Sorbonne Université; Jan Andersen, University of Southern Denmark; Doris Alexander, Trinity College Dublin; Anna Groeninx van Zoelen, Retired; Kris Monahan, Providence College; Simon Kerridge, University of Kent; Kathleen Larmett. NCURA; Jaroslav Sip, Czech Technical University; Evelina Brännvall, Universities in South, Lund University; Edwin Kanters, Utrecht University; Lachlan Smith, Cloud Chamber; Andri Charalambous, The Cyprus Institute; Primož Petek, Slovenian Forestry Institute; Mark Hochman, Research Management Resources Pty Ltd; Hege Nedberg, The Norwegian Mapping Authority; Vanda Baloh, ZRC SAZU; Bruno Woeran, PMU Innovations Ltd; Tania Tambiah, Swinburne University of Technology; Nichole Elgueta Silva, University of Agder; Elisabeth Denk, University of Natural Resources; José Santos, Instituto Politécnico de Bragança; Teresa Costa, Universidade NOVA de Lisboa; Carolina Varela, European University Association; Valentina Romano, Politecnico di Torino; Emma Lythgoe, Instituto de Nanociencia y Materiales de Aragón.

Fig. 0.2 Author Group Photo, INORMS Conference, 31 May 2023, Durban, South Africa.

Standing, left to right: Maryke Hunter-Hüsselmann, Stellenbosch University; Cristina Oliveira, NOVA University Lisbon; Madhuri Dutta, George Institute India; Therina Theron, Stellenbosch University; Evelina Brännvall, Universities in South Sweden; Bruno Woeran, Paracelsus Private Medical University; John Kirkland, Retired; Elliott Kulakowski, Research Administration and Management Strategy Group; Jan Andersen, University of Southern Denmark; Les Labuschagne, University of South Africa; Silke Blohm, 4Sciences Group Ltd; Tania Tambiah, Swinburne University of Technology; Paul Winkler, FORTRAMA; Carol Wangui Hunja, South Eastern Kenya University; Patrizia Rampioni, Erasmus University of Rotterdam; Mu Rongping, Chinese Association for Science of Science and S&T Policy; Tan Hsiao Wei, Universiti Malaya; Savita Ayyar, Jaquaranda Tree Consulting; Karin Dyason, SARIMA.

And seated, left to right: Changu Batisani, Botswana Open University; Vanda Baloh, ZRC SAZU; Pamisha Pillay, Wits Commercial Enterprise; Virág Zsár, HÉTFA Research Institute; Mariko Yang-Yoshihara, Stanford University; Susi Poli, Alma Mater Studiorum University of Bologna; Simon Kerridge, University of Kent; Melinda Fischer, Clemson University; Shaliza Ibrahim, Universiti Malaya; Makiko Takahashi, Kanazawa Institute of Technology.

Last but not least, we have adopted the CRediT taxonomy for author contributions to chapters, you can discern which authors contributed to specific aspects of the chapter. Additionally, authors have included their Orcid identifiers where available, enabling you to access more information about them and explore their other works, beyond what they've provided in their mini biographies.

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Jan Andersen – Western Europe
Melinda Fischer – North America
Mark Hochman – Australasia, and the Middle East
Fernanda Stringassi de Oliveira – South America
Makiko Takahashi – Asia
Therina Theron – Africa
Virág Zsár – Eastern and Central Europe

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References

Andersen, J., Toom, K., Poli, S., & Miller, P. F. (2017). *Research management: Europe and beyond*. Academic Press.

INORMS. (n.d.). *Our members*. https://inorms.net/membership-directory/

Kerridge, S. (2023c). Introduction to the RMA by Country Chapters. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 419–421). Emerald Publishing.

Kerridge, S., Andersen, J., Fischer, M., Hochman, M., Oliveira, F., Takahashi, M., Theron, T., & Zsár, V. (2023). Reflections on the country chapters. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 797–804). Emerald Publishing.

Kulakowski, E. C., & Chronister, L. U. (Eds.). (2011). *Research administration and management* (p. 916). Jones and Bartlett. ISBN: 978-1449634407.

Yang-Yoshihara, M., Kerridge, S., & Poli, S. (2023). Emerging trends and insights in research management and administration. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 807–814). Emerald Publishing.

Yang-Yoshihara, M., & Poli, S. (2023). Introduction to Part 1. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 7–13). Emerald Publishing.

Introduction to Part 1

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The field of research management and administration (RMA) is an evolving domain. With research endeavors spanning multiple disciplines and often involving various institutions and diverse teams of experts, there is an increasing focus on research governance. Researchers are now expected to demonstrate the impact of their work, going beyond academic achievements to encompass broader societal significance. RMAs play a crucial role in ensuring that research is carried out efficiently, ethically, and with a substantial societal impact, aligning with evolving funding priorities, changing policy requirements, and the rapid advancement of technologies.

As RMAs' roles and responsibilities continue to expand, more researchers and scholars are turning their attention to this domain for investigation. However, the theoretical foundations of RMA activities have been relatively unexplored. To address this gap, Part 1 of this handbook comprises a comprehensive collection of chapters covering various topics, offering frameworks to inform and guide future research on RMAs. These theoretical frameworks assist in addressing the numerous challenges and opportunities that this evolving field encounters and serve as a basis for developing best practices. The contributions from leading experts and practitioners in the field provide valuable resources for researchers, practitioners, policymakers, and students looking to deepen their understanding of this emerging profession.

Part 1 consists of four sections with distinct themes: History, Context, Identity, and Professionalism. We present a succinct overview of each chapter by dividing the discussion into four sections.

Section 1: History

Section 1 provides the historical context to lay the foundation of the subsequent discussions on the RMA profession. How and when did RMA emerge as a profession

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in different parts of the world? How were professional associations for RMAs set up and organised in different regions? **Chapter 1.1** (Kirkland, 2023) presents a comprehensive overview of the progress of research management in Africa over the past two decades, particularly through the growth of various professional associations including Southern African Research and Innovation Management Association, SARIMA. The chapter aims to offer a critical assessment of the role of international support in building research management structures on the African continent. **Chapter 1.2** (Monahan et al., 2023) offers a thorough chronology of how the profession has evolved in the United States and Canada, with distinct specialisations over the years, resulting in the development of professional societies in both countries. It also touches on Mexico, where no formal research administration infrastructure has been established yet.

Chapter 1.3 (Takahashi, 2023) focusses on Asia by highlighting the increasing need and the resultant development of RMA since the 2010s by covering China, India, Japan, Malaysia, Singapore, and Vietnam. The comparative analysis also reveals a variation among the countries in the region in the way they address these professions. In **Chapter 1.4** (Hochman et al., 2023), the authors trace the origins of the RMA profession in Australasia, charting its growth over the past 35 years. They show how the RMA profession in Australasia has gained widespread recognition within the higher education sector and among government agencies, through the establishment of a well-regarded accreditation program.

Chapter 1.5 (Zsár, 2023a) demonstrates the close relationship between the development of RMA in Europe and the science and technology policy emerged from discussions among the European Union member states, the European Commission, and Parliament. The author traces its origins to the 1980s, depicting how a network among a small group of financial professionals has evolved over time, with uneven growth across regions. **Chapter 1.6** (Groeninx van Zoelen, 2023) provides a brief overview of the state of RMA in Central and Eastern European countries, where the profession is relatively new given the history, size, and economy of the region. Highlighting examples of progress and challenges within the profession, the author maintains that only a few have leveraged regional or European funding opportunities.

The last chapter of Section 1, **Chapter 1.7** (Kulakowski, 2023) provides a detailed historical account of the origins and evolution of INORMS, the International Network of Research Management Societies, and summarises the factors that led to its formation. Established 20 years ago, INORMS has grown its membership base by successfully addressing the need for cross-national understanding of research regulations and promoting collaborations among member societies.

Section 2: Context

Section 2 is dedicated to exploring the contextual aspects of RMAs, including their professional qualifications, skill sets, and common career trajectories. Through detailed discussions on definitions, this section aims to promote our understanding of the field.[1]

[1] As stated in the previous chapter (Kerridge et al., 2023, Introduction and Structure), this book focusses on issues such as formation, evolution, and significance of the professional roles in the broader research ecosystem. For in-depth understanding of the tasks and responsibilities of RMAs, Kulakowsi and Chronister (2006) provides a detailed description of the day-to-day tasks involved in the profession, which could be of interest to readers who are considering becoming an RMA.

Chapter 2.1 (de Jong, 2023) aims to provide a comprehensive definition and description of professional staff (PS) in higher education and research, taking into account the evolving nature of employment in these sectors. With the absence of a widely accepted definition, the author proposes a new narrative that integrates current literature. **Chapter 2.2** (Oliveira, Fischer, et al., 2023) analyses the results of the third Research Administration as a Profession Survey (RAAAP-3) carried out in 2022. It examines various demographic characteristics of RMAs as well as the types of institutions where they work, their job responsibilities, academic qualifications, professional accreditations, and affiliation with professional associations.

Chapter 2.3 (Dutta et al., 2023) explores the routes how individuals enter the RMA profession, the skills they bring to secure their first role, and their career satisfaction. The chapter provides an overview of the diverse backgrounds and paths that can lead people to the field of RMA, based on the qualitative feedback from the RAAAP-3 survey questions. The aim of **Chapter 2.4** (Poli, Kerridge, et al., 2023) is to explore the reasons behind individuals choosing to become and remain RMAs, as well as to understand their roles, skills, and career paths. The chapter examines the results of the RAAAP-2 survey to gain a global understanding of this developing field. **Chapter 2.5** (Santos et al., 2023) investigates the work settings of RMAs and analyses the various work contexts, based on the data collected through surveys and interviews conducted with RMAs from the United States and Europe.

Chapter 2.6 (Junqueira & Bezerra, 2023) presents a case study of the establishment of a scientific research project management office at a Brazilian institution. Depicting a success by a small team operation, the chapter aims to illustrate the significance and impact of RMA practices even in settings with limited resources. **Chapter 2.7** (Ritchie et al., 2023) provides a thorough discussion of RMA education, training programs, and professional development in North America and Western Europe. It evaluates the proliferation of certification and credentialing programs over the past three decades and their influence on the development of the field as a profession. With a goal to provide a platform, **Chapter 2.8** (Andersen & Romano, 2023) provides an overview of the emergence and institutionalisation of professional associations for RMA, which creates a forum for future discourse among practitioners, and a nexus for a profession to develop around.

Section 3: Identity

Section 3 is dedicated to presenting the latest research findings related to the emerging identity of RMA as a profession. The chapters in this section explore a range of issues that RMAs face as they navigate the challenges and opportunities of this evolving field.

Chapter 3.1 (Poli, Oliveira, et al., 2023) utilises a mixed methodology to comprehensively understand the RMA profession by combining viewpoints and interpretations from both within and outside the field. It concludes by analysing how individuals from other fields who partake in RMA training courses perceive the RMA profession. The objective of **Chapter 3.2** (Poli, et al., 2023) is to enhance the reader's comprehension of the organisational structures surrounding RMAs and their functionality. It commences by elucidating the various types of knowledge present in higher education and evaluates the institutionalisation and development of the RMA profession across different countries. In **Chapter 3.3** (Oliveira, Trentini, et al., 2023), the authors introduce a four-type model of organisational structures in the realm of RMA and illustrate it with two examples: Embrapa in Brazil and SAM-Research at the Alma Mater Studiorum University of Bologna, Bologna, Italy. The objective is to demonstrate to readers the significance of creating adaptable and tailored support services for RMA.

With a specific focus on the African context, the authors of **Chapter 3.4** (Hunter-Hüsselmann et al., 2023) explore the significance of cultivating institutional research cultures and implementing effective research support structures, including the establishment of dedicated research offices. The chapter also offers insights into effective management and utilization of research information. **Chapter 3.5** (Sonobe & Saito, 2023) provides an account of the specialists who coordinate international projects in the ASEAN countries, by focussing areas in science, technology and innovation. The authors emphasise the importance of an empathetic approach to interdisciplinary collaboration, which involves understanding and meeting the specific needs of local contexts. **Chapter 3.6** (Zsár, 2023b) explores the importance of professional associations in the growth of the RMA profession in Europe. The author applies the theory of social constructivism to analyse how RMA associations promote the international culture of their members and influence policy-making at different levels. **Chapter 3.7** (Yang-Yoshihara, Poli, et. al., 2023), examines the RMA identity as a dynamic process rather than a fixed concept within the evolving higher education landscape. The authors delve into hte challenges encountered in teh field and encourage RMAs to proactively participate in shaping their identities and enhancing the profession's visibility.

Section 4: Professionalism

To capture the evolving nature of RMA profession, Section 4 explores various issues surrounding their professionalism.

Chapter 4.1 (Dyason & Pillay, 2023) presents a case study to show how the Southern African Research and Innovation Management Association (SARIMA) has advanced the professionalisation of RMA in the region, through collaboration with its members as well as strategic partnerships and funding. The authors present a conceptual roadmap that shows how to steer the young profession of RMA in Africa and beyond Southern Africa. In **Chapter 4.2** (Zsár and Angyal, 2023), the focus is on Hungary, where the authors find that the RMA profession is still in its early stages of maturity, with a constantly evolving state of research support. According to the authors, RMAs in Hungary may lack the necessary knowledge to meet non-research-specific criteria, but they show a willingness to learn and improve their capacities.

Chapter 4.3 (Poli & Taccone, 2023) examines the identities and communities of educational staff and RMAs internationally through the example of a large multi-campus university in Italy. The study compares the self-awareness and sense of belonging of two professional groups in relation to their roles in supporting education (teaching and learning) and research, indicating that RMAs have a stronger sense of community, compared to educational managers. **Chapter 4.4.** (Romano et al., 2023) provides a comprehensive overview of the skills and competencies of RMAs worldwide by comparing 22 national, EU, and international RMA associations and professional development frameworks. The study aims to enable benchmarking and analysis for the development of professional frameworks, training for RMAs, and their recognition as a profession.

Chapter 4.5 (Shambrook, 2023) addresses the issue of mental health for the RMA profession. It investigates stress levels by analysing data collected from regions including the US, Great Britain, Europe, Australasia, and Canada through the Research Administrator Stress Perception Survey (RASPerS). The author argues that the findings can help RMAs lead healthier lifestyles and assist leaders in creating work environments that support employee retention. **Chapter 4.6** (Marčić & Pepić, 2023a)

presents a study that includes a focus group and a survey of RMAs in the Western Balkans offering insights into the current state of the profession, its evolution, and the challenges and opportunities perceived by the RMAs themselves. The findings provide a comprehensive view of the RMA profession in this under-investigated region and suggest areas for future research and recommendations.

Chapter 4.7 (Ito & Takahashi, 2023) examines the relationship between long-term career success of RMAs and relevant factors, using data from the RAAAP-2 survey. The results show that job attraction and obtaining additional academic degrees are positively associated with the total years of experience. Additionally, there is a significant connection between country/regional variation and total years of experience. In **Chapter 4.8** (Christensen & Smith, 2023), authors address the issue of diversity in research and research management, examining the benefits and challenges faced by RMAs working with diversity in international research organisations. Drawing from practitioners' perspective, the authors suggest using 'Cultural Intelligence' as a framework to help RMAs navigate the complexities of diversity and internationalisation in the research process.

The wide array of perspectives presented in Part 1 enables readers to grasp the historical background that paved the way for this profession's emergence. These diverse viewpoints also serves as a inspiration for practitioners to reflect on their professional identity. Our aim is for the insights and knowledge in Part 1 to furnish readers from all backgrounds with valuable frameworks for a deeper understanding of this profession and active engagement in its ongoing development.

References

Andersen, J., & Romano, V. (2023). Pathways towards the creation of RMA associations. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 2.8, pp. 187–199). Emerald Publishing.

Christensen, J. F., & Smith, L. (2023). Diversity and internationalisation: A new core competence for research managers? In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 4.8, pp. 405–414). Emerald Publishing.

de Jong, S., & del Junco, C. (2023). A novel definition of professional staff. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 2.1, pp. 99–112). Emerald Publishing.

Dutta, M., Oliveira, C. I., Fischer, M., & Kerridge, S. (2023). Routes into research management and administration. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 2.3, pp. 125–140). Emerald Publishing.

Dyason, K., & Pillay, P. (2023). Professionalisation of research management and administration in Southern Africa – A case study. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 4.1, pp. 311–322). Emerald Publishing.

Groeninx van Zoelen, A. (2023). The development of research and innovation in Europe: A short History. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 1.6, pp. 69–82). Emerald Publishing.

Hochman, M. B. M., Tambiah, T., & Thomson, C. (2023). History of research management in Australia and New Zealand. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 1.4, pp. 47–54). Emerald Publishing.

Hunter-Hüsselmann, M., Pieterse, D., & Batisani, C. (2023). Research-related information management: Reflections from Southern African practitioners. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 3.4, pp. 247–264). Emerald Publishing.

Ito, S., & Takahashi, T. (2023b). Meaningful relationships between long-term career, perspective, and skill for RMAs – Statistical analysis of international data for a new profession. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 4.7, pp. 395–404). Emerald Publishing.

Junqueira, M. A. D. R., & Bezerra, R. C. R. (2023). The establishment of a Research Project Management Office at a Medical School in University of São Paulo, FMRP-USP, Brazil. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 2.6, pp. 167–176). Emerald Publishing.

Kirkland, J. (2023). The contribution of international donors to African Research Management. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 1.1, pp. 17–26). Emerald Publishing.

Kulakowski, E. (2023). The establishment and history of the international network of research management societies. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 1.7, pp. 83–97). Emerald Publishing.

Marčić, S., & Pepić, A. (2023a). A profession in the making: Insights from Western Balkan countries. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 4.6, pp. 385–394). Emerald Publishing.

Monahan, K., Shaklee, T., & Zornes, D. (2023). History of research administration/management in North America. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 1.2, pp. 27–36). Emerald Publishing.

Oliveira, C. I., Fischer, M., Kerridge, S., & Dutta, M. (2023). The research administration as a profession (RAAAP) survey. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 2.2, pp. 113–124). Emerald Publishing.

Oliveira, F., Poli, S., & Trentini, A. (2023). Exploring forms of knowledge and professionalism in RMA in a global context. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 3.2, pp. 221–230). Emerald Publishing.

Oliveira, F., Trentini, A., & Poli, S. (2023). Understanding organisational structures in RMA – An overview of structures and cases in a global context. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 3.3, pp. 231–246). Emerald Publishing.

Poli, S., Kerridge, S., Ajai-Ajagbe, P. A., & Zornes, D. (2023). Research management as labyrinthine – How and why people become and remain research managers and administrators around the world. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 2.4, pp. 141–154). Emerald Publishing.

Poli, S., Oliveira, C., & Zsár, V. (2023). From conceptualisation to action in the quest for understanding profiles and identities of research managers and administrators in the wider world. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 3.1, pp. 201–220). Emerald Publishing.

Poli, S., & Taccone, D. (2023). Professional staff in support services in education and research – How to connect research with practice. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 4.3, pp. 341–354). Emerald Publishing.

Ritchie, J., Lythgoe, E., & Donovan, J. (2023). RMA education, training and professional development in the United States and Europe. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 2.7, pp. 177–186). Emerald Publishing.

Romano, V., Del Bello, A., & Albanesi, A. (2023). Professional associations and professional development frameworks. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 4.4, pp. 355–372). Emerald Publishing.

Santos, J. M. R. C. A., Varela, C., Kerridge, S., & Fischer, M. (2023). Where do RMAs work? In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 2.5, pp. 155–166). Emerald Publishing.

Shambrook, J. (2023). RASPerS: Prevalence of occupational stress and associated factors in RMA professionals. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 4.5, pp. 373–384). Emerald Publishing.

Sonobe, T., & Saito, C. (2023). Empirical and empathetic approaches taken by science, technology and innovation coordinators in Southeast Asia. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 3.5, pp. 265–280). Emerald Publishing.

Takahashi, M. (2023). Research managers and administrators in Asia: History and future expectations. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 1.3, pp. 37–46). Emerald Publishing.

Yang-Yoshihara, M., Poli, S., & Kerridge, S. (2023). Evolution of professional identity in research management and administration. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 3.7, pp. 297–309). Emerald Publishing.

Zsár, V. (2023a). History of RMA in Central and Eastern Europe. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 1.5, pp. 55–68). Emerald Publishing.

Zsár, V. (2023b). The influence of RMA associations on identity and policymaking internationally. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 3.6, pp. 281–296). Emerald Publishing.

Zsár, V., & Angyal, Z. (2023). Professionalisation of research support in Hungary through the lens of the non-research specific requirements of Horizon Europe. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 4.2, pp. 323–340). Emerald Publishing.

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Section 1: History

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Chapter 1.1

The Contribution of International Donors to African Research Management

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Abstract

The case of Africa is important in understanding the growth of research management as a profession. Africa has rapidly increased its research output in recent years, and its institutions are increasingly in demand as research partners. Yet research management structures have developed from a very low base, and need not be confined by past practice. Through the Southern African Research and Innovation Management Association (SARIMA), it has been represented since the origins of International Networks of Research Management Societies (INORMS). Several external donors have sought to help build research management structures on the continent, and the success (or otherwise) of these initiatives can tell us much about the potential for common research management structures globally.

This chapter does not provide a comprehensive account of progress over the past two decades, or a complete list of relevant initiatives. Rather, it reflects on whether international assistance and collaboration have made a meaningful contribution to the progress that has been made, and its strengths and limitations. It considers how far growth would have happened regardless of funder intervention, or indeed whether international partners have inhibited progress by prioritising their own norms and priorities. It asks uncomfortable questions for funders about the way in which they plan and evaluate their work.

Keywords: Africa; research management; profession; professional development; international support; impact

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The Nature of International Support

International funders showed little interest in African research management before the turn of the century. There were two reasons for this. First, research management was itself a relatively new concept globally. Second, research management was only meaningful in the context of an active research community. Apart from South Africa, universities throughout the sub-Saharan region had experienced two decades of economic decline that would be unimaginable to most of us in the North. Reversing this decline had not been seen as a priority for international funders. Led by World Bank analysis that purported to show lower rates of return from investment than other sectors, higher education was starved of investment. Domestic budgets prioritised higher education more highly, but were not sufficient to maintain a vibrant research culture.

The need to develop such a culture motivated the Carnegie Corporation of New York to include research management in its portfolio of support for selected African institutions from around 2003. The steer for this came from the institutions themselves, and fitted into a wider desire of Carnegie to promote self-sufficiency; other strands of support, for example, included measures to develop fundraising and development arms within universities. Unlike many donors, Carnegie was able to commit to a medium-term time horizon – a 10-year programme – although with interim reviews which altered the precise number of institutions involved. Their support was concentrated on between 5 and 10 institutions during that period.

Carnegie found a natural delivery partner in the Society of Research Administrators (SRA), a well-established professional body in the field of research management. Based in North America, SRA was keen to advance its role as a global organisation, replicating the growth of the Council for Advancement and Support of Education. From the 1990s, SRA had invested in supporting delegates from developing countries to attend its annual conferences, partially in the hope that this might lead to the establishment of national chapters.

Another membership organisation, the London-based Association of Commonwealth Universities (ACU), developed an interest in research management from 2000, when its Council approved a small allocation of funding for a programme in the area. ACU's motivation differed from that of the SRA, since its membership was institutional, rather than individual, and it already had a large number of members in developing countries. Its aim was to develop new services for existing members (and by doing so ensure retention and promote expansion). Research management seemed an ideal way of achieving this objective, since it was an area of common interest to both developing and developed countries, and one where even the most established research institutions felt they had much to learn.

Not being a major funder in its own right, the ACU focussed its early activity on the creation of an effective network, through which institutions in different parts of the world could talk to each other and compare ideas. A benchmarking event for institutions in Southern Africa, held in Durban in 2001 (Stackhouse et al., 2001), provided a trigger for delegates to take forward the establishment of their own organisation, which was founded as the SARIMA the following year. The fledgling organisation quickly developed a presence on the international stage, being represented at the meeting that agreed to form the International Networks of Research Management Societies (INORMS) later in the year. ACU established a Global Research Management Network, primarily for its 500 member institutions, but open to others. Its hard-copy magazine *Research Global,* provided an early vehicle for international communication, and the basis for surveying current trends (Stackhouse, 2008; Stackhouse & Day, 2005).

In 2005, the theme of networking was taken further, in an intensive face-to-face exercise which involved institutions from 12 countries, including South Africa, India and China, together with more conventional developed country representatives (Kirkland et al., 2006).

The International Support During the 2000s

International funder interest in research management in Africa increased throughout the following decade. This reflected an increased profile for international development – which had been placed at the centre of the G7 summit in 2005 – and increased confidence in higher education as a means of delivering development. The publication of *Peril and Promise* (Task Force on Higher Education & Society, 2000) which reflected a shift in World Bank thinking represented a critical element in this regard. As the decade progressed two other factors supported this trend – recognition that global issues such as climate change required active participation and engagement with Africa, and that higher education and science could play an important role in facilitating 'soft diplomacy'. As African economies expanded, there was recognition that affinity with its science and innovation base could bring trade benefits.

Some funders recognised a link between effective research management within recipient institutions and accountability. The US National Institutes of Health, Wellcome Trust and UK Medical Research Councils all supported the development of the function in centres that they supported in Africa. The then UK Department for International Development (DFID), following proposals by the ACU, saw the potential for stronger research management systems to support wider objectives. In 2000, they funded a small feasibility for sharing technology transfer expertise within the South and East African regions, involving ACU and the University of Cape Town. From 2004, they supported the *Research Africa* project to establish an Africa-specific service to help African research managers identify and access international funding. The project involved a commercial partner (which later evolved into the *Research Professiona*l service), and the now firmly established SARIMA. It was extended three years later, with additional support from the Swedish agency SIDA. In 2009, DFID supported a collaboration between the University of Stellenbosch, ACU and a South African consultancy to undertake a scoping study on the role on how universities could support the Communication of Research for Utilisation. This demonstrated significant demand within the sector, and led to the establishment of the larger project on Development Research Uptake in Sub-Saharan Africa (DRUSSA), delivered by the same partners but involving over 20 universities throughout the continent. DRUSSA was itself extended in 2013, with a further grant to support policy engagement structures amongst public sector agencies to work with universities.

These latter awards extended beyond narrowly defined research management, but highlighted the importance of involving it in a holistic process to ensure the maximum impact of university research for society. Other grants aimed to develop research management in its own right. An award from the UK Department of Education and Science sought to replicate the success of SARIMA by supporting the establishment of a West African Research Management and Innovation Association (WARIMA). The European Union, through its Africa, Caribbean and Pacific Directorate in 2009 contributed over three million euro to a three-year project on Research and Innovation Management in Africa and the Caribbean, led by SARIMA but bringing together the Universities of Botswana, Dar es Salaam, Buea, Ibadan, the University of Technology Jamaica, Research Africa and the ACU.

More recent years have seen strengthened collaboration between donors, and an increased emphasis on developing professional standards. After an external review of African research management, the Wellcome Trust in 2018 funded the establishment of the Research Management Programme in Africa (ReMPro Africa) based on four interconnected strands of activity – leadership, sustainability, standards and training. Five other donors were attracted to the programme, which was initially hosted at the Nairobi-based African Academy of Sciences. Leading health donors, under the auspices of ESSENCE, came together to produce a ground-breaking publication in 2010 which defined and promoted good practice in ensuring that developing country universities received proper indirect costs from their externally funded programmes.

As professional research bodies in the UK and Europe have developed their own professional standards frameworks, SARIMA instigated an initiative to promote professional standards in an African context – the International Professional Recognition Council. This attracted support from the World Health Organisation. The South African National Research Foundation has joined with IDRC, the Canadian Development Agency and UK Foreign Commonwealth and Development Office (the successor to DFID) to support the Science Granting Councils Initiative, to support professionalisation of the research process at the national level across Africa.

Trends and Pointers

Capacity development initiatives are often characterised as being at three levels – system, institutional and individual. The projects mentioned above embrace all three, however the most common approach has been to support the development of sustainable structures within research producer institutions. Training of individuals has largely assumed that these will go on to contribute to institutional structures, and the developers of new products, such as those designed under the *Research Africa* initiative, assumed that research management structures would be in place to create a market for their services.

Emphasis on institutional structures required a top-down approach, given the low research base from which African universities started the century. It also reflected global practice. Research management structures in most regions were instigated from the top in response to external pressures. As the profession develops this emphasis might change. Research management professionals in Africa are increasingly talking to their peers both within the continent and internationally. The growth of research partnerships with northern institutions may lead to pressure from African researchers to receive the same level of support as their partners. As the profession becomes more established, one would expect more emphasis on the development of individuals, benchmarking and new structures, the terms under which research takes place and the wider systems to support it. Research managers can play an increasing role in these discussions.

The design of funder initiatives reflected changing perceptions of need. Early interventions may have underestimated the differences between donor countries and Africa. In Africa, research management was seen as a route to developing research more widely. In the north, this more pro-active element was balanced by a desire to ensure that the risks of existing research activity were well managed, with emphasis on mechanisms to ensure that institutions were not disadvantaged through unfavourable contract conditions or lost intellectual property.

Early support typically saw research management as encompassing a defined set of functions, which were broadly the same globally. However, institutions still seeking to

develop their research core had different boundaries and priorities from those with an established research presence. The components of research management are likely to be broader, extending to the training and resourcing of research staff and provision of basic infrastructure. Developing countries were also more likely to favour a definition of research management which embraces all the resources available for research at the institution. In some developed countries, research management offices were established primarily to deal with externally funded research, although functions may have since broadened, for example, to meet the needs of the research assessment exercise in the UK.

The ACU responded to the need for common definitions in 2005, defining research management as 'any activity instigated at the level of the institution which seeks to add value to the research activity of staff, without being part of the research process itself' (Kirkland, 2005a, p. 156). Later work, such as the British Academy funded 'Nairobi Report' highlighted the potential links between research management and staff development, which would be regarded as a separate function in most northern institutions, by arguing that both needed to be seen as part of a coherent institutional strategy (Harle, 2009).

Early initiatives were less likely to question the nature of relationships between developing and developed country partners. More recently, there has been recognition of the formal and informal biases that can exist. Research management does not create these, but it can exacerbate them. At the proposal generation stage, a situation where academics in one institution are closely supported by proposal development professionals, whilst those in the other are merely required to obtain institutional 'sign off' at the final stage, can lead to inequity in the allocation of tasks and resources. At the contract negotiation stage, imbalance in negotiating power can lead to inequity in ownership or obligations. At the project management stage, inequity in research management can lead to unfair allocation of credit between partners. For these reasons, the existence of comparable research management support is essential to equitable research partnerships more generally.

Research relationships also need to respond to the concept and language of decolonisation. There is a need to consider whether initiatives promote values and language that are essentially northern. The language of this debate is relatively new, but the dilemma that it exposes is not. In their 2005 article, Stackhouse and Day highlighted very different growth patterns between region.

> On the one hand, it is clear that research management processes need to reflect local needs and capabilities. On the other, academic research has become more competitive and project based on a global basis, and some common basis of expertise will be needed to succeed in this environment. (Kirkland, 2005b, p. 153)

At a time when most north–south collaboration is funded from northern sources, this dilemma remains. As the volume and profile of research collaboration grow, funders are concerned that African institutions should be accountable for expenditure and performance in the same way as northern ones. Yet African institutions may not have the same input into the setting of priorities and project design, or be allowed by funder regulations to act as lead partners.

Funding bodies concerned by the need to balance accountability with equity, such as UK Research and Innovation (UKRI), have responded by placing the emphasis for ensuring that relationships are equitable onto their grantee institutions. This has

created an environment in which equity is taken seriously amongst developed country partners, and the individuals within them that have responsibility for negotiating and implementing collaboration agreements. One response by funders has been to develop closer relationships between research managers in Africa and developed countries, with the aim of developing greater understanding of the needs of their respective institutions. The International Research Management Staff Development Programme, supported by RemPRO in partnership with the UK Association of Research Managers, was an example of this approach.

A recent report from ESSENCE and the UK Collaborative for Development Research (ESSENCE & UKCDR, 2022) suggests, however, that delegation to northern institutions should not be seen as a long-term solution. The creation of a situation in which one partner has responsibility for ensuring the other is treated equitably creates a potential conflict of interest. Equity ultimately requires that both parties have equal negotiating ability from the outset. The report identifies four key stands of activity to developing equitable research partnerships, to which research management is critical.

Evidence of Impact

African research management has progressed significantly over the past two decades. The twentieth anniversary publication by SARIMA demonstrates a confident, sustainable organisation providing training and other services throughout the region. A review of three leading African Universities commissioned by the ReMPro Africa programme confirms that 'all three institutions, albeit with slight adjustments in scope, have strong functional research management and support offices'. In a broader context, it confirmed that 'in the past decade, there has been a gradual effort from many countries to elevate the support of research within their research institutions and universities' (Science for Africa Foundation, forthcoming, p. 15).

What contribution has external funding programmes made to this progress? Reports and evaluations of funders themselves are unlikely to provide a comprehensive answer. Even assuming their objectivity, it is important to recognise that funding has been provided generally on a time limited, project basis. Evaluations often address a relatively narrow range of questions, related to the use of resources and short-term targets. The level of investment has been modest by the standards of major donors, and even the budgets of recipient institutions.

In these circumstances, it has not been seen as important to maintain contact with key participants after project completion, to maintain networks that have been created or examine whether the project influenced long-term behaviour or structures. The short-time horizons of donors in evaluating their investments inhibit long-term understanding of their impact. We can, however, draw on anecdotal evidence about the extent of donor involvement, and suggest some lessons that donors might apply in any future support.

A few products of donor involvement remain. There is no longer a distinct *Research Africa* product, which was the intention of the DFID investment from 2004, but the global product that it was part of still contains a small African strand that would otherwise probably not exist. Funders played a catalytic role in the development of SARIMA, which has become a permanent force for the development of research management across the continent, although its leading instigators were South African and the organisation would probably have developed in some form anyway. WARIMA, a more direct product of donor intervention, still exists but cannot claim the same level of activity as its Southern neighbour.

Funder initiatives sought to develop stronger structures at institutional level. The ReMPro study confirms that these have developed, at least in the highest tier of African institutions, but no analysis exists to evaluate the extent of attribution. A decade on, it is unlikely that the institutional memory would exist to inform such a study. In the cases of the University of Ghana and Makerere (the University of Cape Town had a functioning research office from the outset of our study period), the ReMPro study indicates that current officers were the product of new research strategies agreed in 2012 and 2013 respectively – a period when they would have been receiving donor support – and that change has been largely top-down in nature, which suggest that donors might have played some role in agenda setting, if not implementation. The study also found that 'research management leadership in all three universities indicate that they have situated the leadership in line with best practice from leading universities across the globe', which suggests some international influence (Science for Africa Foundation, forthcoming, p. 22).

The three institutions were asked to identify influences on recent capacity development. These will be analysed by the RemPRO team in detail, but include several references to international sources, such as 'attendance at trainings organized by WARIMA, SARIMA, SRA and INORMS', participation in the CAPREX program with the University of Cambridge, study tours to the USA to increase understanding of NIH systems, the DRUSSA program on research uptake, capacity initiatives through collaborative partners such as Johns Hopkins University partnership, and the IREX (International Research and Exchanges Board), as part of the UASP programme of Carnegie. All were recognised as contributing to capacity growth in some form.

Yet the likelihood is that specific donor investments in research management have played only a minor role in its growth. As in northern countries, this has been a gradual process. Most donor involvement, by contrast, has been confined by time and/or to a very limited range of institutions. Where donor involvement has had impact, this is more likely to have been in raising the profile of research management as an issue, legitimising it as a priority topic and getting in onto the agenda of institutional leaders.

The importance of agenda setting should not be underestimated. We have noted that research management has been largely introduced in a 'top-down' manner. In Africa, as in the north, the concept has also encountered resistance from those who believe that 'research management' is best undertaken by researchers themselves. Thus, the idea of finding individuals to champion change – such as the Vice-Chancellor visits promoted by Carnegie in their early support and the requirement that institutions nominate their own champions by DRUSSA – had merit. However, the process has been cumulative, usually extending beyond the tenures of individuals. Few projects that can point to their specific investments as directly leading to identifiable, discrete change.

What can funders learn from their experience, and how can such lessons be applied in future? Having recognised that research management required change at the institutional level, donors tended to underestimate the time required for such change. Programmes to promote top-down change created a reliance on senior staff (often at Vice-Chancellor or DVC level) to lead action. Lack of time, a shortage of more junior staff to delegate to and cumbersome decision-making processes all acted as constraints on the speed at which this could be delivered. The establishment of new research management structures needed to take its place amongst competing demands (Kirkland, 2009, p. 35).

Expectations of change underestimated the size and complexity of African institutions. Many of these are highly devolved in nature, with a strong culture of research

taking place at individual and small group levels. This last factor was exacerbated in Africa by two decades of decline in universities and their central resource for research, which had strengthened the power of numbers of successful researchers to operate with independence from their institutions. This is combined with a (global) scepticism from researchers about the capacity of 'managers' to contribute to the delivery of research.

A further characteristic of donor engagement has been a focus on larger, more established research institutions. Individually, it is understandable that funders should concentrate on those institutions that deliver most research in the short term, and with whom they have the strongest relationships. These are sometimes regarded as 'safer' investments from the perspective of audit and accountability. One consequence of this concentration has been a degree of overlap between initiatives at the same institution. Larger research-based universities argue that by creating centres of excellence, funders can create a 'trickle down' effect in which lead universities raise standards elsewhere. Evidence submitted by the University of Ghana to the ReMPro report provides some evidence of this happening, with staff from their Office of Research and Innovation Development sharing good practice with other universities in the region. However, it is not clear how widespread this practice is. One would expect that over time the range of institutions involved in funder initiatives to broaden, in line with the growth of research on the continent more generally.

Some donors have been reluctant to align the principles being promoted through research management with their own practice as funders. One example of this is the calculation and payment of indirect costs on research awards. Two reports compiled on behalf of health research funders (ESSENCE on Health Research, 2012, 2020), support the view that universities should receive the full cost of their research work. In practice, funders have been much slower to adopt this principle in Africa than in other regions. Reasons advanced for this have included federal regulations (in the case of the United States) and the perceived need for clarity on how recipient institutions calculate and spend revenues. The issue of how to account for resources and facilities that have been core funded by national governments remains an important issue holding back indirect cost rates in Africa compared with northern countries. In some cases, too, donors have argued that their support to African institutions is intended for capacity-building purposes, rather than in return for specific research results, and should thus be seen as a grant rather than a fully costed contract.

Finally, the tendency to support research management through fixed-term project grants has produced an emphasis on short-term evaluation. The formal objectives of such projects have often been expressed in terms that are easy to measure – for example the production of policies or establishment of new structures. However, the long-term contribution of grants to change, for example by legitimising research management, helping it on to the agenda of institutional leaders and introducing recipients to their peers elsewhere, may be larger. Donor institutions are unlikely to see such benefit since their evaluation normally takes place only during the life of the project. It is even possible that some donors will have no record of the research management projects that they have funded in the past.

A Model for Future Support

Twenty years after international donors began to recognise the importance of African research management, there remains a need for continuing involvement. In the next decade, this is likely to be driven by three factors. The continuing growth of African

research will increase the number of individuals and institutions needing such support. As donors interact with a wider range of African institutions, they will see the need for robust research management mechanisms to support their own accountability systems. As debates over equity and decolonisation develop, research management will be seen to have a wider strategic value, as a tool through which African institutions can identify and safeguard their own interests. Whilst the desire of funders and developed county partners to protect African institutions in the terms and conditions of their research agreements is real and desirable, this should be a step towards a situation in which African institutions can negotiate their own terms on an equal basis.

The mechanisms through which donors can offer support will need to change from those of the past two decades. Donors should seek to collaborate more with each other, to avoid a duplication in initiatives. As the volume of African research grows, so will the range of institutions at which robust systems are required. To meet this demand, donors might shift focus away from supporting change at specific institutions, to supporting systems and networks that facilitate change, learning and the development of recognised professional standards. Strong national fora, or regular professional contact between African research managers and their peers might provide a catalyst for all of these, as well as a means through which a genuinely African agenda for the profession can be articulated.

References

ESSENCE and UKCDR. (2022). *Four approaches to supporting equitable research partnerships*. https://www.ukcdr.org.uk/wp-content/uploads/2022/09/UKCDR_ESSENCE_Equitable_Research_Partnerships.pdf

ESSENCE on Health Research. (2012). *Five keys to improving research costing in low- and middle- income countries*. https://tdr.who.int/docs/librariesprovider10/meeting-reports/tdr_essence_1.12_eng.pdf

ESSENCE on Health Research. (2020). *Five keys to improving research costing in low- and middle-income countries* (2nd ed.). https://tdr.who.int/publications/m/item/2020-09-29-five-keys-to-improving-research-costing-and-pricing-in-low-and-middle-income-countries

Harle, J. (2009). *The Nairobi Report. Frameworks for Africa-UK Research Collaboration in the Social Sciences and Humanities*. The British Academy, The Association of Commonwealth Universities. https://www.thebritishacademy.ac.uk/documents/1862/Nairobi-Process-Report.pdf

Kirkland, J. (2005a). Towards an integrated approach: University research management in an institutional context. *International Journal of Technology Management & Sustainable Development*, *4*(3), 155–166. https://doi.org/10.1386/ijtm.4.3.155/1

Kirkland, J. (2005b). Making universities powerhouses of innovation: An overview of this special issue. *International Journal of Technology Management & Sustainable Development*, *4*(3), 151–153. https://doi.org/10.1386/ijtm.4.3.151/1

Kirkland, J. (2009). Research management, a global profession? *Perspectives: Policy and Practice in Higher Education*, *13*(2), 33–36. https://doi.org/10.1080/13603100902805383

Kirkland, J., Bjarnason, S., Stackhouse, J., & Day, R. (2006). *International research management: Benchmarking programme*. Report to HEFCE by the Association of Commonwealth Universities. https://dera.ioe.ac.uk/6203/1/rd11_06.pdf

Science for Africa Foundation. (forthcoming). *The evolution. Growth and impact of the research management function in research intensive universities. A case study of three African universities*. Report by GRAMS Consulting to inform the RemPRO Programme. Science for Africa Foundation.

Stackhouse, J., & Day, R. (2005). Global and regional practices in university research management: Emerging trends. *International Journal of Technology Management & Sustainable Development*, *4*(3), 189–205. https://doi.org/10.1386/ijtm.4.3.189/1

Stackhouse, J., Sultan, J., & Kirkland, J. (2001). *ACU Research Management Programme* [Discussion Paper No.1]. Research Management in African Universities. Report of a Benchmarking Seminar Held in Durban, South Africa, 1–3 April 2001. https://web.archive.org/web/20031012135333/http://www.acu.ac.uk/resman/pdf/DurbanReport.pdf

Task Force on Higher Education and Society. (2000). *Higher education in developing countries: Peril and promise (English)*. World Bank Group. http://documents.worldbank.org/curated/en/345111467989458740/Higher-education-in-developing-countries-peril-and-promise

Chapter 1.2

History of Research Administration/ Management in North America

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Abstract

In North America, the profession known as 'research management' elsewhere across the globe, is often known as 'research administration' and encompasses the activities and work associated with developing, administering, accounting for and complying with sponsor requirements, guidelines, procedures, and laws relating to externally funded projects. In the United States and Canada, the expansion of respective federal government agencies and programmes was the major factor for the need and growth of the research administration profession. Initially, administrative and business staff often administered research funding, however over the decades, a fully-fledged profession has evolved with distinct specialisations. Both the United States and Canada now have maturing professions and professional societies to organise and advance research administration. This chapter outlines the chronological origins, growth, and professionalisation of research administration in North America, with a focus on the United States and Canada. Mexico has not yet evolved a formalised research administration infrastructure.

Keywords: North America; research management and administration; professionalisation; US; Canada; history; research administration

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1940s–1950s: The Beginnings of Research Administration in North America

While this chronology begins in the 1940s, we acknowledge that administration of research programmes and activities in both the United States and Canada occurred prior to 1940. When did research administration in North America begin? It is reasonable to assume that research administration started when the United States federal government began to fund research. But federal funding for research has really been happening since the beginning of the republic (the Smithsonian Institution, the Morrill Act, the National Academy of Sciences, and the Hatch Act all funded research). Although federal funding of research has been taking place since the beginning of the republic, the US government did not formally support scientific research in an organised fashion until the early 1940s (Beasley, 2006).

The US federal government began funding uncoordinated research projects in the early 1940s. While there was virtually no non-financial compliance tied to these funds, it became apparent quite quickly that additional regulations would be necessary to achieve project objectives and ensure funding would be organised and managed consistently (Campbell, 2010; Myers & Smith, 2008). Beasley (2006) dates the profession's origins to the 1940s following US President Franklin Roosevelt's creation of a federal agency – the National Defense Research Council in 1940, later reorganised in 1941 as the Office of Science Research and Development (OSRD), to coordinate collaboration between federal and civilian laboratories. Roosevelt charged Dr Vannevar Bush (1945) to define 'a proposal by which both military and non-military research could be conducted during periods where war was not paramount' (p. 1). This presidential recommendation is a key historical event which is often attributed as the catalyst for research administration (Beasley, 2006).

Before 1950, 'research administration was vested with the responsibility of scientists and their research staff members' (Beasley, 2006, p. 9). In the early days, the laboratory director or general administrative staff person would likely have been responsible to administer federal funding, but as the agreements moving funds between entities became more complicated and a wide variety of compliance issues started to be put in place, the administration of research projects became too burdensome for laboratory directors. During this period, from a performing institution perspective, there was more focus on acquiring funds than on managing them. When compliance requirements did begin to emerge, they were largely financial such as budget transfers and restrictions on equipment purchases (Feldman et al., 2017).

A review of Bush's (1954) bibliography of 1,100 references on research administration refers to research administration journal articles and presentations dated as early as 1941. The references are grouped by areas that today we would view as traditional research administration tasks (budget and finance, organisation and management, personnel administration, external relations, and 'research in action') often focussed on the role of laboratory heads. Many of the references refer to 'men' which is not surprising given the time frame of the bibliography but seems in stark contrast to the current demographic of research administration which is largely female (Shambrook & Roberts, 2011; Shambrook et al., 2011).

In the United States, the Council of Governmental Relations (COGR), formed in 1948, is one of the oldest organisations with ties to professional research administration. The Central Association of College and University Business Officers formed a committee to represent the five regional associations at a time when the federal government was moving from procurement to academic research. The committee wanted 'to

develop effective principles for university-government contracting, to seek acceptance of general principles in university-government relationships, and also to be a vehicle for innovation and change' (COGR, 2022). COGR has since grown to be an association of research universities, affiliated medical centres, and independent research institutes. It represents its members collectively and takes positions that reflect the consensus of its members and that are in the best interest of the research university community (COGR, 2022).

Throughout the 1950s, there was a rapid expansion of US funding and government agencies that started during World War II and as a result of Roosevelt's 'New Deal', which permanently changed the US federal government by expanding its size and scope. With the expansion of federal bureaucracy came a pointed need for careful management and public accountability of these projects. OSRD pioneered a system of procuring and managing research awards and provided training for early research administrators (Beasley, 2006).

In 1959, a small group of university administrators recognised that it was time to look beyond business and fiscal matters and into the broader aspects of research administration (Wile, 1983). According to Wile, the first official meeting of the National Council of University Research Administrators (NCURA) was held on 26 January 1960, at the University of Chicago with 45 persons attending representing 40 institutions from across the country (Wile, 1983). The formal creation of NCURA can be associated with the formalisation of the profession of research administration. NCURA is a non-profit professional society dedicated to advancing the profession of research administration through education and professional development programmes, the sharing of knowledge and experiences, and the fostering of a diverse, collegial, and respected global community (NCURA, 2022). The association has expanded and grown (Roberts et al., 2008) to more than 7,000 members, mostly from the United States, although it has members across the globe.

1960s–1970s: Federal Funding Growth and Professional Differentiation

More guidance documents and regulation from federal agencies expanded in both the United States and Canada throughout the 1960s and 1970s leading to further administrative growth and differentiation of research administration/management from other administrative work.

The emphasis in research administration broadened beyond proposal processing to proper monitoring of federal funds, based in part by a 1966 recommendation by the US Bureau of the Budget to develop federal administrative standards for research conducted at universities (GAO, 1966).

In 1967, the Society for Research Administrators (SRA) was established and by 1969 had established the first professional journal for research administrators, *The Journal of Research Administration,* which further solidified research administration as a profession with academic/scholarly pursuits of its own (Myers, 2007). In 1993, the Society for Research Administrators was renamed SRAI to reflect it as an organisation with international members. SRAI differentiates itself from other professional societies as the 'only research management society in the world whose membership spans the entire spectrum of research institutions including: colleges and universities, research hospitals and institutes, government agencies, non-profit funders of research, and industry' (SRAI, 2022).

Given the growth and proliferation of federal programmes funding research in the United States during this time, the number of individuals managing or administering these programmes also grew. The professional societies in the United States, NCURA, SRAI, and the now inactive National Conference on the Administration of Research (NCAR), each developed and expanded programming and support to build networks and deliver professional development to individuals now specialising in the federal requirements (Norris & Youngers, 1998).

While each of these professional societies had its own foci that evolved over the years, the shared effort of all the societies was to provide those individuals specialising in the numerous federal requirements within this new profession an outlet to discuss, grow, and form networks to handle the increasing demands of the faculty and researchers (Atkinson et al., 2007; Norris & Youngers, 1998). An exciting new profession was emerging through the formal networks, organisations, shared interests, and commitments.

In Canada, 1972 saw the formal establishment of a professional society, originally the Canadian Association of University Research Administrators (CAURA). The purposes were: to encourage and facilitate the development of more effective policies and procedures relating to the administration of research programme and to promote the achievement of the goals of university research policy; to provide a forum, through national and regional meetings, for the discussion and exchange of information and experience related to university research programmes, policies, and procedures; and to provide a publication of the dissemination of current information and the exchange of view of mutual problems.

The Canadian post-secondary landscape at the time was reflective of the expansion and massification of post-secondary education that was occurring throughout the 1960s and 1970s. Key funders in Canada of research at the time included the Social Sciences and Humanities Research Council (SSHRC), the Natural Sciences and Engineering Research Council (NSERC), and the Medical Research Council (MRC) which later became the Canadian Institutes of Health Research (CIHR). In addition, the National Research Council (NRC) had, and continues to have, the role of partnering with Canadian industry to take research impacts from the lab to the marketplace, where people can experience the benefits.

In the early 1970s in the United States, the protection of animals in research became more formalised through the 1971 National Institutes of Health (NIH) Policy, Care and Treatment of Laboratory Animals and the establishment of the Office of for the Protection of Research Risks (OPRR) in 1974. At the same time, the Belmont Report was written by the National Commission for the Protection of Human Subjects of Biomedical and Behavioural Research in 1974.

> The Commission, created as a result of the National Research Act of 1974, was charged with identifying the basic ethical principles that should underlie the conduct of biomedical and behavioural research involving human subjects and developing guidelines to assure that such research is conducted in accordance with those principles. Informed by monthly discussions that spanned nearly four years and an intensive four days of deliberation in 1976, the Commission published the Belmont Report, which identifies basic ethical principles and guidelines that address ethical issues arising from the conduct of research with human subjects. (OHRP, 2022)

With some research administrators specialising in research protections, a professional association also emerged for this speciality. Public Responsibility in Medicine and Research (PRIM&R), a non-profit, was founded in 1974 to ensure the highest ethical standards in research by providing education and other professional resources to the research and research oversight community, including those who work with human subjects research protections programmes (HRPPs), institutional review boards (IRBs), animal care and use programmes, and institutional animal care and use committees (IACUCs).

By the late 1970s, both the United States and Canada began to consistently see the specialisation and differentiation of research administrators from more generic business managers. In addition to mainstream research administration, as research enterprises evolved, technologies and patents began increasing. Another professional society was formed for university technology managers, and some research administrators began to take an interest in this speciality area. Originally named the Society of University Patent Administrators (SUPA), the Association of University Technology Managers (AUTM) was formed in 1974. AUTM currently has about 3,200 members representing 800 institutions worldwide. AUTM members are involved in a variety of technology transfer activities ranging from corporate engagement to intellectual property protection.

1980s–1990s: Regulatory Growth and Differentiation

During this period in the United States, research administration saw an explosion of regulatory growth and formal requirements, including the Office of Management & Budget (OMB) Circulars, the Bayh-Dole Act, and the Single Audit Act. The Bayh-Dole Act, a US federal law enacted in 1980, enables universities, non-profit research institutions and small businesses to own, patent and commercialise inventions developed under US federally funded research programmes. During this period, organisations developed a greater interest in moving university-developed technology into the public sector and resulted in the establishment of technology transfer offices at most research-intensive universities.

Before the Single Audit Act of 1984, US federal agencies had the authority to require an audit on each federally funded activity which resulted in overlaps and inefficiencies across federal agencies. Institutions receiving federal funding now had entity-wide audit requirements if they received federal financial assistance. The Federal Demonstration Partnership (FDP) was established in 1986, initially as the Florida Demonstration Partnership, with five federal research funding agencies (National Science Foundation, NIH, Office of Naval Research, Department of Energy and Department of Agriculture), the Florida State University System and University of Miami. FDP's charge was to develop and evaluate a standardised and simplified set of terms and conditions across the agencies to make granting more effective and efficient. The first two phases of the project significantly streamlined the grant process from beginning to end, resulting in more federal dollars being directed to conducting the research instead of administration.

Phases I and II of FDP resulted in among the most sweeping of changes that today research administrators view as 'business as usual'. These included streamlined and standardised terms and conditions, increased budget flexibility, no-cost time extensions, pre-award costs, carry-forward in continuation years, technical progress reports/minimal continuation proposals.

The Office of Management Budget (OMB) Circulars (A-110, A-102, A-133, among others) were developed, revised, and amended in the late 1980s and 1990s. Known as 'The Circulars', these outlined the uniform administrative requirements for grants and agreements and audit requirements. Circular A-110 addressed the specific requirements and responsibilities of federal agencies and institutions of higher education, hospitals, and other non-profit organisations while OMB Circular A-102 addressed the requirements for grants and cooperative agreements with state and local governments. A-133 was issued pursuant to the Single Audit Act and set forth standards for obtaining consistency and uniformity among Federal agencies for the audit of States, local governments, and non-profit organisations expending Federal awards.

In addition to circulars, it became evident that prepared research administrators share a core body of knowledge and understanding. In 1993, the Research Administrators Certification Council (RACC) was formed, see Research Administrator Certification Council (2022), and Chapter 2.7 (Ritchie et al., 2023). The primary purpose of RACC is to certify that an individual, through experience and testing, has the fundamental knowledge to be a professional research or sponsored programmes administrator. Creating certification pathways is a clear indicator of maturing profession with standards and shared knowledge bases. This is also indicative of research administration becoming a truly separate and distinct profession with its own standards, education, and certifications (Campbell, 2010; Perkin, 1989).

Research administration/management as a profession was clearly well-established with growing specialisations in sub-fields and sub-areas in both the United States and Canada by this time. As research administration/management became more specialised and professionalised, the evolution of departmental versus central roles became more pronounced, and the profession began to focus on increasing efficiency and communication within, across, and outside of institutions. Complimentary specialisation fields such as research integrity emerged.

Professionals deepened their collaborative work through professional societies and partnerships to work towards systems of communication and improvement, particularly as computers and software begin to revolutionise the way administrators work and communicate. The US Congress passed the Federal Financial Assistance Management Improvement Act (Public Law 106-107) in 1999 to streamline the process of grantsmanship and to facilitate the process to move faster. From this point, electronic grant submission and reporting systems originated and evolved. Research administrators with skills in process improvements and technology were sought after to respond to the changing federal landscape. During the 1990s, the term 'Electronic Research Administration' (ERA) was coined to reflect the use of the computer to facilitate services. ERA changed the skill sets needed by research administrators and the technology needed by institutions to submit and manage research awards. These advances in computerised practices made it possible for streamlining and process improvements and improvements of service delivery.

2000–Present: Greater Transparency in US, Partnership and Research Impact Focus in Canada

A new century brought marked major changes in the United States and Canada. In 2000, there was an increased emphasis on the importance of research in Canada and its place within the knowledge-based economy with reports noting that

> Knowledge is the key to improving the human condition and to improving our quality of life. Search for knowledge must be an ongoing process and a top priority in all sectors because of the potential applications in health and social sciences, education and the environment, business and the economy. (National Research Council of Canada, 1999 p.3), see Chapter 5.5 (Zornes, 2023) for further details

As part of the shifts of the early 2000s, knowledge transfer (KT) and knowledge mobilisation (KM) became keys for research.

New administrative requirements from funders meant institutions needed increased administrative staff as well as new tracking, monitoring, and reporting processes and there was acknowledgement that the concepts of commercialisation of university research and 'knowledge and transfer' was not broadly understood (Universities President Council 2006). Zornes (2012) notes three phases of this push for KT and KM: (1) a focus on Return on Investment (ROI) and technology transfer, demonstrated number of spin-off companies, royalties and licencing revenue; (2) an expansion of the tech transfer, spin-off companies, and capturing IP to focus on partnerships, not just in industry, and on turning ideas into products and generating knowledge through those partnerships; and (3) the number of bright young minds that we generate and how they fuel our brightest companies and what that means in terms of economic development.

As Canada focussed on research impact, the United States during this period saw greater emphasis on team science and on larger projects (often spanning multiple disciplines and institutions). A new speciality area emerged across the United States and Canada focussing on research development. Research development professionals help researchers 'become more successful communicators, grant writers and advocates for their research' (NORDP, 2022). These professionals saw the need to build their own professional community apart from the more general research administration communities. The National Organization of Research Development Professionals (NORDP) was founded in 2010 to serve this need and has grown to nearly 1,100 members (NORDP, 2022).

Some US post-secondary institutions identified a need to develop certificate or graduate programmes in research administration. Some early programmes were short-lived due to low enrollments and logistical challenges. In 2007, NCURA's Board of Directors developed a Request for Proposals (RFP) for feasibility studies in the development of an online master's degree in research administration. The RFP went out to NCURA's membership and initially NCURA granted four $10,000 grants to explore the development of the programme and curriculum of a master's degree in research administration. Later, NCURA provided two $40,000 grants, one to the University of Central Florida and the other to Rush University Medical Center, for the development and implementation of online programmes. In addition to those institutions funded by NCURA, other institutions including Emmanuel College, Johns Hopkins University, and the City University of New York (CUNY) have developed and now provide online degree programmes (Roberts et al., 2016). Where education of research administrators previously only focussed on those already in the field who were trained in adjacent disciplines, there are now graduate degree programmes attracting individuals to a distinct profession.

US Federal initiatives, including the 2006 Federal Funding Accountability and Transparency Act (FFATA), began focussing on transparency, accountability, grant

reform, and a revision to Uniform Guidance. This period saw a more focus on data management and sharing and rapid regulatory shifts to ensure research data are managed and shared appropriately. COGR and the FDP, established in previous decades, focussed heavily on ways for research administrators to work collaboratively with US government agencies in order to reduce administrative burden. But when significant federal dollars were made available through the American Recovery and Reinvestment Act (ARRA) 2009, they came with increased reporting requirements and administrative burden to manage.

A series of executive orders (EO) and Presidential memoranda that were issued by the Obama White House starting in 2009 set the stage for Federal grants management reform and led to the eventual release of 2 CFR Part 200 – Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards in 2014. Known as Uniform Guidance, these regulations represented the first substantial review and coordinated revision to the series of OMB circulars which governed Federal assistance awards EO 13563 ordered a retrospective analysis of significant rules and coordination across agencies to simplify and reduce redundant, inconsistent or overlapping requirements to reduce costs. A working group made up of representatives from Executive Branch agencies, the Council of Financial Assistance Reform (COFAR) was established to conduct the review and analysis. Research administrators from major research institutions around the nation played a significant role in the multi-year effort that produced 2 CFR Part 200, Office of Management and Budget (2013). As guidance was developed to implement the new regulations both individual research administrators and their professional organisations continued to play a major role in those efforts.

In 2015, CAURA changed its name to the Canadian Association of Research Administrators (CARA) to acknowledge the diversity of organisations in the Canadian landscape. While the bulk of research administrators are located in universities, there are administrators in the private sector, in colleges, hospitals, and charities across the country.

As CAURA changed its name and updated its stated purpose and focussed on diversity, NCURA and SRAI also increased their attention, focus, programming, and emphasis on diversity, equity, and inclusion in the profession. While more work needs to be done in the future, efforts are underway to ensure there are transparent, equitable pathways to the profession. At the same time, the US and Canadian governments have implemented programmes to ensure underrepresented people and institutions have equitable access to and benefits of federal funding.

Limited Activities in Mexico

A review of literature and personal conversations revealed no formal professional society or association for research administration/management in Mexico in existence. In 2001, a group of small institutions in south-eastern Mexico launched an association to build solidarity and, hopefully, future support from the Mexican government which appeared to support larger institutions in Mexico City. Asociacion de Administradores de la Investigacion Universitaria de Mexico, Centroamerica y El Caribe was formed. An inaugural meeting was held at the University of Quintana Roo in Chetumal. It does not appear this group is currently in existence in a formalised capacity.

Conclusion

Research administration/management has emerged as a distinct and maturing profession with a number of specialities. The coronavirus pandemic wreaked havoc across the globe in 2020 leaving no profession untouched. Research administration was impacted dramatically in terms of increased federal funding for research, institutional closures, and dramatic work shifts. While some jobs and careers may have seen less work in North America as a result of the pandemic, research administration emerged as one of the professions that increased in need and presence, further solidifying research administration as a distinct, in-demand profession. The complexities of research administration/research management continue to evolve and specialise which will likely drive an increased need of research administrators/managers in North America. It is critical for the profession to continue to examine entry paths into the profession and to scale up the formal education and training available to ensure there is a workforce to meet the industry demand.

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References

Atkinson, T. N., Gilleland, D., & Barrett, T. G. (2007). The dimensions of influence on research administrator behavior: Toward a theoretical model of research administration as a public service profession. *Journal of Research Administration: Society of Research Administration*, *38*(1), 9–30.

Beasley, K. L. (2006). The history of research administration in research administration and management. In E. Kulakowski & L. Chronister (Eds.), *Research administration management* (pp. 9–27). Jones and Bartlett.

Bush, V. (1945). *Science the endless frontier*. National Science Foundation. https://www.nsf.gov/od/lpa/nsf50/vbush1945.htm

Bush, G. P. (1954). *Bibliography on research administration annotated*. The University Press of Washington, DC.

Campbell, D. R. L. (2010). *The role and development of the research administration profession in higher education* [Master's Thesis]. Washington State University. http://www.dissertations.wsu.edu/Thesis/Spring2010/d_campbell_041810.pdf

Council of Governmental Relations (COGR). (2022). *History*. https://www.cogr.edu/history

Federal Demonstration Partnership (FDP). (2022). *History*. http://www.thefdp.org/default/about/history

Feldman, J., Liders, G., Lowry, P., Monahan, K., Moreland, K., Pogatshnik, J., Rodis, J., & Webb, P. (2017). *The role of research administration* (4th ed.). NCURA.

Government Accounting Office. (1966). *GAO Report*. https://www.gao.gov/assets/088039.pdf

Myers, P. E. (2007). Celebrating the first forty years of the Society of Research Administrators International. *Journal of Research Administration*, *38*(1), 19–31. https://link.gale.com/apps/doc/A174325634/AONE?u=googlescholar&sid=bookmark-AONE&xid=8c81aafb

Myers, P. P., & Smith, M. C. (2008). Research administration in history: The development of OMB Circular A-110 through Joseph Warner's COGR Subcommittee, 1976–1979. *Journal of Research Administration*, *39*(2), 15–32.

National Council of University Research Administrators. (2022). *About us*. https://www.ncura.edu/GlobalInitiatives/AboutUs.aspx

National Organization of Research Development Professionals. (2022). *NORDP Home*. https://www.nordp.org

National Research Council of Canada. (1999). *Report on plans and priorities*. https://publications.gc.ca/collections/Collection/BT31-2-2000-III-63E.pdf

Norris, J. T., & Youngers, J. A. (1998). *Sponsored program offices in higher education: A continuing evolution responding to federal requirements*. Council on Governmental Relations: 50th Anniversary — Journal of Papers. Council on Governmental Relations, 33. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.cogr.edu/sites/default/files/A_Continuing_Evolution_-_Responding_to_Federal_Requirements.pdf

Office of Human Research Protections. (2022). *About OHRP*. https://www.hhs.gov/ohrp/about-ohrp/index.html

Office of Management and Budget. (2013). *2 CFR 200 uniform administrative requirements, cost principles, and audit requirements for federal awards*. https://www.ecfr.gov/current/title-2/subtitle-A/chapter-II/part-200?toc=1

Perkin, H. J. (1989). *The rise of professional society: England since 1880*. Routledge.

Research Administrator Certification Council. (2022). *Introduction*. https://cra-cert.org/introduction

Ritchie, J., Lythgoe, E., & Donovan, J. (2023). RMA education, training and professional development in the United States and Europe. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 177–186). Emerald Publishing.

Roberts, T. J., Compo, D., & Shambrook, J. (2016). Starting small and growing: The profession of research administration and graduate higher education opportunities. *NCURA Magazine*, *48*(1), 20–22.

Roberts, T. J., Sanders, G., & Sharp, W. (2008). *NCURA: The second twenty-five years*. National Council of University Research Administrators. http://www.ncura.edu/Portals/0/pdf/NCURA_History.pdf

Shambrook, J., & Roberts, T. J. (2011). 2010 Profile of a research administrator. *Research Management Review*, *18*(1), 19–30. https://eric.ed.gov/?id=EJ955024

Shambrook, J., Roberts, T. J., & Triscari, R. (2011). Research administrator salary: Association with education, experience, credentials and gender. *Journal of Research Administration*, *42*(2), 87–99.

Society of Research Administrators International. (2022). *Who we are*. https://www.srainternational.org/about/who-we-are

Wile, H. (1983). *Twenty-five years: A history of the national council of university research administrators*. National Council of University Research.

Zornes, D. (2012). *The business of the university: Research, its place in the 'business', and the role of the university in society* [PhD dissertation]. University of Victoria, British Columbia, Canada. University of Victoria Libraries. https://dspace.library.uvic.ca/bitstream/handle/1828/4249/Zornes_Deborah_PhD_2012.pdf

Zornes, D. (2023). The profession of research management and administration in Canada. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 455–462). Emerald Publishing.

Chapter 1.3

Research Managers and Administrators in Asia: History and Future Expectations

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Abstract

Historically, academia, typically universities have had two major groups of professionals. One is those who are responsible for teaching and research, including university professors, associate professors, researchers, research assistants, etc. The other is the administrative staff who are responsible for administrative tasks. Both groups have existed since the inception of a university.

As societal expectations of universities have evolved, so has the need for professionals with advanced skills, who are often referred to as Research Managers and Administrators (RMAs) or University Research Administrators (URAs). In Japan, the profession is called URA because it was modelled after the American system in the beginning of its formation. In India, on the other hand, it is often referred to as RMA because of its reference to the United Kingdom. In this chapter, we will use the term RMA as a consistent term. In Asia, the trend of increasing need for this profession has been increasing over the past decade, starting around the 2010s.

This section provides an overview of the history and background that resulted in the current situation surrounding RMAs, as well as a future prospect in

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the six Asian countries featured in this book: China, India, Japan, Malaysia, Singapore, and Vietnam.

Keywords: Research management and administration; professionalisation; community; certification system; skills; practitioners; networking; education and training programs; employment type; age range

Background: The Rise of New Professions in Asia

Since the turn of the 21st century, universities have been expected to be a source of innovation. This trend is largely influenced by the social environment surrounding universities. As a global trend, universities have been expected to contribute to society in addition to their traditional functions of education and research in recent years (Ueyama, 2010). These expectations then strengthen the capacity of universities to obtain public competitive funding, commercialise university technologies, and support start-up companies.

The increase in competitive funding affects universities in both positive and negative ways. On the positive side, the budget available for conducting research will be diverse. For example, research budgets will be available for a variety of research purposes, such as academic research, research and development in industry–academia collaboration, prototype manufacturing for start-up creation, and so on. On the other hand, this trend also increases some costs, such as invention management procedures, adaptation to different accounting rules, and complex contracts with multiple stakeholders (Altbach & Umakoshi, 2004; Amano, 2002).

The trend towards commercialisation of technologies born out of university research also has a significant impact. Universities are expected not only to publish research results in the form of academic papers, but also to collaborate with industry and start-up companies on intellectual property, licencing, coordination of joint research, and negotiations in obtaining compensation for intellectual property. In addition to researchers and administrative staff, more specialists are being trained at higher education institutions. While there are some common trends observed among the history of RMA as a profession in Asian countries, each country's circumstances also have a significant influence on expectations surrounding RMAs.

From a macro perspective, one cannot ignore the extent of the relationship between a country's economy, science, and technology. Society's expectations of academia are naturally higher when the economy is fundamentally dependent on science and technology. This expectation may be represented, for example, by the share of R&D investment in GDP. Expectations may also vary depending on the size of the academic sector and its history in modern times. Looking at the six countries from this perspective –China, India, Japan, Malaysia, Singapore, and Vietnam – there is a great deal of diversity, and this also influences the attributes and responsibilities of RMA personnel in each country.

The Formation of a Community Behind the Establishment of a Profession

Although RMAs in Asia have developed in a diverse manner, there are commonalities in the process of how it became a profession in China, India, Japan, Malaysia, Singapore, and Vietnam. Most commonly, there are education and training programs

and professional community-building activities that can be observed across individual organisations. Both activities are essential to develop new professionals in the university, promote research support, and improve the overall attractiveness of the profession.

Education and Training Programmes

In all countries, the initial impetus for the start of activities seems to have come from the corporatist learning sessions held by volunteer practitioners. As a result, there are few official records of these budding grassroots activities. For example, in Japan, the first such event was a study group held in 2009 at the initiative of several practitioners who were practicing at a research university and who were acquainted with each other. This was two years before the inauguration of a large-scale project introduced under the policy of the Ministry of Education, Culture, Sports, Science and Technology (MEXT).[1] Since then, an annual two-day conference[2] was introduced every year, along with regular training for newcomers. In Singapore, at Nanyang Technological University (NTU),[3] which boasts an emerging status among the world's leading research institutions, study groups for practitioners within the university are now a leading activity. In India, with support from the Wellcome Trust, an annual conference has been launched and its attendance has been increasing year by year. The situation is similar in Malaysia, where the starting point is a meeting of practitioners. On the other hand, the launch of the activities in China and Vietnam recognises the necessity and leadership by the government.

Formation of Communities

When voluntary study groups start to meet on a regular basis, the foundation of the organisation gradually becomes more stable. When there are nation-wide opportunities to gather beyond an institution (e.g. regular congresses), there is a growing demand for the establishment of an organisational body to act as a hub and operating body for these events.

Japan might serve as a primary example of how the community of RMAs gets built in the Asian countries. A voluntary study group among the practitioners in Japan first met in 2009, which grew into an association with a legal entity in 2015.

Among the Asian countries represented in this handbook, Malaysia established a similar organisational body in 2019. In India, there has been a movement to form a national community for practitioners in the form of feasibility study activities such as IRMI[4] with the support of the Wellcome Trust (Ayyar & Jameel, 2019). Under the leadership of NTU and with the backing of the nearby Australian community ARMS,[5] Singapore is also in the process of forming a national community. The diversity of Asian countries is evident in several aspects during this chapter, and this process is one of the examples, China and Vietnam are following a slightly different process. In China, a network of practitioners in research institutes related to national science and technology policy has been established, with the professions responsible for the relevant practices being networked. Various data provide an overview of these practitioners, and their activities are happening in a relatively top-down manner.

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[1]https://www.mext.go.jp/a_menu/jinzai/ura/detail/1315871.htm
[2]https://www.rman.jp/event/
[3]https://www.ntu.edu.sg/index
[4]https://www.indiaalliance.org/india-research-management-initiative
[5]https://www.researchmanagement.org.au

The importance of the profession in Vietnam has also been recognised from the perspective of promoting science and technology policy and has begun to spread.

The Realities of Current Practitioners

Because the RMA history in the Asian region is not as long-lived as compared to Europe and the United States, there is not a wealth of exhaustive data that informs the situation in each country. In this context, data from the large-scale international survey Research Administration as a Profession (RAAAP), conducted within the framework of INORMS (International Network of Research Management Societies), is useful. This section presents the age range and years of experience of RMA practitioners in the six case study countries, based on the preliminary results of the 2022 iteration (Kerridge, Dutta, et al., 2022). Several things should be noted for understanding the low response rate among RMAs in the Asian region. First, the RAAAP survey was distributed through national networks, however, there are not many formal associations in Asia to begin with. Second, the survey was conducted in English, which is not the primary language used among many RMA practitioners in Asia.

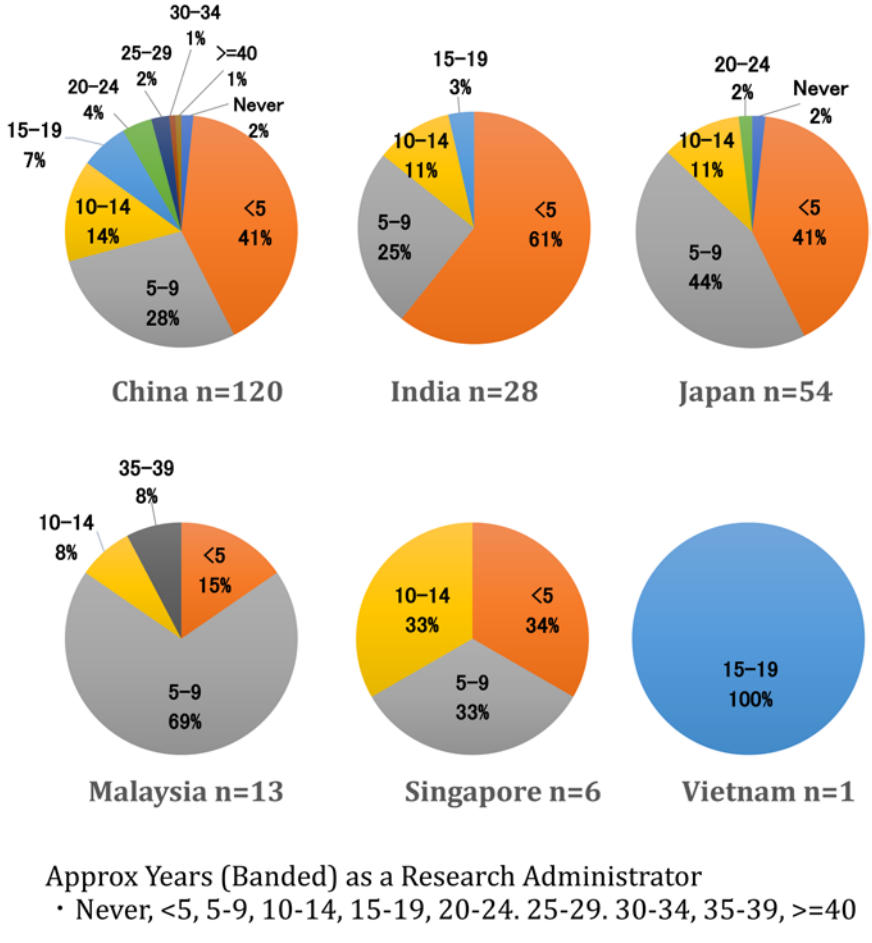

Fig. 1.3.1. Experience Years as RMAs in Asia.

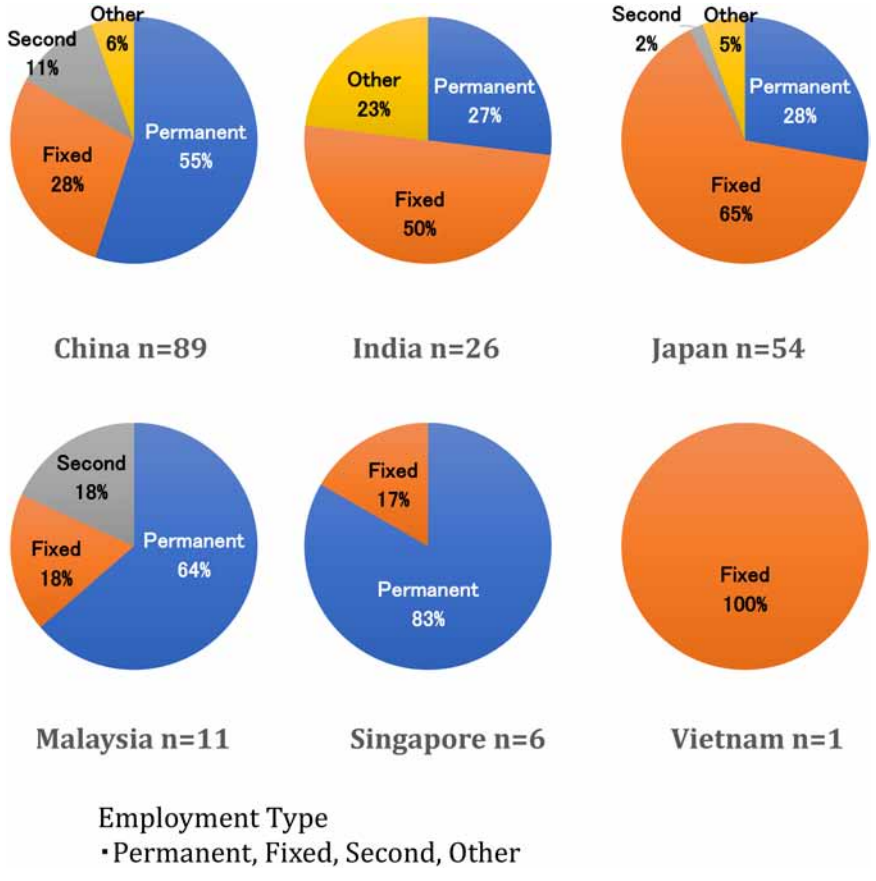

Fig. 1.3.2. Employment Type of RMAs in Asia.

Fig. 1.3.1 shows the distribution of years of experience among RMAs in Asia. Overall, the majority of RMAs have less than 10 years' work experience. Japan and Malaysia had the largest proportion of respondents with less than 10 years' experience, followed by China, India, and Singapore. The largest group of RMAs has between 5 and 10 years' experience in Japan and Malaysia, while the majority in China and India have less than 5 years' experience. There are also veterans with more than 30 years' experience in some countries. In all countries, 15%–20% of the respondents have been working as RMAs for more than 30 years, indicating that some of them have been working as RMAs (with another job title) even before RMA networks and communities came into existence. The only respondent for Vietnam has 15 years of experience.

The survey asked what form of employment RMAs had, with four options: Permanent, Fixed, Secondment,[6] and Other. The result is shown in Fig. 1.3.2. Although the employment arrangement differs from country to country, Permanent is generally regarded as a lifetime employment, which ensures stable conditions of employment.

[6]Secondment indicates a person who has a temporary position, other than their main role (perhaps on a project of some kind) but will return to their substantive role at the end of the secondment period.

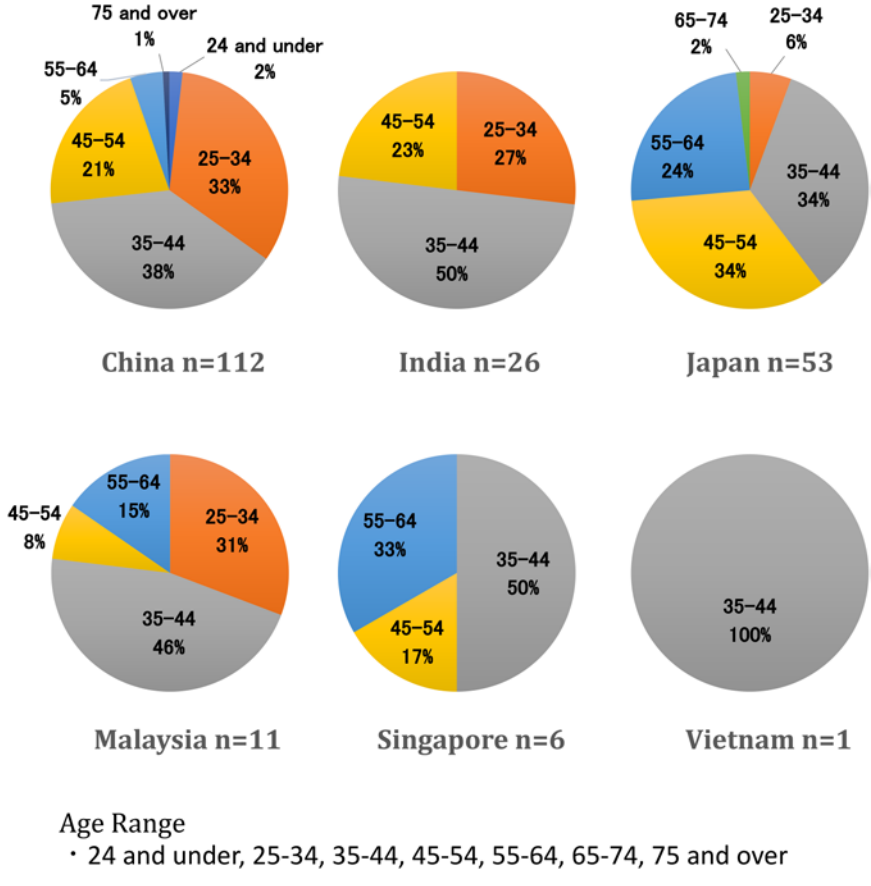

Fig. 1.3.3. Age Range of RMAs in Asia.

The existence of permanent jobs can also be seen as an expectation that the job is valued in the organisation and that the job will be held for a long time. Looking at the position of six countries, five have permanent positions, with the majority in China, Malaysia, and Singapore. Permanent and fixed positions together represent the majority in all six countries. In addition, Secondments are likely to be those RMAs who concurrently have another job. They are present in certain numbers in China, Japan, and Malaysia. It may be that RMA as a profession is still a relatively new occupation and some are also working as teachers and researchers.

Fig. 1.3.3 shows the age distribution of RMAs working in Asia. In China, India, and Malaysia, the majority of workers are young, aged 44 and under; they account for approximately three-quarters of the total. Singapore has about half, while Japan has one-third. Conversely, China, Japan, Malaysia, and Singapore have RMAs who are over 55; in Japan and Singapore, they are ranging from one-quarter to one-third. This shows that there is a wide range of age diversity, although most are young but almost no RMAs under 25.

It should be noted that the age distribution needs to be viewed in conjunction with the average age of the country. Among the Asian countries, Japan has by far the highest average age with 48.6 years, followed by China, 38.8 years; Malaysia, 29.2 years;

India, 28.1 years; Singapore, 39.7 years; and Vietnam, 31.4 years (World Population Review 2022[7]). On this basis, it can be seen that in Japan and China, this work is engaged in by a relatively large number of younger age groups. On the other hand, in Malaysia, India, Singapore, and Vietnam, relatively older age groups are engaged in this work when the average age is in consideration.

From the above overview, it can be understood that RMAs in Asia is a relatively new profession, and the RAAAP-3 survey data show that the progress is currently ongoing to become established as a new profession in universities. This process is supported the hypothesis to provide meaningful lessons for the regions where RMA positions will develop in the future.

What Is Needed to Establish a New Profession

In Asian countries, research management and administration is a new profession, which is expanding over the last decade. The factors behind this growth include both the increased investment in science and technology due to the rapid economic growth in Asia, and the growing need for higher education institutions due to a growing younger population in this region. For these reasons, academic research in Asian countries is expected to develop at a higher level. At the same time, the need for research management in Asian universities has increased both quantitatively and qualitatively.

The following two perspectives are therefore important for establishing the retention and diffusion of the new profession. First, it is vital to know what skills they have, how they are treated, and how their responsibilities are balanced with the existing staff to ensure their retention in the organisation. Second, the specific measures to successfully achieve this will depend on the positionality of the university within each country as well as the differences in the culture surrounding job selection and employment. In other words, it is important to establish the core competence of the profession.

Lastly, we will discuss the future vision of RMA in Asia, focussing on (1) the recognition of skill sets, and (2) the Asian Network, both of which are beneficial for the future development of the profession's establishment.

Common Recognition of Skills

In Asian countries with a relatively short RMA history compared to the West, discussions on skills standardisation are still in their infancy. In Japan, skill standards have been developed over the years. Professionals started to play an active role, and it became common to capture their work experience and performance. This is a successful example of a system that combined the top-down policies and bottom-up activities, being modelled after the preceding technology transfer professionals. The situation in Japan may provide inspiration for future research management systems in other Asian countries.

As detailed in the chapters for each country, education and training programs have been implemented at the request of practitioners. In addition, the work of RMAs is not simply limited to pre-award and post-award activities. For example, in Japan, RMA work also includes the identification of research potential through institutional research, technology transfer, intellectual property management, and public relations activities. It is expected that the accumulation of education and training programs conducted in various countries will likely enable the overall systemisation of the skills and knowledge.

[7]https://worldpopulationreview.com/country-rankings/median-age

Asian Network

As of 2022, in China, Singapore, Malaysia, India, and Japan, there are activities that bring together practitioners on a regular basis. However, there is no international association that oversees all Asian regions, like EARMA in Europe. Instead, connections among key players in the Asian region have been expanding through participation in global initiatives such as INORMS, and those whose membership is internationally such as ARMS, EARMA, NCURA, and SRAI.

In 2021, the INORMS 2021 Hiroshima Congress was held for the first time in Asia. Although it had been postponed for a year by COVID-19 and was held fully online, more than 100 participants from Asia, including China, India, Japan, Malaysia, Singapore, Vietnam and Korea participated. The cross-national participation indicated that networking among RMAs in the Asian region will likely become possible in the future, harnessing networking opportunities provided for example through the Association of Southeast Asian Nations (ASEAN),[8] an initiative of Kyoto University[9] in Japan.

Final Thoughts

An important perspective for understanding the situation of RMAs in the Asian region is the highly independence of higher education systems. Each country has its own university system, with its own curricula, many in its own language and relatively little mutual compatibility. It may be partly due to the absence of a system such as the Bologna Process (1999)[10] in Europe. It may also be related to the lack of a large funding system to promote collaboration, such as the Horizon Europe,[11] where researchers from two or more countries work together to apply for research funding.

In order to jointly acquire funds and smoothly conduct joint research, it is necessary to deepen mutual understanding of each country's system, such as budget system, ownership of intellectual property, conflict of interest management, and other various rules. Ideally, common budget fiscal year and currency would further reduce administrative costs and promote more efficient use of resources. In this context, a better understanding of each country's RMAs with respect to each other would contribute significantly to promote research more active and innovative. To this end, it is desirable that networking in the Asian region become more active and more widespread.

Acknowledgements

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[8] https://asean.org
[9] https://www.kura.kyoto-u.ac.jp/en/about/
[10] https://pjp-eu.coe.int/bih-higher-education/bologna-process.html
[11] https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en

References

Altbach, P. G., & Umakoshi, T. (2004). Asian universities: Historical perspectives and contemporary challenges, 12–37, 58–90, 91–125, 188–215, 238–267, 328–363.

Amano, I. (2002). Structural changes in Japanese Higher Education in the 1990s. *The Journal of Educational Sociology*, *70*, 39–57.

Ayyar, S., & Jameel, S. (2019). India Research Management Initiative (IRMI) – An initiative for building research capacity in India. *Wellcome Open Research*, *4*, 18. https://doi.org/10.12688/wellcomeopenres.15073.2

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Ueyama, T. (2010). *Beyond Academic Capitalism = Akademikku Kyapitarizumu O Koete: Amerika No Daigaku To Kagaku Kenkyū No Genzai* (in Japanese) [Beyond academic capitalism]. NTT Shuppan.

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Chapter 1.4

History of Research Management in Australia and New Zealand

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Abstract

This chapter describes the beginning of the RMA profession in Australasia and its subsequent development over the last 35 years to what is now a recognised profession supported by a popular and well-accepted accreditation programme. RMAs are increasingly seen as an integral support to research and researchers, mainly in the higher education sector but increasingly in government agencies as well. Through the local professional society (the Australasian Research Management Society or ARMS), RMAs are collaborating with other professional support elements of the research ecosystem to facilitate high-quality research.

Keywords: Australia; New Zealand; Singapore; research management; ARMS; research; accreditation

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The Genesis of Research Management in Australasia

The end of the 1980s was a period of transformational change for higher education in Australia as the so-called Dawkins revolution[1] of higher education resulted in a Unified National System of Higher education (Marginson et al., 2013). This Unified National System replaced a previous binary system of universities, consisting of Institutes of Technology and Colleges of Advanced Education with a single set of universities. Many new universities were formed as a result of mergers from the previous binary system. In a sense, this also marked the beginning of the modern Research Management Office (RMO) in Australia as new government funding was made available for university research infrastructure and, with many new university researchers, competition intensified for peer-reviewed government research grants.

Similarly, in New Zealand, the growth in specialist research organisations occurred predominantly through the 20th century, via universities, Crown Research Institutes (CRIs) and Independent Research Organisations (IROs). The major components of the current New Zealand system were established in science sector reforms circa 1990. Changes in the structure and role of the RMO continue apace as funding agencies – especially NZ government funding agencies – respond to changes in government priorities.

In late 1989, the Australian federal Department of Employment, Education and Training (as it was then known) convened in an inaugural meeting of Australian research managers in the national capital (Canberra) to outline government research policy and research funding arrangements. This event continued annually until the 1998 meeting, when a group of research managers met and 'agreed to take responsibility for the profession'. In order for research managers to be more than 'grant processers' and to add value to the research enterprise, they needed to take control of the annual gathering of research managers and set a broader agenda for the meeting encompassing strategic, political, and funding input from a variety of sources. Additionally, the group agreed that they would benefit from a New Zealand perspective.[2]

The inaugural meeting of Australian and New Zealand Research Managers and Administrators (RMAs) was held in Adelaide in November 1999. It was the first occasion in which a conference for RMAs had been designed and managed by RMAs themselves. The initial conference convenors, Research Office Directors of the three South Australian universities were Ms Janet Dibb-Leigh from the University of Adelaide, Dr Wayne Harvey from Flinders University, and Dr Mark Hochman from the University of South Australia with the conference theme of 'Helping Research Happen'. The conference also saw the launch of the Australasian Research Management Society (ARMS) with Ms Janet Dibb-Leigh appointed as the inaugural ARMS President. It became an inspiring inaugural conference with delegates at the conclusion of the conference standing and cheering the birth of their new professional society! As an aside, for those who are interested in trivia – the after conference dinner entertainment for this inaugural ARMS conference was a magician and illusionist (Raymond Crowe),

[1]Prior to the Dawkins revolution, the Australian higher education system was described as a 'binary system' with universities which were funded to undertake research as well as provide undergraduate and graduate teaching, and Colleges of Advanced Education/Institutes of Technology, which were not funded to undertake research. The Dawkins revolution was to remove this distinction and create a Unified National System where all higher education institutions would eventually be funded on the same basis.

[2]A fuller account of the ensuing actions and the attributed quotes above can be found at the link. https://www.researchmanagement.org.au/sites/default/files/uploaded-content/website-content/arms_origins.pdf.

who chose a 'willing' volunteer from the audience to be his ventriloquist's dummy. The 'willing volunteer' had only commenced in the research management profession in the preceding week and probably wondered what sort of career he had chosen for himself!

Australasian Research Management Society (ARMS): Structure

From the beginning, ARMS encompassed membership broader than the university sector including medical research institutes, State government, and the national research organisation, Commonwealth Scientific and Industrial Research Organisation (CSIRO). Membership was international in nature with New Zealand its own Chapter, and joined by delegates from the US, UK, Denmark, Korea, South Africa, and Canada in ensuing years. It is of note, and a reflection on the multi-faceted nature of the RMA profession, that over its initial 10 years as a developing Society, ARMS presidents were elected from Medical Research Institutes and private consulting firms as well as from the dominant university sector. This clearly demonstrated the multi-profession nature of ARMS, especially in its formative years. In the latter years, the university sector played a more dominant role in ARMS membership. Subsequent annual conferences were held each year in capital cities of the Australian States until 2003, where it was held in Auckland, New Zealand – a significant milestone being the first annual conference meeting of ARMS held outside of Australia.

In addition to a national executive, ARMS was structured into local Chapters based around States and regions that were responsible for organising local ARMS events. In the early years, it was a common feature for local Chapters to demonstrate increased activity in the lead up to hosting an annual meeting in their respective State, but following the annual conference, activity would subsequently diminish. As a result, local Chapter activity and events were largely dependent on the enthusiasm and time of local members, leading to inconsistencies in local Chapter offerings.

Initially, ARMS managed its operations internally through volunteer executives and other volunteer support. Throughout the early 2000s, ARMS moved from a volunteer-based organisation to a contracted professional secretariat, which was described as a partial-professional support model. Financial accounts and conference support were outsourced, leading to many queries at executive meetings unable to be resolved. Growing dissatisfaction with this model and increasing expectations from members led to ARMS appointing its first full-time Chief Operating Officer in 2012. Since 2012, staff numbers have steadily increased and now include an in-house accountant, conference and events management, and administrative support for the growing number of professional development and membership benefit programmes. Business development support has been provided both through the committee structure, volunteers and part-time or consultancy personnel.

Australasian Research Management Society (ARMS): Focus Areas

Perhaps reflecting the organisational background of many ARMS executive members, the Society has always had a strong emphasis on strategic planning. The first ARMS strategic plan was developed in 2006 to guide the progress of this newly formed professional society and ensure financial sustainability and relevance to members and the broader research enterprise. Plans have been updated regularly with the most recent strategic plan being available in the references.

Whilst strategic priorities have varied over the last 15 years, there have been several enduring themes: internationalisation, professionalisation, and collaboration.

Internationalisation

Australia and New Zealand are a long way from the research powerhouses of the US, UK, and Europe, but international connections have always been important for both researchers and research managers. From its inception, ARMS established an International Committee that played an important role in bringing the world of research management to ARMS and ARMS to the world. ARMS played a lead role in the establishment of the International Network of Research Management Societies (INORMS), coordinating the first multinational forum where INORMS was established (Fremantle, September 2004) and hosting the first INORMS conference in Brisbane in 2006, which was attended by 250 delegates including 130 from 23 countries [see further in Chapter 1.7 (Kulakowski, 2023) and Chapter 5.17 (Thomson et al., 2023)].

Reaching out to the international community continued through the 2010s, with three study tours to the UK (2015, 2017, and 2019 – the first organised privately, the other two under the auspices of ARMS). These study tours were themed around research impact and knowledge exchange and attracted mainly senior research management professionals with approximately 12–15 participants per tour. Participants benefited from hearing the policy settings around impact and knowledge exchange in the UK and from seeing how universities managed these elements 'on the ground'. A similar study tour of the US West Coast in 2017 themed around interacting with industry attracted fewer participants, but provided an opportunity to visit some US West Coast research powerhouse institutions including Stanford University, UC Berkley and the University of British Columbia in Canada. Additionally, ARMS' constant goal to collaborate with other global RMAs has established a fellowship programme with NCURA in the US, resulting in an organisation of a joint meeting with SRAI in Hawaii in 2019 titled *Disruptive Trends in Research Management*.

In the past decade, ARMS has also looked to align itself with the growing profession in the Asia-Pacific region and established a Singapore Chapter (2014). This led to a highly successful annual conference in Singapore in 2015, which attracted delegates from a much wider Asian and international catchment than would have normally been the case. This is, to date, the only annual meeting outside of Australia and New Zealand. More recently, ARMS has been active in Malaysia, seeking to establish a local Chapter and also in the South Pacific.

Professionalisation

Given the paucity of formal training for research managers, ARMS has, from its inception, had a strong emphasis on professional development. In addition to local Chapter events, early professional development centred around workshops at the annual conference on topics related to research policy, grants management, etc. In 2012, the ARMS executive commissioned a proposal to develop an accreditation programme for the profession. This required the entire Society to be consulted through input sought via survey and via meetings with each local Chapter, including New Zealand. Since 2012, several hundred individuals contributed to the resulting model, which was accepted in late 2012 for implementation at the 2013 annual conference.

Through this effort, it was established that to be an effective research manager requires a mix of technical and relationship skills, supplemented by contextual knowledge of the broader research environment. The initial ARMS Foundation Level Accreditation Program comprised eight modules delivered at the Adelaide annual conference in September 2013. These consisted of three compulsory modules (written Bodies of Knowledge) covering the national research systems, legislation in Australia

and New Zealand, a module on understanding research and researchers, and elective modules on practical research management topics such as pre- and post-award grants management, ethics and integrity, and data management. Further details are given in the footnote below.[3]

Since its inception in 2013, the number of modules has grown from the initial 8 to now 20. Additional modules cover Higher Degree by Research (HDR) management, working with industry and research finance. In keeping with ARMS' strong focus on having an international perspective, it has also developed modules on the national research and innovation systems operating in the UK and Vietnam – developed by writers from Vietnam and the UK respectively. At the time of writing, RMAs have completed more than 5,000 Foundation level modules since the inception of the programme in 2013, with more than 500 graduates.

The large continental and international area covered by ARMS has meant that the initial face-to-face delivery model for its Foundation Level modules has been constrained by the availability of local members to deliver modules, or further constrained by the financial cost of flying authorised Training Fellows interstate, and in some cases overseas, to deliver training. Consequently, ARMS commenced work in 2018 on transitioning key Foundation Level modules into an online Learning Management System (LMS). The necessity of this transition was further hastened with the arrival of COVID-19 and subsequent travel restrictions. Whilst modules continued to be delivered through the pandemic via video conferencing platforms, ARMS has now transitioned all its compulsory modules (for Australia, New Zealand, and Singapore) into an LMS.

Following the success of the Foundation Level Accreditation Program, ARMS introduced an Advanced Level Accreditation Program for those at more senior levels in the profession.[4] Whilst extensive in nature, it failed to attract the similar substantial numbers as had the Foundation Level Program, possibly due to the availability of leadership programmes within member's own institutions or through other professional bodies. Consequently, in 2022, ARMS revised its inventory of all accreditation programmes to a points-based system where individuals can 'choose their own adventure' (with some compulsory modules) depending on their area of interest. These can be packaged to achieve accreditation at three levels – Foundation, Established, and

[3]Candidates are required to undertake five modules, including the three compulsory modules on their national research and innovation system, national legislation and understanding research and researchers and must achieve a minimum of 75% grade in each module. Following successful completion of these five modules, they must undertake a case study providing short paragraph answers that are assessed by experienced research managers to determine their understanding of day-to-day issues confronting those in the profession. The entire accreditation programme is overseen by an independent Accreditation Council with representatives from funding agencies and the research management community across different countries. The Accreditation Council comprising volunteers from government agencies, and senior university personnel is responsible for the quality of the modules, the persons who deliver training (Training Fellows), and the assessment process.

[4]This programme comprised five interrelated elements including a compulsory two- and half-day workshop on leadership, management, and strategic thinking, a choice of several full-day electives which were 'deep dives'' into more specialised areas of research management, a mentorship programme, attendance at facilitated group discussion sessions with a capstone assessed workplace-based assignment of 5,000–10,000 words. The programme was delivered approximately annually and was cohort-based.

Advanced level Research Managers. This new approach still maintains a considerable assessed component and also allows for the inclusion of some non-assessed components such as the ARMS PD@zoom sessions, and a minor non-ARMS element.[5]

This significant change reflects the evolution and increasing specialisation of the RMA profession whilst still retaining a requirement for a base level of broad sector knowledge including knowledge of the national research environment, applicable legislation and the benefits of research itself.[6]

Collaboration

Supporting research is a multi-faceted business with many players, and ARMS has always been active in engaging with other players in the RMA sector including government, peak bodies, and funding councils. A feature of the ARMS calendar for several years has been an annual 'Canberra Roadshow' where the ARMS President and key staff discuss how to best collaborate in supporting the national research effort. This 'Roadshow' has also occurred sporadically in Wellington, NZ. In recent years, this has included collaboration with the Association of Australian Medical Research Institutes (AAMRI) in developing a joint Research Integrity Advisor Training Guide, the Council of Australasian Librarians (CAUL) in developing a web-based Open Research Toolkit, and the Council for Advancement of Science and Education (CASE) in a joint conference on maximising research funding through research and philanthropy.

Apart from these enduring and underpinning priorities in developing the RMA profession in Australasia, ARMS has been maturing as a professional society. This can be observed in the expansion of its organisational structure and a range of services. In addition to the Chapter based structure outlined previously, ARMS has also developed Special Interest Groups (SIGs), which function as communities of practice in specialised areas of research management. Currently, there are 10 SIGs in areas as diverse as research impact, research development, first nations research, ethics and integrity, and more. ARMS also offers a range of awards which recognise distinguished service to the RMA profession, excellent practice. It also provides travel scholarships to enable members to access international meetings. The Society has introduced Fellows of ARMS, and given the history and length of tenure of some members, it has also recently introduced the category of Life Members.

The governing executive has been replaced by a governing Board with positions being well contested – always a sign of a healthy Society. The Board is supported by four Standing Committees – Conferences and Major Events; Education and Professional Development; Governance, Finance and Audit; and Member Services. The annual reports provided at the Annual General Meeting held in association with the yearly conference (whether virtual or in-person) indicate that despite the perturbations caused by COVID-19, ARMS remains in a sound financial position.

Conclusion

The recognition, reputation, and contribution of ARMS as a collective 'brain trust' has certainly grown over the years. This is evidenced by the increased engagement and

[5]Further details can be found at this link: https://www.researchmanagement.org.au/pointsbased-accreditation-programs.

[6]Further details can be found at this link: https://www.researchmanagement.org.au/pointsbased-accreditation-programs.

consultation with ARMS and the RMA sector by research councils, funding bodies, other government departments, and similar.

For a profession with only 30 years of history in the Australasian region, RMAs are making an impact both in the region and globally. RMAs are increasingly seen as an important component of the research enterprise itself with multiple support roles of development, facilitation, and stewardship of research in addition to the often-recognised compliance role. RMAs still have a clear role of 'helping research happen!'

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References

Kulakowski, E. (2023). The establishment and history of the international network of research management societies. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 83–95). Emerald Publishing.

Marginson, S., Croucher, G., Norton, A., & Wells, J. (2013). *The Dawkins Revolution: 25 years on*. Melbourne University Publishing. ISBN-9780522864151.

Thomson, C. J., Tambiah, T., & Hochman, M. B. M. (2023). The emergence of the research management profession in Australia. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (Chapter 5.17, pp. 559–564). Emerald Publishing.

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Chapter 1.5

History of RMA in Central and Eastern European Countries

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Abstract

The history of the profession in Central and Eastern European (CEE) countries is not a long one; it results from their history, their size, their spending on research and innovation, their position in geopolitics and world economy. Nevertheless, what makes it exciting is the fact that we are just at the birth of the profession in the region. Historically, there have been very few professionals either related to or officially recognised as Research Managers and Administrators (RMAs) in CEE countries, resulting in their limited resources and capabilities. Nevertheless, some RMAs have found the way to start mutually beneficial collaboration for the sake of their own professional development, for their institution's and country's competitiveness by launching networks of RMAs or using regional or European funds for capacity building and developing training or educational programmes.

This chapter aims to provide a short summary of the profession in CEE countries while highlighting a few cases which show how the RMA profession is moving forward but still lagging behind.

Keywords: Profession; research support; networks; collaboration; professionalisation; programmes; Central and Eastern Europe

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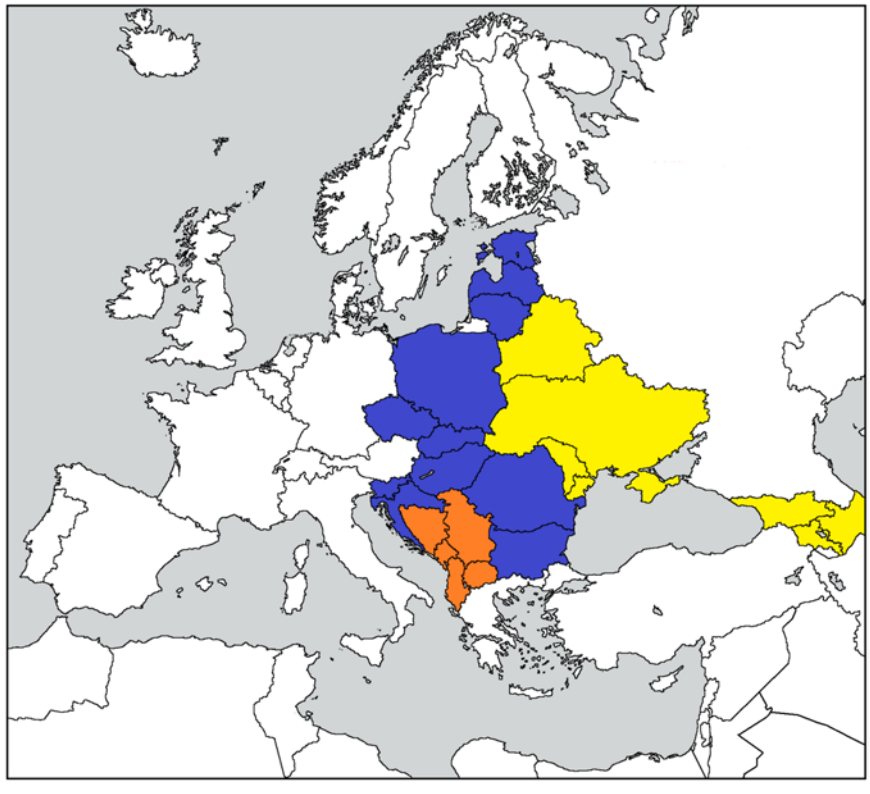

Fig. 1.5.1. Countries of Central and Eastern Europe Based on the Working Definition. Blue (Dark Grey): Countries Accessed the EU Since 2004, Orange (Grey): Western Balkan Countries, Yellow (Pale Grey): Eastern Partnership Countries (Own Edition).

Territorial Scope

Central and Eastern Europe is a heterogeneous region (Gergely, 2003, p. 11) carrying various definitions in terms of history, politics, as well as literature (Magris, 2005, p. 92). Many debates have taken place among researchers regarding the definition of the territorial scope of this region based on different aspects coming from historical, cultural, political, geographic or geopolitical positions. Nevertheless, there is still no consensus and multiple definitions of Central and Eastern Europe exist in parallel (Zsár, 2012, p. 10).

The suggested working definition of the author for this chapter is that countries belonging to Central and Eastern Europe cover mainly three groups of countries: first, EU Member States (MS) having joined the European Union (EU) since 2004 with the exception of Malta and Cyprus[1] (in short, CEE MS); second, countries from the

[1]EU MS having joined the EU since 2004 are: Estonia, Latvia, Lithuania, Poland, Czechia, Slovakia, Hungary, Slovenia, Croatia, Malta, Cyprus, Romania and Bulgaria.

Western Balkans (in short, WB countries)[2]; and third, countries belonging to the Eastern Partnership Countries of the EU (in short, EaP countries).[3]

This working definition is in line with concepts developed in the previous decades. Iván T. Berend and György Bánki argued that Central Europe covers the area between Germany and Russia, and between the Baltic and the Black Sea. Similarly, Jenő Szűcs following Péter Gunst asserted that the Baltic region, Poland, the Czech Republic, Hungary and Croatia belonged to Central Europe (Lendvai, 2005). During the last days of the communist regime, Ferenc Glatz spelt out that Central Europe consisted of the members of the Soviet Bloc with the exception of the Soviet Union, which is nowadays more and more approached by the Balkans (Glatz, 2005).

Commonalities and Differences

Among these countries, one can find a high number of commonalities; however, in all cases, there are also certain differences, including cultural background (e.g. the mixed use of Latin, Cyrillic or Georgian alphabets) or economic assets. As a commonality from history, we can highlight that following the Second World War, these countries belonged to the Eastern bloc, or in case of Yugoslavia, to the non-aligned movement. Nevertheless, their Soviet type of governmental systems significantly affected their science policy orientation and the whole research system. Most of these countries acquired their current form in the 20th century, or even afterwards (i.e. Montenegro or Kosovo[4]).

All countries included in the current overview are relatively small states with a population ranging between 680 k (Montenegro) and 10.1 m (Czechia), with the exception of Romania (19.1 m), Poland (37.8 m), and Ukraine (43.4 m).

Where the Story Starts

To understand the lagging status of the profession, it is important to understand the post-Soviet heritage of the research system of the countries concerned; following WWII, these countries – with the exception of Yugoslavia – became members of the Warsaw Pact (or the Soviet Union itself) meaning that they had to follow, if not entirely copy, the Soviet research system. The literature presented below unequivocally underlines that research policy followed the principles of 'scientific socialism': in its three organisational sectors (i.e. the academies, universities and the industry), specialisation, rationalisation and centralisation had to be carried out in line with the multi-annual central plans and directives of the communist party industrial vision (Balazs et al., 1995, p. 615; Jablecka, 1995, pp. 728–729).

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[2]The concept of the Western Balkans is another artificial one which includes those countries from the Balkans which have the perspective of joining the European Union. These countries include Albania, Bosnia and Herzegovina, North Macedonia, Montenegro, Kosovo* and Serbia. See more at: https://ec.europa.eu/info/research-and-innovation/strategy/strategy-2020-2024/europe-world/international-cooperation/western-balkans_en.

[3]The Eastern Partnership was launched in 2009 as a strategy initiative to strengthen the political and economic relations between the EU and the following countries: Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine. See more at https://www.eeas.europa.eu/eeas/eastern-partnership_en.

[4]In line with UN Resolution 1244/1999.

Egorov and Carayannis (1999) add that theoretical projects – so basic research – were carried out within the National Academy of Sciences, some military-industrial complex institutes and the universities. Applied research and development activities took place in industrial research institutes operating related to the branch ministries and in line with the economic plans (Balazs et al., 1995, p. 616). As the whole economy operated in closed and multiannual planning periods, the output indicators related to the economic production were set in advance – all other activities had to serve the achievement of their goals. This contributed to misguided and wasteful research and development projects on the part of many enterprises (Egorov & Carayannis, 1999, p. 160).

Academicians at that time represented a small elite, out of which the leadership of the research institutes was recruited. What should be underlined is that funding went to the institutes themselves instead of to individuals or research groups. Each institute was directed by an academician whose selection did not take into account the person's managerial or policymaking skills (Balazs et al., 1995, p. 615).

Universities were initially devoted exclusively to education without committing themselves to doing any research; however, they had to compete for the same funds as research institutes (Balazs et al., 1995, p. 615). Nevertheless, some research activities also took place at universities even with poorer assets as lecturers worked on research degrees with their students.

Research management was nonexistent as state funding did not pose similar expectations towards research as it did in Western countries. The methodology taken to capture the output indicators in CEE, such as the number of publications and patents, did not follow those of their Western counterparts. Although it falls out of the scope of the current chapter to go into the details, it must be highlighted that initial conditions and values of indicators were relatively lower than in Western countries. There were a number of reasons for this situation, such as (1) the regime of secrecy, (2) the military orientation of R&D, (3) low pressure to publish research results in journals, (4) different organisational set-up of the research ecosystem compared to Western countries, (5) overestimation of the real R&D potential of the region, (6) concentration of a substantial part of R&D personnel on reverse engineering, and finally, (7) a high concentration of specialists in traditional sectors with relatively lower innovative potential, such as coal mining or heavy engineering industry (Egorov & Carayannis, 1999, p. 161).

Following the changes of regimes from socialism to democracy, such systems of research and development could not have been maintained anymore. Their collapse can be showcased by the serious decrease of GERD (Gross domestic expenditure on R&D) between 1% and 3%, number of researchers by 49%–60%, and of industrial R&D by 20%–50% (Egorov & Carayannis, 1999, p. 161). The decline in public funding has been accompanied by structural changes, although the degree and timing of these changes differ from country to country. By the disappearance or decreasing amount of public funding, many scientists moved to private enterprises or departed overseas (Balazs et al., 1995, p. 621), even if the autonomy of science and the freedom of scientific research was reinstalled (Jablecka, 1995, pp. 728–733; Mosoni-Fried, 1995, p. 777). In case of ex-Yugoslav countries, these drawbacks were aggravated by war damages, economic slowdown and brain drain[5] (Svarc et al., 2014, p. 167).

[5]Brain drain is the emigration of qualified people leaving their place of origin for better-paid job abroad.

The foundation of National Research Funds and Technical Development Funds by governments or the Soros Foundation[6] started to push forward the individual or team-based competition for research grants, however, the selection criteria still did not embrace the criteria of quality or economic utility (Balazs et al., 1995, p. 621) but became based almost exclusively on peer review (Jablecka, 1995).

As Egorov and Carayannis (1999, p. 162) summarise, the controversial dynamics of the main R&D indicators help conclude that in the former Soviet Union and in Central and Eastern Europe, the role of domestic R&D became increasingly driven by cultural, educational and ideological, rather than instead of economic or technological factors. This also means that those countries found themselves (again) on the periphery of the world transition to the knowledge-based society. What is not highlighted in the literature is that research management as a profession could not have been developed as there was no competition to meet funders' expectations, and non-research related outputs were hardly expected by research funders.

Starting to Engage in International R&I Competition

Another important feature determining the status of the RMA development in the countries concerned is their relationship with the EU, and more specifically, the EU-funded research and innovation Framework Programmes (FPs). The FPs are the main financial tools through which the EU supports research and innovation activities covering almost all scientific disciplines and whose budget is constantly growing.[7] Research Performing Organisations (RPOs) of EU MSs compete for these funds at the European level. The grant covers a high degree of the project budget: depending on the type of the activities, it is generally between 70% and 100%.

However, the FPs are not only open to MSs, but also to other countries. For each FP, there is a group of countries concluding specific agreements with the EU to get the status of 'Associated Country' (AC). To enable their researchers and research organisations to apply for funded projects with almost the same status as those from EU MS, they contribute to the budget of these programmes proportionally to their GDP.[8] Other countries around the world can take part in FP-funded projects either based on bilateral agreements or at their own costs.

The previously listed EU Member States joined the Union in three rounds: eight of them (Estonia, Latvia, Lithuania, Poland, Czechia, Slovakia, Hungary and Slovenia) in 2004, Romania and Bulgaria in 2007 and Croatia in 2013. Western Balkan countries represent some of the republics of the former Yugoslavia. In the case of Serbia and Montenegro, accession talks are underway. In the case of Albania and North Macedonia, the negotiations necessary for accession were opened in 2020. As regards Bosnia and Herzegovina as well as Kosovo, they received the 'potential candidate

[6]The Soros Foundation, today called as Open Society Foundations, founded by George Soros, is the world's largest private funder of independent groups working for justice, democratic governance, and human rights. See more at https://www.opensocietyfoundations.org/who-we-are.

[7]See more at https://ec.europa.eu/eurostat/cros/content/research-projects-under-framework-programmes-0_en.

[8]See more at https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/europe-world/international-cooperation_en#countries-and-regions.

status', accession talks can start only in the future.[9] Eastern Partnership countries are those post-Soviet countries having acquired independence following the fall of the Soviet Union and cooperate with the EU in a number of fields in the frame of the Neighbourhood Policy Instrument. As a result of the different levels of membership or partnership, their participation in the EU-funded research and innovation FPs do also vary.

When analysing the involvement of CEE countries in FPs, we can observe their gradual involvement from the mid-1990s: first, a few RPOs became involved from those countries which aimed to join the EU following the regime changes, such as Hungary, Czechia and Poland; afterwards, their involvement became more frequent and other entities joined as well. In 2004, almost half of CEE countries joined the EU, thus they became MS; this resulted in more frequent, but limited involvement in funded projects. This was followed by bilateral cooperation with MS on specific projects (Svarc et al., 2014, p. 167) and then the start of participation of current Western Balkan and EaP countries in the late 2000s which has slightly increased since then. Table 1.5.1 shows the involvement status of CEE countries in the FPs.

Even if almost all these countries can take part at equal terms in the FPs, their participation rate and the absorbed budget are much below those EU Member States which are involved from the very beginning. The low share of funds absorbed and participation realised by CEE countries are illustrated by Figs. 1.5.2 and 1.5.3.

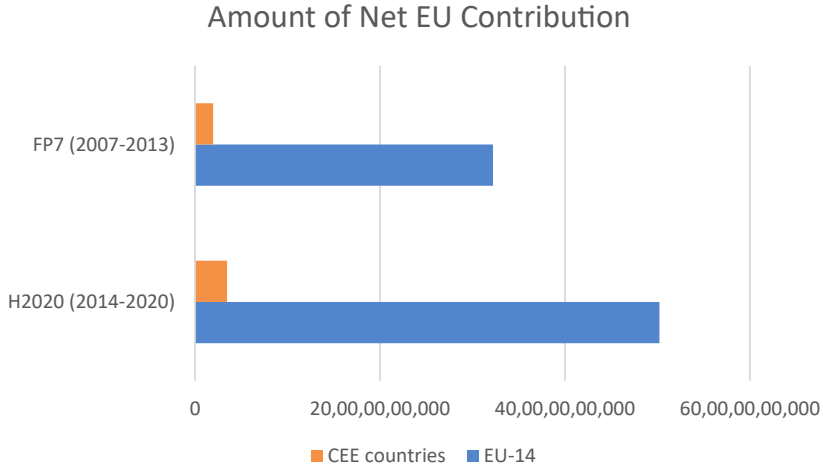

Fig. 1.5.2. Amount of Net EU Contribution Absorbed by CEE Countries and EU-14 Countries[10] in the Last Two FPs (Own Edition, Source of Data: Horizon Dashboard).

[9]See https://www.eeas.europa.eu/eeas/eu-and-western-balkans-towards-common-future_en. Retrieved on 14 February 2023.

[10]EU-14 countries include those MS which were part of the EU before the 2004 enlargement, with the exception of the UK. So Belgium, the Netherlands, Luxemburg, Germany, Italy, France, Spain, Portugal, Greece, Austria, Finland, Sweden, Ireland and Denmark are included.

Table 1.5.1. Involvement Status of CEE Countries in EU FPs: AC Denoting Associated Country, MS Denoting Member State (Own Edition, Data Source: cordis.europa.eu, https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/horizon-dashboard).

		FP4 (1994–1998)	FP5 (1998–2002)	FP6 (2002–2006)	FP7 (2007–2013)	FP8 / Horizon 2020 (2014–2020)	FP9 / Horizon Europe (2021–2027)
CEE MS	**EE, CZ, HU, LI, LT, PL, SI, SK**	3rd country	AC	AC till 2004 then MS	MS	MS	MS
	BG & RO	3rd country	AC	AC	MS	MS	MS
	HR	3rd country	3rd country	AC	AC till 2012 then MS	MS	MS
EaP	**MD & UA**	3rd country	3rd country	3rd country	AC	AC	AC
	ARM & GEO	3rd country	3rd country	3rd country	3rd country	AC	AC
	AZE & BY	3rd country	3rd country	3rd country	3rd country	3rd country	3rd country
WB	**SRB**	–	3rd country	3rd country	AC	AC	AC
	BiH & NMD & AL	3rd country	3rd country	3rd country	AC	AC	AC
	MNT	–	–	3rd country	AC	AC	AC
	KO*	–	–	–	3rd country	3rd country	AC

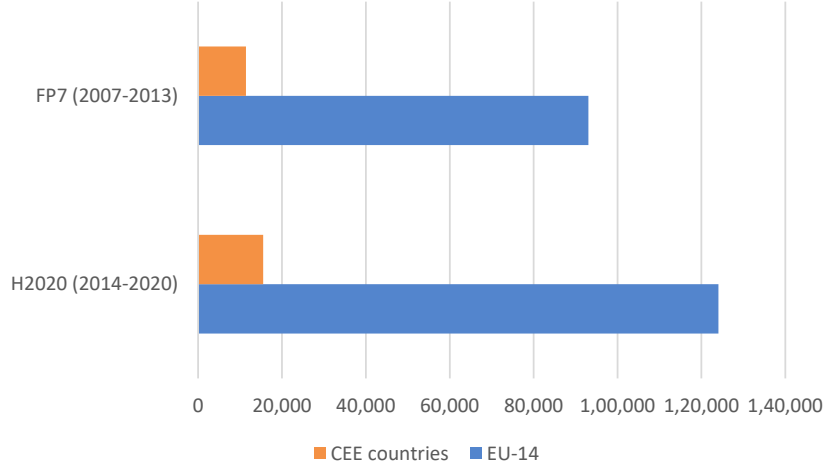

Fig. 1.5.3. Number of Participations from CEE and EU-14 in EU-Funded Projects During the Last Two FPs (Own Edition, Source of Data: Horizon Dashboard).

Among barriers to cooperation in FPs, the lack of project management capacities has been always highlighted such as the bureaucratic barriers of the European Commission in case of the WBC countries in 2008 (Svarc et al., 2014, p. 169) and in case of EU-13 MSs in 2018 (European Parliament, 2018).

Driving Forces Necessitating the Appearance, Professionalisation and Specialisation of RMAs

There are multiple driving forces behind the appearance of RMAs in the CEE countries; however, the involvement in international, but more specifically, EU-funded research and innovation projects became the most important one, as it is detailed below.

In the case of CEE countries, the accession to the EU did not immediately result in significant involvement in FP-funded projects (see Figs. 1.5.2 and 1.5.3). The reasons are manifold, but one of them is the availability of Cohesion Funds.[11] In the frame of various national Operational Programmes financing human resource development, innovation, and research facilities, an important amount of funds was absorbed by research performing organisations based mainly in CEE EU-13 countries. This means that these research organisations rather opted for these funds which were available through national competitions instead of entering into EU-wide competition. As Cohesion Funds are decreasing and many CEE regions reached a significant level of economic development becoming ineligible for these funds, stakeholders of the R&I

[11]The Cohesion Fund provides support to MS with a gross national income (GNI) per capita below 90% EU-27 average to strengthen the economic, social and territorial cohesion of the EU. See more at https://ec.europa.eu/regional_policy/funding/cohesion-fund_en.

ecosystem have to turn to and compete for the R&I funds distributed at the EU level (Virágh et al., 2020).

It must be noted that preparing proposals for the calls published under the above-mentioned National Operational Programmes and the management of these projects also necessitated increased management capacities. Researchers were not able to arrange all the administrative and financial requirements of the projects funded by Operational Programmes where the red tape has been regularly much higher than in case of FPs. So the expertise of project managers became crucial. In most CEE countries, the national Operational Programmes had a dedicated budget line for management, even if it was limited to 5%–10% of the total budget. So, for a few years, EU project managers, or in fact, research managers were understood as those specialists being familiar with all the administrative rules and requirements of these national Operational Programmes implemented at various research organisations.

In the meantime, non-EU countries of the CEE region also gradually aimed to reinforce cooperation with the EU and turned towards European R&I funds due to the lack of national funding.

As research organisations from CEE became more and more involved in EC-funded R&I projects (see Table 1.5.1), EU project managers working previously on national projects had to improve their knowledge and become familiar with the requirements of the FPs. This proved to be a real challenge due to several factors which included the lack of English knowledge, lack of knowledge on the profession and related EU or international networks.

The BESTPRAC COST Action[12] echoing that 'Excellent research requires excellent research support' running between 2014 and 2019 represented a unique opportunity and perhaps the tipping point for these countries to upskill and move to the next level of consciousness in the profession. As it was funded by the COST programme,[13] participants of the half-yearly conferences, study trips and training schools had the opportunity to participate free of charge. Thus, the action proved to be a flagship initiative in creating a wide European community of research support staff; this community of practitioners included a growing number of professionals from the CEE countries providing them opportunity for practical knowledge exchange and professional development. Moreover, this action started to shed light on the profession and scattered the seeds for awareness raising and recognition of the profession in most CEE countries.

Important to note that through the rising participation of research organisations from the CEE region in EU-funded programmes national funding agencies also started to align their evaluation criteria with the EU ones to force RPOs to raise the excellence and the impact of their submitted applications (European Parliament. Directorate General for Parliamentary Research Services, 2020). These changes aimed to push research organisations to engage in the EU-wide competition for R&I funds; thus, the need for RMAs being aware of all requirements of EU-funded projects were further reinforced.

[12]See https://bestprac.eu/home/.
[13]See https://cost.eu/.

Programmes Aiming to Build Knowledge and Capacities of RMAs

Another commonality for the region is that apart from a few countries, such as Poland, Czechia and Croatia, RMA knowledge and capacity building was only supported through EU-funded programmes. The most common and acknowledged action in the field is again the BESTPRAC COST action. RMAs from the region were also aware of some INTERREG projects which included opportunities – even if not exclusively – for RMAs, such as the Excellence-in-ReSTI project (2017–2019)[14] funded by the INTERREG Danube Programme.[15] The project aimed to improve the management capacities of people working on social and technological innovation projects. For that reason, it developed easy-to-use checklists, learning modules and advice with specifically tailored content.

As mentioned, only Poland and Czechia used funding schemes within the national Operational Programmes to provide targeted training and capacity-building opportunities for RMAs. In Poland, a postgraduate training programme was launched, whereas in Czechia regular training and networking opportunities were organised for RMAs, primarily responsible for technology transfer. In Croatia, the Ministry of Science and Education supported the capacity building of technology transfer offices in RPOs in Croatia (through the Science and Technology Project funded by the Word Bank[16]), which was running between 2013 and 2020.

It should be also mentioned that only lately Hungary followed a similar path by supporting the employment and knowledge development of research support staff through one of the national research funding programmes and following the publication of the research report of Virágh et al. (2020), a postgraduate programme was launched and taught on research and innovation management.

In non-EU countries, such trainings are almost completely nonexistent. Efforts to overcome such gaps can be tracked down through the activities of transnational organisations, such as the Central European Initiative (CEI)[17] and the Regional Cooperation Council (RCC).[18] Each of them supports capacity building, knowledge exchange in the field of human resources, innovation and entrepreneurship through small-scale projects. However, due to their limited budget, their efforts cannot replace national support mechanisms.

Another finding of Virágh et al. (2020) shows that there are no educational programmes in Europe which aim to train university students to become potential RMAs.

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[14]See https://www.interreg-danube.eu/approved-projects/excellence-in-resti.

[15]See https://www.interreg-danube.eu/.

[16]See more: https://documents1.worldbank.org/curated/en/775801604948389416/pdf/Croatia-Second-Science-Technology-Project.pdf.

[17]The CEI is a regional intergovernmental forum of 17 MS in Central, Eastern and South-Eastern Europe. It fosters European integration and sustainable development through regional cooperation. More information is available at their website: https://www.cei.int/.

[18]The RCC is a regionally owned and led cooperation framework covering Southern European countries and connecting them with the members of the international community and donors on subjects which are important and of interest to the SEE, with a view to promoting and advancing the European and Euro-Atlantic integration of the region. RCC works to develop and maintain a political climate of dialogue, reconciliation, tolerance and openness towards cooperation, with a view to enabling the implementation of regional programmes aimed at economic and social development to the benefit of the people in the region. More information is available at their website: https://www.rcc.int/pages/2/about-us.

This is why the project foRMAtion[19] was such a breakthrough when it was launched and financed under the Erasmus+ programme[20] between 2019 and 2022. The project, which included three CEE countries (Hungary, Romania and Slovenia), aimed to develop an innovative and interactive educational module and mentorship programme for university students to provide them with an overview of the profession and a wide set of opportunities for skill and capacity development. This unique initiative proved to be successful in its piloting phase. The question is now whether RMAs can push university management for the adoption and adaption of the module and the mentorship programme by other higher education institutions, which necessitates the recognition of the need for such professionalised support and well-trained RMAs by institutional leadership. Nevertheless, as the experiences gathered during the project showcases, RMAs are sometimes not enough to overcome this obstacle and push forward the recognition of the profession within their institution (Zsár et al., 2022).

It must be also highlighted that in many CEE countries, especially in non-EU countries, training or educational programmes for researchers rarely include knowledge or capacity building in the field of research management; or if they do so, they are occasional and primarily derive from certain cooperation with an EU MS. Such examples include different EU-funded projects (the funding comes mainly through actions supporting the international cooperation with regions beyond the EU), JRC Enlargement and Integration actions,[21] WIPO (World Intellectual Property Organization) trainings with Ukraine,[22] Moldova and Western Balkan countries.

Associations of Research Managers and Administrators

Associations gathering research managers and administrators at the national level are rather scarce in the CEE countries. This can be understood as a result of the lack of recognition of the profession as such, as well as the delayed and still limited participation in EU-funded R&I programmes. Only Poland and Slovenia represent outstanding exceptions as the KOsRIS-II (Coordination of Independent Research Institutions of Slovenia)[23] network of public research institutes in Slovenia operates now for more than a decade as a working group for research managers; in Poland there is a national network for research managers working at universities called KRAB (National Council of Research Project Coordinators)[24] since 2007. Even if these networks are not inclusive, they provide an important opportunity for knowledge exchange and networking at the national level.

Further positive developments can be tracked down in this field, but they are mainly the result of the increasing awareness dedicated to the importance of research support and the rising participation in EU-funded projects. Experts working and getting experience through EU-funded projects started to seek additional opportunities for knowledge and capacity development; so first they joined BESTPRAC, and some of them managed to persuade their supervisors to join EARMA and get the membership fee paid. Since 2020 then, we have seen certain bottom-up initiatives moving towards the establishment of national associations in more and more countries, including Czechia

[19]See https://www.formation-rma.eu/.
[20]See https://erasmus-plus.ec.europa.eu/.
[21]See https://s3platform.jrc.ec.europa.eu/ukraine.
[22]See more at https://ukrainet.eu/res-management/.
[23]See https://kosris.zrc-sazu.si/.
[24]See http://www.krab.edu.pl/.

(CZARMA),[25] and Lithuania (L-ARMA). However, the lack of recognition of the profession within and beyond the RPOs, their limited budget and/or willingness to be involved in EU-funded projects, are factors representing an important obstacle for the personal development of RMAs, as they struggle to get funding to become members in EARMA or to volunteer for the creation of national associations.

There is still a long way to go to get the acknowledgement of institutional leadership and also the necessary funding. There are some exceptions to the situation set above where research performing organisations start to assess and seize the possibilities of professionalising their research support offices and their staff. But if there is already an opportunity and/or a will to push forward the issue of professionalisation, regional or transnational funds can provide the certain funding. This was the case following the official ending of the BESTPRAC COST Action, when HETFA Research Institute,[26] hand in hand with various research organisations from the CEE region submitted a project to the International Visegrad Fund.[27] The project entitled 'Visegrad 4 and Western Balkan Network of Research Managers and Administrators'[28] was granted and run between 2020 and 2022 with the aim of bringing forward the BESTPRAC spirit and provide additional opportunities for knowledge exchange and training for RMAs based in the covered countries (Hungary, Slovakia, Czechia, Poland, Bosnia and Herzegovina, Republic of North Macedonia, Serbia) and of course, beyond. Any such initiatives prove to be successful due to extremely high demand of RMAs for knowledge exchange and skill and capacity development.

However, based on observations of the author other factors can also explain the lack of national associations, such as (1) the relatively small size of most countries not necessitating any official platform for being in touch and sharing practical knowledge, (2) the lack of recognition and (self-)awareness of the profession, (3) difficulties in getting funding for any activities enabling knowledge exchange or capacity building at the national level. In some cases, from experience the author also observed that RMAs still see each other as competitors; thus instead of cooperation, they rather compete with each other. Last but not least, the fact that RMAs are generally overloaded, and they do not have any time and energy to start the organisation of such activities can be also regarded as an obstacle.

The Population of RMAs within CEE Countries

Based on the reasons above, it is extremely hard to make any estimation on the precise number of RMAs in each of these CEE countries. The lowest number of RMAs, around 50–100 in total can be found in EaP countries – in their case the researchers themselves lead and manage the projects, RMAs rather work at programme level (see Belarus chapter). Then comes the WB countries, where in total there might be around 100–150 RMAs (see WB chapter). Regarding CEE EU MSs, the number of RMAs might be between 550 and 1,100. Moreover, the RAAAP surveys do not provide much

[25]See https://www.czarma.cz/en.
[26]See https://hetfa.eu/.
[27]The International Visegrad Fund is a donor organisation established in 2000 by the governments of the Visegrad Group countries – Czechia, Hungary, Poland and Slovakia. It runs different funding schemes, such as Grants, Scholarships and Artists Residencies. The main aim of the fund is to help the regional progress in seven main areas of Culture, Education, Innovation, Democratic Values, Public Policy, Environment and Tourism, and Social Development. See more at: https://www.visegradfund.org/about-us/the-fund/.
[28]See https://hetfa.eu/international-projects/v4wb-rmas/.

evidence on the population – the number of respondents remained extremely low even for the RAAAP-3 completed in Spring 2023 (Kerridge, Dutta, et al., 2023).

Institutional practices with regard to the number of RMAs employed and the level of their employment (at central or at departmental level) are therefore diverse, and various teams of RMAs can be found at each level. However, it must be highlighted that in many RPOs, international research projects have still to be managed by researchers in a completely decentralised manner; this practice has a number of detrimental consequences on the work of researchers, on the possibilities of reinforcing international cooperation as well as on carrying out efficient administrative, financial and legal implementation of the projects.

Recognition of the profession in national laws is generally absent. RMAs have extremely diverse job descriptions and legal naming. The most general ones include project managers or some kind of support staff, but they can even be called employee for R&D activities, scientific manager and/or advisor, research coordinator and/or research administrator, associate experts. In some countries, public RPOs have defined categories for their staff which include a low variety of positions for research support staff. This means that their career development including their wage raise has limited possibilities, even before budget considerations are taken into account to employ research support staff.

Future Expectations

Although a number of obstacles are still persistent in CEE countries with regard to the recognition, networking and training opportunities of RMAs, the trends, especially the increasing involvement in EU-funded R&I projects, showcase relevant changes. Some stakeholders have already acknowledged that the excellence and the attractiveness of scientific careers can be reinforced by changing the outdated, post-Soviet academic rules and reinforcing internationalisation and enabling training, skill and capacity development. Thanks to the increasing engagement of an EU-wide and international network of professionals and an emerging, both bottom-up and top-down policy support, CEE countries are witnessing a particular momentum for RMAs. The recognition of the profession and wide-spread training and networking opportunities shall increase the excellence and competitiveness of the regional research and innovation ecosystem. Last but not least, the results of the project foRMAtion (Zsár et al., 2022) also suggest that it should be made clear that scientific careers also include possibilities beyond doing research *per se w*hich is particularly pertinent in the CEE region where many researchers still undertake tasks which could be performed by RMAs. RMA as an appealing career should become a real career possibility for those who are already working in it, particularly for those, who enjoy working in international environments, who have a supportive character, and those who can be pleased to bring in a high number of important transversal skills.

References

Balazs, K., Faulkner, W., & Schimank, U. (1995). Transformation of the research systems of post-communist Central and Eastern Europe: An introduction. *Social Studies of Science*, *25*(4), 613–632.

Egorov, I., & Carayannis, E. G. (1999). Transforming the Post-Soviet research systems through incubating technological entrepreneurship. *The Journal of Technology Transfer*, *24*(2/3), 159–172. https://doi.org/10.1023/A:1007899204658

European Parliament. (2018). *Overcoming innovation gaps in the EU-13 Member States*. Publications Office. https://data.europa.eu/doi/10.2861/797728

European Parliament. Directorate General for Parliamentary Research Services. (2020). *Building synergies between education, research and innovation by aligning the EU funding programmes*. European University Association. https://eua.eu/downloads/publications/policy%20input_synergies%20paper%20.pdf

Gergely, A. (2003). *Közép-Európa lengyel perspektívából*. (*Central Europe through the Polish perspective*). *14*(3), 9–12.

Glatz, F. (2005). Közép-Kelet-Európa helyének újragondolása. (Rethinking the positioning of Central and Eastern Europe). In P. Módos (Ed.), *Közép-Európai olvasókönyv. Reading Book on Central Europe* (pp. 39–47). Az Európai Utas Alapítvány Közép-Európai Kulturális Intézete. Osiris Kiadó.

Jablecka, J. (1995). Changes in the management and finance of the research system in Poland: A survey of the opinions of grant applicants. *Social Studies of Science*, *25*(4), 727–753.

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2023). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Lendvai, L. F. (2005). Közép-Európa mibenlétének problémája. (Existential problems of Central Europe). In P. Módos (Ed.), *Közép-Európai olvasókönyv. Reading Book on Central Europe* (pp. 13–26). Közép-európai olvasókönyv. Reading Book on Central Europe.

Magris, C. (2005). Közép-Európa – egy fogalom igézete. (Central Europe – The charm of a concept). In *Közép-európai olvasókönyv. Reading Book on Central Europe* (pp. 93–117). Az Európai Utas Alapítvány Közép-Európai Kulturális Intézete. Osiris Kiadó.

Mosoni-Fried, J. (1995). Industrial research in Hungary: A victim of structural change. *Social Studies of Science*, *5*(4), 777–803.

Svarc, J., Laznjak, J., & Juraj, P. (2014). Obstacles to co-operation in the framework programme. In I. Marinkovic & E. Dall (Eds.), *R&D and innovations in the Western Balkans. Moving towards 2020* (pp. 167–173). WBC-INCO.NET c/o Centre for Social Innovation.

Virágh, E., Zsár, V., & Balazs, Z. (2020). *Research management and administration: The relevance of special education and training programs* [Working paper]. HETFA Working Paper Series 2020. Budapest, ISSN 2062-378X. https://doi.org/10.13140/RG.2.2.29780.83847

Zsár, V. (2012). *Analysis on Central Europe and the Danube Strategy: Is Central Europe restorable under the Framework of the EU Strategy for the Danube Region?* [Master's Thesis]. Corvinus University of Budapest. http://publikaciok.lib.uni-corvinus.hu/publikus/szd/Zsar_Virag.pdf

Zsár, V., Skublicsné Balázs, Z., & Angyal, Z. (2022). *Guide and impact assessment for educating and training RMAs at HEIs backed by policy recommendations*. Intellectual output developed within the project 'Innovative and smart module for potential Research Managers and Administrators in higher education – foRMAtion'. ISBN: 978-615-81153-4-6.

Chapter 1.6

The Development of Research Management and Administration in Europe: A Short History

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Abstract

The development of Research Management and Administration (RMA) in Europe is strongly connected with the development of the Science and Technology (S&T) policy of the European Union (EU). These policies were the result of a continuous debate between the member states and the European Commission and European Parliament.

Although there is no data on the early development of RMA, there are some publications on the history of the development of the S&T policy in Europe: the excellent publication 'A History of European Union Research Policy' by Luca Guzzetti (Guzzetti, 1995). Guzzetti's book investigates the history of EU research policies from 1948 up to the preparation of the Fourth Framework Programme (FP) (1994–1998).

The RMA aspects are constructed mainly by oral history complemented with some written sources. The history shows a gradual development of the profession unevenly spread in time and European geography. This has mainly with the EU enlargement in the same period, when new member states were connected to the FP. The profession started with a few colleagues' way back in the eighties of the last century as financial people were dealing with the first European

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financial reporting up to the present day where RMA is becoming a field of work attracting many new colleagues.

Keywords: European Union; oral history; field of work; Framework Programmes; RMA community; European Research Area; EARMA

Prehistory: 1948–1980: The First Cornerstones for European Research: Intergovernmental Versus Community Activities

After the Second World War, the political feeling all over Europe was: 'never again'.[1] Due to the limited number of researchers in Europe at that time, a need was felt to collaborate on joint research projects. This led in the 1950s to the establishment of the Council of Europe, which was the first debating chamber in Europe that led to other initiatives, e.g. CERN – the world-renowned European institute for nuclear physics. Next came the 1951 European Community of Coal and Steel Treaty (ECSC) which encouraged technical and scientific research in the iron and steel industry. The 1957 Euratom Treaty established the Joint Research Centre (JRC), with the cost-sharing contract research programme and procedures for the coordination of national research projects. The 1957 European Economic Community Treaty[2] (EEC) made provision for research intended to boost agricultural productivity and provided a general legal basis for action in a variety of sectors, including research and technology, for which no specific constitutional provision was originally made.

Technological Gap

Halfway into the sixties, a new debate emerged on European level what came known as the Technological Gap. It was noted with alarm that developments in the USA were not only quantitatively greater, but of a different kind. While Europe was still busy with post-war reconstruction activities, in the USA technology was revolutionising industry and society. This development was recognised in the different national governments who developed their own strategies. The inescapable conclusion – for Europe to meet the American challenge the countries must come together, creating a whole greater than the sum of parts.

In view of this, Mr Christopher Layton Chef de Cabinet of Commissioner Altiero Spinelli proposed some lines of development for a European Technology Community (Layton, 1969). His opinion was that it was essential for Europe to continue in areas where it had a pre-eminent position in the world (e.g. CERN). So the ideas for the Concorde and Airbus and the Channel Tunnel are to be placed in this line of thought, in the form of intergovernmental co-operation.

COST: Coopération Européenne dans la Domaine de la Recherche Scientifique et Technique

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[1]https://en.wikipedia.org/wiki/Never_again#:~:text=According%20to%20the%20United%20Nations,was%20adopted%20the%20same%20year

[2]European Economic Community: Belgium, Germany, France, Italy, Luxembourg and the Netherlands.

In 1967, the Council of Ministers of the European Communities instructed a working party on scientific and technological policy, to examine the possibilities for European technological cooperation in seven principal sectors. Detailed proposals appeared in the 'Aigrain report' (1969). This document was sent to several non-member countries,[3] including the UK, along with an invitation to participate. Following discussions in a committee of senior national officials drawn from 19 interested countries (the COST committee) agreements initiating seven so-called COST research projects were signed by the Ministers responsible for science in 1971 (Aked & Gummett, 1976).

So far, the member states were reluctant to agree on community influence on R&D beyond JRCs, protecting their national interests. The Commissioners Spinelli (1970–1976), Dahrendorf 1973–1974, and Davignon (1977–1985) keep working towards R&D coordination and cooperation. The successful European Strategic Programme on Research in Information Technology (ESPRIT) pilot opened the eyes of the member states and they became more aware of the role of R&D and added value of cooperation. In 1973, United Kingdom, Denmark and Ireland joined the EEC.

In 1970, Altiero Spinelli became commissioner for Industry Policy in DG III. The discussion of intergovernmental versus centralised policy at community level continued. Spinelli was a convinced federalist and worked towards community programs. A R&D task force was formed to set up a multi-annual research programme. This plan was not to replace the national R&D policies of the member states but to provide a framework for whenever the situation required greater efforts than the individual member states could make. This proposal was partly accepted in 1973 in the sense that the European Research and Development Committee was created.

Ralf Dahrendorf became commissioner for research, science education and JRC under Directorate General (DG XII). Dahrendorf, realising that about 90% of research was done by the member states, R&D should focus on two major objectives: improving quality of life and regenerating European industry. He emphasised the importance of creating infrastructure for handling and distributing information and the collection and processing of data.

At The **Paris Summit,** 1972, the council adopted four resolutions in the field of S&T:

I The coordination of national policies and the definition of projects of community interest. Establishment of CREST: The Scientific and Technical Research Committee.

II Establishment of European Science Foundation (ESF) to oversee the development of fundamental scientific research. ESF became a Foundation not a community institution.

III Confirmed the necessity for the community to have its own S&T policy, working together with CREST.[4]

IV Setting up a specific venture to establish a permanent forum for technological forecasting and evaluations.

[3]Sweden, Switzerland, Austria, Spain and Portugal.
[4]CREST: comité de la recherche scientifique et technique / Scientific and Technical Research Committee.

The oil crisis of 1972 and the Arab-Israeli war in October 1973 had a huge impact where countries made huge cuts in their R&D budgets. On the EU level initiatives came to a standstill. The publication of the first report to the Club of Rome: 'Limits to Growth' 1972 (Meadows et al., 2018) influenced the thinking of economic models. This interweaving of economic crises and reflections on ultimate aims of technological developments raised questions about the type of research needed to be responsive to the needs of ordinary people instead of (expensive) 'big' science (space, risks, nuclear power, reactor, radiation). It was clear that the community alone could not cope with such enormous problems: the financial means were not available.

In 1976, the commission presented the first Action Plan for the Information Technology sector[5] (1979–1983). Etienne Davignon was commissioner for Internal Market and Industrial affairs (1977–1981) and in 1980 he invited the senior executives from 10 companies to discuss the future of information technologies (IT) in Europe. They recognised the weak position of the European IT sector. In August 1982, the commission presented the council the proposal for the pilot phase of the ESPRIT programme.[6]

The response to the invitation to tender resulted in 145 proposals involving 600 companies and research organisations. In 1985, the Review Board concluded that the cooperation between companies, universities and research bodies was very profitable and there were the first signs of a willingness to pursue joint R&D even outside ESPRIT. Among other comments and recommendations, there were also criticisms, mainly about the lack of Research Management and Administration (RMA): time to contracts, payments, paperwork and inefficient information flows.

Development of RMA Through Technology Transfer

Up to the eighties of the last century, one could not speak of RMA as we know it today. Most universities and research organisations in Europe were funded by their respective governments of authorities based on their own research agendas. Research administrational support was mainly in the financial domain. The volume of external funding of research was minimal. In Europe, the general notion was that academia, along the lines of its independent nature and traditional role, should remain separated from the commercial sphere. The USA Bayh-Dole Act[7] of 1980 is a federal law that enables universities, nonprofit research institutions and small businesses to own, patent and commercialise inventions developed under federally funded research programs within their organisations. This act has inspired the development and implementation of similar Technology Transfer policies across the industrialised world, including Europe. Member states adjusted the Intellectual Property Rights (IPR) in their laws and developed mechanisms to support Universities and Public Research Organisations in this area: the Technology Transfer Office was born, and indirectly also to an international community of practitioners. From many of these technology transfer officers Research Managers and Administrators will develop in the coming 30 years.[8]

[5]COM(79) 650 final.
[6]OJ L 67/54 March 9, 1984.
[7]Patent and Trademark Law Amendments Act USA.
[8]Jan Andersen presented, at the NUAS Conference in Trondheim in 1999, an unpublished survey on the origins of RMA offices, and beyond the TTO also sections in the finance departments (due to the increase in external funding of research), International Offices (due to increase in student mobility and need for European Networks) and Rectors Offices initiatives (seeking policy insight) contributed to the establishing of RMA support offices.

1984–1987: The First Framework Programme: Founding Years for RMA in Europe

At the beginning of the eighties, community research affairs were greatly disordered, despite resolutions in the seventies; there was no community policy in S&T, governments were on the whole opposed to any extension of community activities in the area and every single programme had to be unanimously approved by the council. These programmes were developed, financed and managed by the individual Directorates General of the community and there were absolutely no links between them.

Etienne Davignon, European Commissioner for Industrial Affairs and Energy (1977–1981), working together with Director General Paolo Fasella rationalised former initiatives by putting them together in a single coherent framework for Research and Development, which served as a basis for a real research policy.

In its resolution of 25 July 1983,[9] the council approved the principle of Framework Programmes (FPs) for periods of four years and defined the scientific and technical objectives and selection criteria for the period 1984–1987 with a budget of 3.3 billion ECU.[10,11] The FP was to become not only a programming tool but also a financial one.

It aimed at:

- Bringing together national policies and avoiding duplication and dissipation of efforts.
- Defining the common priorities.
- Defining the criteria for selecting joint actions and initiatives: the Reisenhuber criteria.[12]

The first FP – from a financial point of view – can be considered as a dress rehearsal. Under the existing laws, it was not possible to approve the allocation of finance to research in general, so the total budget of FP1 corresponded to the sum of all the separate budgets for the programmes in the different DGs. (Including the different contractual stipulations around IPR, delivering results and financial funding and reimbursements.)

The increased interest of the community for industrial innovation also led to the setting up in 1984 of IRDAC (Industrial Research and Development Advisory Committee), consisting of 16 independent experts chosen by the commission for their ability and experience in the field of industrial R&D. CREST was composed of national representatives with the task of coordinating national and community research with independent experts advising the commission on scientific and technological research.

1987–1991: Second Framework Programme Budget 5.4 Billion 12 EU Member States

The preparation of FP2 began in September 1985. The commission clarified the objectives of the FP, introducing the concept of **subsidiarity**.

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[9]OJ C 208 1983: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv: OJ.C_.1983.208.01.0001.01.ENG.
[10]ECU European Currency Unit: predecessor of the Euro.
[11]For the 10 EC member states.
[12]Named after the German Research Minister.

The structure of FP2 was to resemble that of FP1 with thematic objectives and transversal actions. There would be a special focus on access and support to research infrastructure, research worker mobility, support for actors in the innovation process, including small and medium-sized enterprises (SMEs) and the involvement of non-community European countries in the programme.

The additional criterion of establishing greater cohesion in the community regarding research was added to the list of FP1 criteria for the selection of specific programmes.[13]

The resolution establishing FP2 was adopted in September 1987 by the council under the procedures established by the Single European Act (SEA).[14] The structure was seven selected topics: quality of life (health and environment), information and communication technologies (ICTs) and services (including transport), modernisation of industrial sectors, biological resources, energy, science and technology (S&T) for development, and marine resources.

An eighth priority gathered the horizontal actions for human resources, infrastructure, forecast, and dissemination of results. The programme SCIENCE was introduced for human resources and individual fellowships. About 30 specific programmes were adopted to implement FP2, still in a successive and unsynchronised way throughout the duration of FP2.

Maastricht Treaty Makes European Research a Fully-Fledged Financial Tool and Turning Point for RMA

The Treaty on European Union (EU), commonly known as the Maastricht Treaty, is the foundation treaty of the EU. Concluded in 1992 it announced chiefly in provisions for a shared European citizenship, for the eventual introduction of a single currency, and for common foreign and security policies. Research is now also considered deemed necessary 'by virtue of other chapters of the Treaty',[15] opening up for the social sciences and humanities.

1990–1994: The Third Framework Programme

Fillipo Pandolfi became Commissioner of Science, Research and Technology, Telecommunications, Information and Innovations Industries, DG XII+XIII (1989–1993). While the specific programs of FP2 were still being adopted, the preparation of FP3 started, based on the idea of maintaining a rolling mechanism where successive FPs would overlap.

The commission proposal for FP3 included only five thematic areas and a transversal priority on human capital and mobility, with a budget of ECU 7.7 billion. For the first time, all these specific programs were to end at the same time in December 1994, marking a first step in synchronising the FP and its specific programmes. While completion of the single market was still a major aspect in the development of the FP,

[13]The introduction of this criterion marked the beginning of the tension between the idea of an FP based on scientific excellence without geographical considerations and that of an FP that should support scientific capacity throughout the union.

[14]Single European Act: was the first major revision of the 1957 Treaty of Rome. The Act set the European Community an objective of establishing a single market by 31 December 1992.

[15]OJ C 191/1 1992: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ%3AC%3A1992%3A191%3ATOC.

others were added, such as introducing a European dimension to research training, boosting economic and social cohesion, and including aspects regarding environmental protection and quality of life. FP3 introduced the idea of multidisciplinarity and the concept of addressing technological challenges.

FP3 marked clear tensions between the member states in the council and the commission and Parliament, especially regarding the budget. These tensions originated partially from two different views on the part of the member states: either the FP was seen as a source separate from national research budgets (additionality position) or as an extension of these budgets (attribution position).

The First Signs of RMA

At the beginning of the nineties, one can see a change in research support: technology transfer starts to develop into a separate specialised area with clear objectives in the field of patents, licences, business development, etc. A second type of research support is becoming clearer and more visible: RMA. In this period, the technology transfer office often was a mix joined with RMA with the legal support in between. For a long time, the unit's name under which to search on the university website was still Technology Transfer Office (TTO).

Also, the first national informal peer consultation groups started to come into existence to discuss the many issues concerning the new FPs. For example, OTRA-NL[16] established in 1985 was a national informal platform where heads of TTO meet to discuss and share knowledge concerning Technology Transfer issues. At the same time, the first European frameworks were launched and EU technicalities soon became the dominant subject. OTRA ceased to exist around 1990 and only in 2006 the EUPMAN[17] list came into existence; EU-ERFA DK, an Danish informal network on sharing EU-research insights and experience. EU-ERFA was run by volunteers and was later facilitated by the Ministry. EU-ERFA still exists.

The commission supported the establishment of networks of stakeholders to promote programmes and EU policies, and where they could get input 'bottom up' without it being filtered through the national ministries. Typically, a network could apply for seed money set aside in the programmes for networking, information and dissemination activities.[18]

In the UK universities, the position of research in the governance structure has long been different. Pro Vice Chancellor's would often have created a Research Office. Individuals in these new offices organised themselves in the association now known as the Association of Research Managers and Administrators (ARMA) in 1991.

The first three FPs financed thousands of projects, and these had to be project managed. The first project managers started to develop European collegial contacts and exchange of knowledge and practical information.

[16]Overleg TRAnsferpunten: national consultation Transferpoints in Netherlands.
[17]Dutch-email list among Dutch people working in RMA.
[18]This is not well documented, but e.g. EARMA and ASTP joined forces to apply for a network for Technology Transfer in smaller and medium-sized enterprises and this network has evolved into Technology Innovation International (TII – https://www.tii.org/en).

1994–1998: Fourth Framework Programme

The first ideas for FP4 were presented in 1993 by Antonio Ruberti[19] Commissioner responsible for science, research, technological development and education (1993–1994). The novelty was the introduction of **targeted socio-economic research**. The budget of ECU 11.7 billion was adopted in March 1996, slightly more than the formal proposal from the commission.

In the meantime, the commission had to tackle four practical implementation issues that were identified by researchers and research managers from the previous FPs. Firstly, the issue of promoting the FP to potential users to participate; secondly, to clarify the rules and regulations of the programme; thirdly, the creation of the VALUE relay centres network for SMEs. And finally, the excessive burden of paperwork and lack of information on the criteria used for selecting projects.

Several actions were undertaken: The commission established a community-wide network of information centres (Euro-Info Centres), distributed an information bulletin (RTD-INFO) and created a database CORDIS.[20] To encourage SMEs to participate the VALUE relay centres were established.

To tackle the excessive burden of paperwork, a start was made to standardise the procedures by computerising them, starting with a series of optical reading forms.

Reviewing and selecting projects was to be carried out by independent experts (on a rotating basis) and providing the additional guarantee that research projects would be assessed purely on the basis of scientific and technological excellence.

RMA Community Is Growing and the First Formal RMA Organisations Come into Existence

Until now the different member states often had a rather laid-back attitude concerning European S&T and would send minor civil servants as representatives. However, member states began to realise that the FPs have a big impact on National Science and Innovation policies. Some countries used it as an excuse to cut the national budgets for research and innovation. For the member states, it became necessary to be involved in the agenda setting of the European S&T policy. Next to the diplomatic representations in Brussel, member states created additional information offices in Brussels mainly for policy information gathering, often with additional remits for science, innovation and education.

During this period, EARMA was founded (1995) in Genoa, Italy, following the Conference of Administrators of Research in Europe (CAdRE, Edinburgh, 4–5 July 1994). It was attended by 40 people from 10 countries. The CAdRE database contained at that moment 444 entrants from 24 countries, 185 of whom have expressed interest in the Association. 111 of the entrants on the database were known to have email connectivity and 100 of these are members of the email distribution lists.[21] The initiative was taken by two financial directors of respectively the Institute for the Physics of Matter (INFM) Italy and the Institut Laue-Langevin (ILL), France. They encountered many

[19]Ruberti launched a number of important initiatives including the Socrates and Leonardo da Vinci programmes, the European Week of Scientific Culture and the European Science and Technology Forum.

[20]https://cordis.europa.eu/ : Community Research and Development Information Service (1994).

[21]Minutes of the founding meeting, EARMA.

problems in the management and administration of complex (and mainly) European collaborative projects. There was no expert knowledge in that field in their own countries. In 1996, the first EARMA conference took place in Vienna.

At the same time, Sean McCarthy[22] entered the European stage, with his famous workshops in Brussels (since 1995) and his in-house workshops at universities. Coming from a scientific and SME background, the strength of his courses was that he for the first time clearly illustrated the reasoning of the EU (politicians and civil servants) behind the development of the FPs. He combined this with an excellent sense of humour presented in a charming Irish accent. These courses were mostly attended by support staff of research organisations. Researchers could attend, but often these courses were too political and bureaucratic for them. Sean has, with his courses, trained and educated whole generations of RMAs in Europe.

Rules for Participation and the Unified Consortium Agreement

In 1996, DG Research commenced the procedure to design FP5. One of the issues to be dealt with was setting up and agreeing the Rules for Participation (RfP) in a joint working group of IRDAC-ESTA. Alongside 19 heads of legal affairs from IRDAC, there were 5 RMA legal experts from Academia involved from Transferpunt University of Amsterdam; Transferpunt Technical University Delft; KTH Royal Institute of Technology; Chalmers University of Technology and University of Newcastle. They were invited by Robert Jan Smits, then the right hand man of the vice president of DG XII.

As the RfP forms the basis of any FP, the strategic importance to be involved in the discussions to agree on these is very high. The RfP also forms the basis for the Grant Agreement and the Consortium Agreement (CA).

Up to then, industrial interests were perceived to be over-represented in the articles of the FP Grant agreements in the definition of ownership of research results (Intellectual Property) and the use of such results. They also had the tendency to regard the contribution of academic research as the supplier of results instead of a fully entitled partner with its own interests. During the discussions, it came down to new and more balanced definitions and words for ‘commercialisation’, ‘valorisation’ and ‘use’.

The Rules for Participation for the 5FP reflect the interests of academia for the first time.

For RMA, this was a major paradigm shift. The five academic representatives needed consultation and feedback from their constituents, so they set up in their respective countries a consultation and feedback constructions according to the then available networks in the respective countries. In the Netherlands, this resulted in a national RMA Liaison platform hosted by VSNU[23] and thereby creating a direct link to the top management of the university. A similar development happened in the Nordic countries. In Denmark, the RMA society pushed for transparent processes, leading to a formalised structure, with a stakeholder network around the national representatives.

A spin-off activity from the RfP group was the creation of the first Unified Consortium Agreement (UCA). After contributing to the RfP, the academic legals went

[22]Hyperion, Ireland.
[23]Universities of the Netherlands.

on to create the European UNITE group: a smaller group of university EU-legal experts (around 6), who set themselves the task to create a UCA in order to secure the academy interests realised in the RfP. Signing a consortium agreement (CA) in those days was advised by the commission but was not mandatory. There were several CA versions in circulation, mostly on the initiative of and often favouring the interests of the industry. The UNITE group created a CA in which the interests of research and researchers were firmly secured. By campaigning through various informal RMA networks of colleagues throughout Europe (including EARMA), Universities started to use this UCA and refused to sign others. The UNITE group became the Development of a Simplified Consortium Agreement group, and these agreements are still in place today (DESCA, 2022).

1998–2002: Fifth Framework Programme: A Shift Towards the Needs of the Community and Its Citizens

The preparation of FP5 was guided by the idea of extending the scope of community research policy and its main instrument, the FP, to put it at the service of society. The commission noted that community research had so far been based largely on technical achievement and that 'the aim now is to make research more efficient and increasingly directed towards meeting basic social and economic needs'. Research in the field of Social Sciences – mainly economics – was strengthened.

It reaffirmed the principle of excellence and the need to improve cooperation and to 'create a real European scientific area and single market'.

The decision establishing FP5 was adopted in December 1998 together with the rules on participation and dissemination. FP5 was the last FP adopted under the unanimity rule in the council. The Treaty of Amsterdam, which entered into force on 1 May 1999, modified the procedure for adopting the FP, requiring only a qualified majority of the council.

Individual Fellowships

One of the specialisations within the RMA area is colleagues who specifically support individual researchers in obtaining individual fellowships/grants on both PhD and postdoctoral level.

From the very start of the European Research and the FPs, there always has been a facility to stimulate individual researchers at postdoctorate level. In due time, this developed through 'SCIENCE'; Human Capital and Mobility (HCM), Training and Mobility of Researchers (TMR), Human Potential (HP), Human Researches and Mobility (HRM) to the Marie Skłodowska Curie Program in FP7. Successively the programme developed from only individual postdoctoral fellowships, to an elaborate programme with individual Fellowship for postdoctorates, training networks for PhD degrees, individual PhD/Postdoctoral fellowships for international positions, and so on.

The rules and regulations to finance and manage these fellowships evolved as well, however soon all kinds of practical problems came to light which hindered the objectives of the programs. In 1996, a commission green paper was published

'The obstacles to transnational mobility in Education – Training – Research'.[24] It described in total 10 areas where obstacles were defined and 9 lines of actions. These became to be known as 'Mobstacles'.

In order to find solutions to these Mobstacles, a so-called high-level working group was created under the chairmanship of Rafaello Liberali one of the unit directors within DG XII. Many European colleagues were involved in this, not only RMAs but also individuals from human resources departments, legal professionals and specialists in taxations representing public and private research organisations.

Many of the described obstacles could be summarised to the status of the fellow (depending on the type of fellowship): if they were considered officially as 'student' then certain national and European rules could be applied. However, if they were considered as 'worker' or 'bursary' then another set of national and European rules applied and they were not always applicable in the case of scientific research. Or no rules existed.

Another issue was the EU financing of the fellowships: the amount of money was not enough to cover the costs of a postdoctoral salary and about enough if they were a student with a bursary. Most members of this high-level expert group advocated that the post-doctoral fellow should be considered to be an employee. Eventually, this resulted in a financing method of fixed calculations of the salary costs with a country-specific coefficient in the FPs.

One other result of this expert group was the setup of EURAXESS[25] and eventually Human Resources Strategy for Researchers (HRS4R).

RMA at the Beginning of the 21st Century

Up until this period, more and more colleagues started working in RMA and felt the need to exchange information among each other, but there was still no appetite to make formal national associations: no commitment from their management, no time to contribute as volunteers, too complicated processes and nobody aspired to board-member type of function. Often the solution was found in setting up informal national or regional e-mail distribution lists. But a fire had been sparked, and besides looking towards what the ARMA did in the UK, there was an increasing interest in what was going on in the US in NCURA and SRAi. New ideas and suggestions on how to organise professional development and networking were shared and inspiring the come-into-existence of RMA associations more widely.

At the beginning of the 21st century, the profession of RMA is now well embedded. In the Northwestern part of the EU, RMA colleagues are becoming more and more organised through EARMA membership but apart from in the UK there are no formal national RMA associations. Differentiation in RMA jobs is progressing: the distinction between pre-award (grant writing and project development) and post-award (project management, and finance) is established; there are positions for more policy-oriented activities (developing internal European research strategies; lobby activities at home and Brussels). There are information systems and training courses in place

[24]Green Paper: Education - Training – Research The obstacles to transnational mobility; COM(96) 462 final.
[25]https://euraxess.ec.europa.eu/

and internal statistics concerning research performance is becoming more important for senior managers.

In the Southern European countries, more RMA colleagues become engaged with European research and are identifiable through their universities' websites. Due to university-cultural differences, the process of professionalisation is slower. Organising RMA colleagues in informal networks is often more regional than national and no formal associations exist yet. Career advancement is more in its infancy.

With the expansion of the EU, colleagues from the Middle and Eastern European Countries start to join the ranks of RMAs. Since the end of the cold war, the communist states began their transition to free market democracies, aligning to Euro-Atlantic-integration. The question of enlargement into the continent was thrust onto the EU R&D agenda. During FP3 and FP4 special fellowship programmes promoting pan European collaboration were set up (e.g. PECO fellowships). The former Central European Candidate Countries (all of them now regular EU member states[26]) were associated with the fifth European Framework Programme for research and technological development. There the field of RMA is completely new, with many universities and research institutes still culturally and organisationally communist in nature.

FP6 2002–2006: *Implementing the European Research Area*

Commissioner Philippe Busquin (1999–2004) successfully launched the concept of the European Research Area (ERA). The objective was to address the fragmentation, isolation and compartmentalisation of national research systems and the lack of coordination in the manner in which national and European research policies were implemented.

New instruments were introduced to realise the ERA: Networks of national research programs (ERA-NET), Networks of Excellence (NoE) and the Large-scale Integrated Projects (IP).

In addition, there was support for the innovation process and SMEs. The budget for research infrastructures and human resources, especially mobility, increased. Finally there was greater focus on interactions between science, society, and citizens. Last but not least, Social Sciences and Humanities research was introduced as a specific area.

This was also the programme which welcomed 10 new member states in 2004 from Middle and Eastern Europe. FP6 would be the last FP with a four-year budget and the beta version of the online Participation Portal was tested, starting the move from paper-based information to electronic.

For RMAs however, FP6 will perhaps mostly be remembered for the novel use of audit certificates by the member states and the possibility for universities to go 'full costs'. The mantra for designing FP6 was 'simplification' of administration.

The delegation of management to coordinators in the large Integrated Projects and the novel use of audit certificates to be provided by member states, whereby the auditors acted as substitutes for the activity of the commission's own financial services, were in principle seen as positive steps.

But the use of non-standard auditing criteria and failures to impose auditing requirements which are proportionately continued to leave participants exasperated. Many European university financial departments organised crash-courses on budgeting EU proposals, especially on human resources and imposing the use of time recording sheets.

[26]A.k.a. EU 13.

RMA: The Next Steps

It can be said that during FP6, and its successor FP7, the profession became more mature: marked by the emergence of more national RMA associations. During the EARMA Leiden Conference in 2015, a first meeting took place with RMA colleagues describing the current state of RMA development in their respective countries. There was a great variety in the degree of organisation from e-mail distribution lists, informal regional networks and one or two formal associations. In terms of associations, there was ARMA in the UK (Kerridge, 2023b, Chapter 5.40), the Polish Research Council had created KRAB in 2007 (Krasiński & Tomasik, 2023, Chapter 5.23), the Danish had established DARMA in 2008 (see Westensee et al., 2023, Chapter 5.28), and this was soon to be followed by others such as Finn-ARMA in Finland in 2012 (Backman et al., 2023, Chapter 5.29); ICEARMA in Iceland in 2012 (Kristjánsdóttir et al., 2023, Chapter 5.32); NARMA in Norway in 2013 (Silva & Nedberg, 2023, Chapter 5.36); FORTRAMA in Germany in 2018 (Winkler et al., 2023, Chapter 5.31); ARMA-NL in the Netherlands in 2018 (Groeninx van Zoelen & Kanters, 2023, Chapter 5.35); more recently PIC in Portugal (Barbosa et al., 2023, Chapter 5.37); and CZARMA in Czechia (Sip, 2023, Chapter 5.22).

A common issue was the lack of recognition of the profession and the need for formal education and clear career paths. Through the many annual EARMA conferences, expert knowledge and best practices were shared. EARMA also started the first certified professional education for continental European research managers in 2016 (see Ritchie et al., 2023, Chapter 2.7). From the early years, EARMA has connected with colleagues from North America and around the world, and is a founding member of INORMS[27] the International Network of Research Management Societies (see Kulakowski, 2023, Chapter 1.7).

The RMA community in Europe and around the world is thriving and providing an invaluable service to help make research happen.

Epilogue

The start of the seventh Framework Programme (FP7) was a game changer in many ways: the European Research Council was introduced with the highly prestigious personal grants; many 'new' compliance issues became more important, the Participants Portal was launched. However, that is a story for another day.

References

Aigrain Report. (1969). *Scientific and technological cooperation between European Countries; Possibilities in 7 Sectors*. Doc. 7301/11/69-E, and 10.121/11/69-E Brussels.

Aked, N. H., & Gummett, P. J. (1976). Science and technology in the European communities: The history of the COST projects. *Research Policy*, *5*(3), 270–294.

Backman, J., Haverinen, S., & Bingham, E. (2023). The profession of research management and administration in Finland. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 663–667). Emerald Publishing.

[27]https://inorms.net/

Barbosa, C., Borrego, F., Costa, T., Ferreira, A., Martins, M., Moreira, S., Santos, J., & Silva, J. (2023). The profession of research management and administration in the Portugal. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 735–744). Emerald Publishing.

DESCA. (2022). *DESCA model consortium agreement*. Retrieved October 10, 2022, from https://www.desca-agreement.eu/desca-model-consortium-agreement/

Groeninx van Zoelen, A., & Kanters, E. (2023). The profession of research management and administration in the Netherlands. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 715–721). Emerald Publishing.

Guzzetti, L. (1995). *A brief history of European Union research policy* (p. 172). Office for Official Publications of the European communities.

Kerridge, S. (2023b). The profession of research management and administration in the UK. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 759–767). Emerald Publishing.

Krasiński, Z., & Tomasik, C. (2023). The profession of research management and administration in Poland. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 613–621). Emerald Publishing.

Kristjánsdóttir, G. B., Gíslason, Ú. K., & Erlingsdóttir, Á. S. (2023). The profession of research management and administration in Iceland. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 687–695). Emerald Publishing.

Kulakowski, E. (2023). The establishment and history of the international network of research management societies. In S. Kerridge, S. Poli, & M. Yang-Yoshihara, (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 83–95). Emerald Publishing.

Layton, C. (1969). *European advanced technology: A programme for integration*. Allen and Unwin.

Meadows, D. H., Meadows, D. L., Randers, J., & Behrens, W. W. (2018). The limits to growth. In K. Conca & G. D. Dabelko (Eds.), *Green planet blues* (pp. 25–29). Routledge.

Reillon, V. (2018). *EU framework programmes for research and innovation : Evolution and key data from FP1 to Horizon 2020 in view of FP9 : In-depth analysis*. Publications Office European Parliament, Directorate-General for Parliamentary Research Services. https://data.europa.eu/doi/10.2861/60724

Ritchie, J., Lythgoe, E., & Donovan, J. (2023). RMA education, training and professional development in North America and Europe. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 177–186). Emerald Publishing.

Silva, N. E., & Nedberg, H. (2023). The profession of research management and administration in Norway. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 723–733). Emerald Publishing.

Sip, J. (2023). The profession of research management and administration in Czechia. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 603–610). Emerald Publishing.

Summit, P. (1972). Statement. *Bulletin of the European Communities*, *10*, 14–26.

Westensee, J., Vad, A., Svenningsen, O., & Andersen, J. (2023). The profession of research management and administration in Denmark. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 655–662). Emerald Publishing.

Winkler, P., Krüger, J.-P., & Steinack, K. (2023). The profession of research management and administration in Germany. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 679–685). Emerald Publishing.

Chapter 1.7

The Establishment and History of the International Network of Research Management Societies

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Abstract

The International Network of Research Management Societies (INORMS) celebrated its 20th anniversary in 2021. It was established to increase communication among research management societies. The need for a formal international research management community developed because there was (1) increased international funding of research, (2) the number of international research collaborations was growing, and (3) there was a need to understand research regulations in other countries. INORMS sought to address these issues through international congresses and by providing a forum for member societies to work more closely together on common issues. Membership in INORMS steadily increased over the years. The 20th anniversary meeting was highlighted with the signing of the Hiroshima Statement that described a research manager's principles and responsibilities, which include collegiality, inclusiveness, professionalisation, innovation, and accountability. This chapter summarises the factors that led to the formation of INORMS and its history.

Keywords: INORMS; research management and administration; international collaboration; research management societies, collegiality, professionalisation; research administration

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Introduction

The International Network of Research Management Societies (INORMS) celebrated its 20th anniversary in 2021. The establishment of INORMS was the logical extension of the growing number of international research management societies in the world, which developed because of increased international research funding, enhanced international research collaborations, and the need to understand the various research regulations in different countries.

While research management societies engaged informally in various types of programme activities with other research management societies and exchanged annual meeting registrations in the late 1990s, it was not until after 9/11 in 2001 when research management societies came together to discuss the formation of an organisation that represented all research management societies.

The various INORMS member societies are vastly different. There are those well established with a few thousand members and newer ones with only a few hundred members. There are those that represent colleges and universities while others also include representation from research hospitals, independent research laboratories, industry, and government labs. Some societies have membership within a country while others are international. The focus of some societies is only research, others research and innovation, and still others only one aspect of research management. All of these different types of societies comprise the diversity of INORMS, and INORMS seeks to engage each of its member societies.

Despite their differences, INORMS member societies want to learn about the global research enterprise including: international funding opportunities, regulations, and best practices. They want INORMS to be a forum for networking and 'a beacon for information and aspiration…' (C. Jagersma, personal communication, 20 April 2021).

The Research Manager and Early Research Management Societies

Following World War II, at various times in their history, governments began to provide increased research funding to universities not only for applied research but also for basic research. Instead of providing contracts for research with deliverables, governments provided awards through grants with only required technical progress and financial reports. As with most government programmes, along with the increased funding came increased regulations to which recipient institutions must adhere.

Researchers originally were responsible for managing the funds for their research activities. With increased research funding and regulations, sponsors began to require research institutions to submit proposals and to make awards to the institutions on behalf of their investigators. This placed new responsibilities on recipient institutions of research funds.

The increase in institutional requirements to obtain and manage research support created a need for specially trained individuals to manage proposal submissions, receipt of awards, compliance with regulations and reporting. Research institutions established research administration offices, created policies and procedures to meet federal regulations and manage research funds, and hired staff, who became the first research managers.

It became obvious that a forum was needed whereby research administrators could be trained in the various aspects of research management. Such organisations also could identify best practices, and provide a network to exchange ideas

and discuss issues. The first such organisation was the National Council of University Research Administrators (NCURA), established in 1959 in the United States, that focussed exclusively on colleges and universities (Beasley, 2006; G. Sakumoto, personal communication, 3 February 2021; Wile, 2008). The Society of Research Administrators International (SRAI) was the first international research management society having a Canadian Chapter and a diverse membership from colleges and universities, research hospitals, independent research institutes, industry, government research agencies, and non-profit organisations (Beasley, 2006; Society of Research Administrators, 1992). The first non-US research management society, the Canadian Association of Research Administrators (CARA), was formed in 1972 (S. Lampson, personal communication, 6 October 2021; D. Zornes, personal communication, 6 January 2021). The Association of Research Managers and Administrators (ARMA) founded in the United Kingdom traces its origin back to 1991 (I. Carter, personal communication, 24 January 2021; Taylor, 2001). It was followed soon after by the European Association of Research Managers and Administrators (EARMA) in 1994. The Association of Commonwealth Universities, which had been around since 1913, added their 'Research Management and Uptake Program' in 1999 (J. Kirkland, personal communication, 3 January 2021). The last pre-INORMS research management society was the Australasian Research Management Society (ARMS) having been launched in 1999 (Dibb-Leigh, 2007; J. Dibb-Leigh, personal communication, 15 February 2021; M. Hochman, personal communication, 7 October 2021). It was during the 1990s that members from these societies informally began to attend and present at other society meetings.

2001

International collaborative society efforts changed in 2001. The SRAI Board of Directors approved a formal exchange of annual meeting registrations with the leaders of other sister societies. As SRAI president, the author sent a letter to the presidents of the other societies in April 2001 inviting them to the SRAI annual meeting in Vancouver, and during the year SRAI representatives attended sister society meetings. In addition, SRAI retained Colin Cooper from the University of Manchester to serve as a liaison with ARMA and EARMA to determine how SRAI could work more closely with them.

The events of 9–11 not only affected the US; it impacted the whole world. SRAI's Executive Committee believed that its annual meeting scheduled for October 2001 was crucial to show that research and its management was a global issue, that hosting such a meeting would be a show of international unity, and that international research collaborations should not be held hostage by the acts of terrorists. They decided the annual meeting would be held as scheduled.

On behalf of the SRAI Board of Directors, I invited leaders from the different societies and all international attendees at the SRAI annual meeting in Vancouver to attend a breakfast meeting to discuss how to advance the internationalisation of research management. It was done to show the 'resilience and global nature of research administration and management' (L. Chronister, personal communication, 2 January 2021).

The breakfast meeting was held in the Queen's Suite at the Hilton Hotel in Vancouver, Canada on Tuesday, 16 October 2001. The participants included society representatives from ACU, ARMA, ARMS, CARA, EARMA, and SRAI; individuals influential in the future formation of DARMA and SARIMA; other SRAI members and interested international attendees (Fig. 1.7.1).

Fig. 1.7.1. The Founding Members of INORMS, 2001.

Legend: Left to right back row – John Kirkland (ACU), Claes Olav Fälth (EARMA), Dr Elliott Kulakowski (SRAI President), William Schweri (SRAI Past President), Paul Waugaman (SRAI), Peter Townsend (ARMA Chair), Colin Cooper (ARMA), Dr Michael Owen (Future SRAI President and CARA President)

Middle Row left to right – Bi Chou (South Korea), Norberto Perez (SRAI), Jim Hanlon (Future SRAI President), Susan Hedigan (EARMA), Janet Dibb-Leigh (ARMS)

Front Row left to right – Dr Marilet Sienaert (SARIMA), Lynne Chronister (SRAI President), Myriam Borouche (SRAI and CARA), Warden Campbell (EARMA Chair)

Not Shown: John Westensee (future DARMA Past President, future SRAI Past President)

Following the introductions of the attendees, the discussion centred on the international expansion of research collaborations across the globe, how the various societies needed to work more closely in managing international research activities, and how the various societies could work together to promote the profession. The attendees agreed that we were living in a changing global environment where international research collaborations were encouraged and were increasing. There was a strong need for research administrators and managers to work more closely together and to understand the regulations, agreements, practices, and norms that govern research in other countries. It also was understood that this could not be done adequately by just attending each other's society's annual meeting.

It was agreed that there was a need for the establishment of an international society of research management societies to foster international research management cooperation. The broad concept of the proposed organisation was to:

- Internationalise the body of knowledge on research management,
- Exchange of best practices,
- Develop international approaches to supporting the research enterprise, and
- Provide networking opportunities for member societies.

The formation of an international organisation needed to be approved by the governing bodies of the various societies. It was agreed that attendees representing their societies would seek approval from their society to participate in the new organisation, and they would reconvene at the 2002 SRAI annual meeting.

2002

When Marilet Sienaert attended the breakfast meeting in Vancouver, the South African Research and Innovation Management Association (SARIMA) was not yet a formal organisation. SARIMA held its inaugural meeting in February 2002 (P. Pillay, personal communication, 30 June 2021) and because of its participation at the breakfast planning meeting in Vancouver in 2001, it was considered subsequently an inaugural member of INORMS.

In 2002, representatives from the various societies met with their respective leadership, and they unanimously agreed that an international organisation of research management societies was necessary, and they approved participation in it.

On 29 October 2002, at the SRAI Annual Meeting held in Orlando, Florida, the representatives from the various international societies – ACU, ARMA, ARMS, CARA, EARMA, SARIMA, and SRAI, along with a representative from the Swiss Association of Research Managers and Administrators (SARMA) and other interested individuals including those from Denmark, South Korea, Israel, and Brazil met to discuss this new international society. The meeting was co-chaired by Lynne Chronister, past-president of SRAI. While there is some discrepancy in members' recollection as to who came up with the final name for INORMS, either Colin Cooper or Janet Dibb-Leigh, the member society representatives approved the final name for the newly created society (personal communication).

In addition to the name of the organisation, the major outcomes from this meeting were that:

- The mission of INORMS was to improve the communication and best practices globally for the administration and management of research,
- The attendees reaffirmed the goals of INORMS first stated in 2001,
- Membership would be through societies and not by individual memberships,
- An Executive Committee was created with Janet Dibb-Leigh from ARMS and Michael Owen from SRAI serving as its initial co-chairs,
- Each society member would have one representative on this committee, and
- Initially, INORMS meetings would be held in conjunction with the SRAI annual meeting (personal communication).

2003

SRAI hosted a meeting of the INORMS society members and other interested parties at its annual meeting in Pittsburgh, Pennsylvania. The following was agreed:

- INORMS would not be housed in any one country,
- No one society would be in control of the organisation,
- There would be no dues required from the various societies,
- Any new societies seeking to join INORMS would have the approved by the member INORMS societies,

- There should be biannual meetings of INORMS, and
- The society hosting the meeting would be responsible for developing the programme, all expenses related to the meeting, and any surplus from the meeting would remain with the host society (personal communication).

2004

The 2004 ARMS conference and an ACU International Research Management Benchmarking Group meeting were held in Perth/Fremantle, Australia. A group of attendees from ACU, ARMS, ARMA, and SRAI met informally, and the ARMS representative suggested that ARMS host the first meeting. This was to be discussed formally at the full INORMS Council meeting in 2004 (I. Carter, personnel communication, 24 January 2021; J. Dibb-Leigh, personal communication, 15 February 2021; M. Owen, personnel communication, 5 January 2021).

As a follow-up to the meetings in Australia, Michael Owen, SRAI president, invited representatives from the INORMS societies to meet at the SRAI annual meeting in Salt Lake City. The meeting was chaired by Colin Cooper. The outcomes of the meeting were the following:

- The INORMS mission was reaffirmed,
- There was a need for an initial administrative home for INORMS, and for an organisation to host the INORMS website. SRAI offered to host the website pending SRAI Board approval, which subsequently was given,
- The first multi-day educational international conference of INORMS was approved to be hosted by ARMS in 2006, and
- A proposed 2nd INORMS Congress was agreed to be held in the United Kingdom in 2008 (personal communication).

2005

It is uncertain if an INORMS Council meeting was held as there are no notes from a meeting or any personal recollections.

ARMS prepared to host the first INORMS Congress.

2006

ARMS hosted the first INORMS Congress meeting in Brisbane, Australia in conjunction with the ARMS annual meeting. They described it as the First International Research Management Congress on behalf of INORMS, and it was entitled 'Internationalisation of Research: The Big Issues and Opportunities of the Decade for Research Leaders and Managers'. The inaugural INORMS Congress was reported to have 450 delegates from 23 countries (Massey & Cur, 2006). This set the benchmark for future meetings (J. Dibb-Leigh, personal communication, 15 February 2021; M. Hochman, personal communication, 3 December 2021).

2007

ARMA members worked to secure a programme of speakers and workshops for its meeting in 2008.

There are no notes available from an INORMS Council meeting.

2008

Following a letter of invitation from Prime Minister Tony Blair in 2004, the second INORMS Congress was hosted by ARMA in Liverpool, England from 16 to 19 June. The meeting was held in conjunction with the ARMA annual meeting with the theme being 'Exploring Similarities: National and International Research Management and Administration'. There was not a single chair of the INORMS Congress, but Steph Hazelhurst served as chair of the logistics committee and Ian Carter and Pauline Muya chaired the programme committee. The Congress had over 500 attendees representing between 20 and 30 different countries (I. Carter, personal communication, 20 September 2021; S. Hazelhurst, 19 November 2021).

The INORMS Council was still a loose federation, when it met at the ARMA Congress. The following was determined:

SARIMA was approved to host the 2010 INORMS Congress.

While INORMS did not have a formal application process for membership, it invited NCURA to become an INORMS member, and they later agreed to join.

John Westensee, who attended the initial INORMS planning meeting in 2001 and participated in INORMS meetings, was instrumental in the formation of the Danish Association of Research Managers and Managers (DARMA). With its adaption of its bylaws in 2008, DARMA was considered a founding member of INORMS (J. Westensee, personal communication, 16 February 2021).

2009

No information was available about INORMS Council activities in 2009.

SARIMA was engaged in planning for the third INORMS Congress.

2010

SARIMA and ACU jointly hosted the third INORMS Congress in Cape Town, South Africa from 11 to 15 April as part of SARIMA's annual conference. The theme of the meeting was 'Managing for Impact: New Approaches to Research and Innovation Management'. The conference president was Aldo Strobel, with John Kirkland from ACU as co-chair. The conference focussed on research and information management in Africa and drew approximately 400 delegates representing 40 different countries (J. Kirkland, personal communication, 11 January 2021; A. Stroebel, personal communication, 29 September 2021; A. Stroebel, personal communication, 9 December 2021; Stroebel & van Eldik, 2010).

The West African Research and Innovation Management Association (WARIMA) became the first research management society to formally apply for and be approved for INORMS membership (C. Mokelu, personal communication, 8 October 2021).

PraxisAuril became a member of INORMS. At the time it was PraxisUnico, recently formed by merger of Praxis Courses Ltd and UNICO. It became PraxisAuril in 2017 after another merger with the Association for University Research and Industry Links (AURIL).

2011

The INORMS Council began discussions on governance and development of operating principles (J. Westensee, personal communication, 21 October 2021).

2012

DARMA hosted the 4th INORMS Congress that took place in Copenhagen, Denmark from 13 to 16 May. The Congress was chaired by John Westensee and Annedorte Vad. The vision of the programme was to focus on the individual and thus the theme was 'Let's Fly to Mars: It All Comes Down to the Individual'. The conference was attended by 441 individuals representing 38 countries (J. Westensee, personal communication, 16 February 2021; J. Westensee, personal communication, 21 October 2021).

The following is a summary of INORMS Council meetings:

- The INORMS Council adapted its first INORMS Operating Principles. The document discussed issues such as INORMS objectives, governance, voting, biennial meetings, reciprocity and communication,
- With the increasing number of international societies being established, it was determined that a more formal approval process was needed for organisations seeking INORMS membership, and
- Approval was given for SRAI, NCURA, and CARA to jointly host the 2014 INORMS Congress in Washington, DC (personal communication).

2013

There were no notes or recollections from INORMS member organisations about INORMS activities in 2013, but SRAI, NCURA, and CARA worked closely on the planning for the 2014 INORMS meeting.

2014

SRAI, NCURA, and CARA jointly hosted the 2014 INORMS Congress held from 10 to 13 April in Washington, DC. This was the first time that an INORMS Congress was held not in conjunction with a society's annual meeting. The co-chairs were Bill Schweri representing SRAI, Dave Richardson from NCURA, and Martin Kirk from CARA. The theme of the 5th biennial Congress was 'Enabling the Global Research Enterprise from Policy to Practice'. The meeting was attended by 450 research managers from 40 countries.

The INORMS Council met in person and virtually in 2014. The major activities included:

- A working group headed by Martin Kirk was established to seek ways to increase the visibility of INORMS and to identify other services that INORMS could provide to its members beyond the biennial Congress.
- A paper on the future of INORMS was presented to the INORMS Council. The impetus for the paper was that there was a need for a more formal organisational structure because:
  - There were multiple bids to host an INORMS Congress, and a process was needed to evaluate the proposals and make a determination,
  - There was a need to determine the process and qualifications for accepting new INORMS members,
  - It was uncertain how INORMS should manage different international professional development trainings, and
  - There was a need for improved communication among the different societies (personal communication).

- The Brazilian Research Administrators and Managers Association (BRAMA) applied for and was admitted as a member of INORMS (C. Graeff Teixeira, personal communication, 1 March 2021).
- The INORMS Council approved the admission of the Finnish Association of Research Managers and Administrators (Finn-ARMA) as a member of INORMS (S. Haverinen, personal communication, 5 October 2021).
- The Icelandic Association of Research Managers and Administrators (ICEARMA) applied for and was admitted to membership in INORMS (Ú. K. Gíslason, personal communication, 29 January 2021).

2015

The INORMS Council conducted a survey of its member societies to learn about member societies' background, type, leadership, governance, priorities, professional development focus of the group, certifications, opportunities for collaboration and what the societies see as priorities for INORMS. The survey results were reported to the INORMS Committee as a document for future planning for INORMS initiatives (personal communication).

2016

The 2016 INORMS Congress, hosted by ARMS, was held in Melbourne, Australia from 11 to 15 September. The theme of 6th Congress was 'Research Management in a Connected World'. The meeting was a combined meeting with the annual ARMS conference. There was a total attendance of 856 delegates from 39 countries. The co-chairs of the meeting were Tania Bezzobs, Janette Hocking, Tania Tambiah, Sianna Panagiotopoulos, Ted Rohr, Bryony Wakefield, Jayamini Illesinghe, Suzanna Kovacevic, Stella Clark, Mark Hochman, and Janice Besch (M. Hochman, personal communication, 3 December 2021).

The following are the actions of the INORMS Council during the year:

- RMAN-J applied for and was approved for membership in INORMS (N. Miyokawa, personal communication, 28 January 2021).
- While still not a formally acknowledged non-profit organisation in Germany, the Network for Research and Transfer Management (FORTRAMA) applied and was approved for membership in INORMS (P. Winkler, personal communication, 22 January 2021).
- The Norwegian Network for Administration and Research Management (NARMA) applied for membership in INORMS, and the INORMS Council approved its membership (H. A. Espedal, personal communication, 3 February 2021).
- Jan Anderson and Ian Carter drafted the INORMS Strategic Outlook 2016. The document discussed the ever-changing global research environment including more collaborative international research and funding, as well as increased researcher mobility. It also stated that while fundamental research is the key to the future, there is increasing emphasis on research impact. These changes are creating a need for trained professional research managers who could function in an international environment. They proposed that INORMS develop a toolbox to meet these challenges (personal communication).

2017

The INORMS Council met virtually in 2017. The following are the major outcomes of those meetings:

RMAN-J was approved to host the 2020 biannual INORMS meeting in Hiroshima, Japan. (N. Miyokawa, personal communication, 28 January 2021)
The INORMS Council approved INORMS Leadership Awards to be given beginning at the 2018 INORMS Congress. Each member society could nominate one person for the award. (personal communication)

2018

The 7th biennial INORMS Congress, hosted by ARMA, took place from 4 to 7 June in Edinburgh, Scotland. The theme of the Congress was 'Promoting Global Research Management, Supporting Global Research Challenges'. The Congress was held in conjunction with the annual ARMA conference and had 1,100 delegates representing 45 countries. The Congress chair was Steph Bales (S. Bales, personal communication, 13 November 2021).

At this INORMS Congress, the first INORMS Awards for Excellence in Research Management Leadership were given. A list of awardees can be found at http://www.inorms2018.org/inorms-awards-for-excellence-in-research-management-leadership-2018/.

The INORMS Council met in person at the 7th INORMS Congress and virtually during the year. The following is a summary of major accomplishments:

- The INORMS Council approved the Research Administration as a Profession (RAAAP) survey as an INORMS initiative to be headed by Simon Kerridge. The survey of research managers and administrators was to identify the key skills, attitudes, and behaviours of successful leaders in research management and administration. More information about RAAAP and the survey can be found at https://inorms.net/activities/raaap-taskforce/.
- The Research Impact and Stakeholder Engagement Working Group (RISE), co-chaired by David Phipps and Julie Bayley, was established to build the capacity of research managers and administrators, to support researchers and their stakeholders/partners who are working, and to maximise the diverse impacts of research. More information about RISE can be found at https://inorms.net/activities/research-impact-and-stakeholder-engagement-working-group/.
- The INORMS Council established the Research Evaluation Group (REG) that was chaired by Elizabeth Gadd. REG's mission was to examine current research metrics and determine if they are appropriate and relevant. The main focus of REG is to examine Global University Rankings and determine their effectiveness and to develop a framework for evaluating research. More information about the Research Evaluation Group can be found at https://inorms.net/research-evaluation-group/.
- The Association for Research Managers and Administrators – The Netherlands (ARMA-NL) applied for and was approved for membership in INORMS (C. Jagersma, personal communication, 20 April 2021).

2019

The INORMS Council met during the year virtually and approved the following actions:

SARIMA is to host the 2022 INORMS World Congress on the island of Mauritius.
The Chinese Association for Science of Science and Science & Technology Policy (CASSSP) was approved for inclusion as a full INORMS member.
A revised version of the INORMS Operating Principles was approved (see https://inorms.net/wp-content/uploads/2018/04/inorms-operating-principles-26032018-revised.pdf).
The second iteration of the RAAAP survey (RAAAP-2) was launched on 1 October 2019. More information about the RAAAP survey can be found at https://inorms.net/activities/raaap-taskforce/raaap-survey-2019/.

2020

The INORMS Council's actions were as follows:

- RMAN-J planned to host the INORMS biannual meeting in Hiroshima, Japan from May 25 to 28, 2020. However, at the request of RMAN-S, the Council agreed that the meeting be postponed until 2021 because of increasing cases of COVID-19 around the world.
- The National Organisation of Research Development Professionals (NORDP) applied for membership in INORMS and was approved (K. Eck, personal communication, 3 February 2021).
- The INORMS Council established a working group to look into establishing an associate membership. Following the recommendations of the working group and INORMS Council approval, INORMS created an INORMS Sister Association Membership where

> INORMS associations offer members of other associations that are part of the INORMS network (and outside of their geographical territory) access to certain services and products (e.g., training workshops, webinars, and conference) at 'normal' member rates for that association, rather than full non-member rates. (personal communication)

Now referred to as the INORMS Sister Association Reciprocal Benefit Scheme (ISARBS), it allows for members of INORMS affiliated societies to receive reduced rates for meetings, webinars, publications, and other activities offered by other societies who are parts of INORMS. Participating associations are ARMA, ARMS, SRAI, and NORDP. More information about ISARBS can be found at https://inorms.net/isarbs/.

- The RAAAP-2 survey concluded having received 4,324 responses. The results are available at https://inorms.net/activities/raaap-taskforce/raaap-survey-2019/. The RISE Working Group submitted its final report after developing criteria to help research management associations and its members assess people and organisations providing products and services to support research impact defined as the provable effects of research in the real world. More information about the Rise Working Group and its reports can be found at https://inorms.net/wp-content/uploads/2019/04/impact-provider-criteria-final-181217.pdf, https://inorms.net/wp-content/uploads/2020/06/rise-working-group-report-may-2020.pdf, and https://inorms.net/activities/researchimpact-and-stakeholder-engagement-working-group/.

2021

A virtual INORMS World Congress meeting hosted by RMAN-J was held from 24 to 27 May 2021. The theme of the World Congress was 'Promoting Diversity in Research and Research Management Collaborations: More Trans-National, More Trans-Disciplinary, More Trans-Sectoral'. The Co-chairs of the organising committee were Dr Makiko Takahashi, Dr Norifumi Miyokawa, Dr Masato Miyake, and Dr Kate Harris. Due to ongoing COVID-19, this virtual meeting, held separately from the RMAN-J annual meeting, was very successful with 509 participants from 49 different countries (N. Miyokawa, personal communication, 14 September 2021; N. Miyokawa, personal communication, 6 December 2021). This was the largest number of countries represented at an INORMS Congress; a true picture of how research management is expanding internationally.

INORMS Awards for Excellence in Research Management Leadership were given at the meeting. The list of awardees can be found at https://inorms2021.org/awards.html.

The highlight of the 2021 INORMS Congress was the formal signing of the Hiroshima Statement on the Essential Practice of Research Administration on 24 May 2021 by Dr Koetsu Yamazaki, Chair of RMAN-J on behalf of the INORMS Council, which endorsed it unanimously (See https://inorms2021.org/hiroshima_statement.html).

The Malaysia Association of Research Managers and Administrators was approved for membership in 2021 (N. Miyokawa, personal communication, 8 September 2022).

Summary

INORMS, in 2001, was just a concept that brought six research management societies together to work collectively for the internationalisation of research management and administration in support of the advancement of international research collaborations. Since then INORMS has grown to 21 societies in 2021; the latest to join was the Malaysia Association of Research Managers and Administrators. More research management societies are being established and interest in participating in INORMS activities has never been greater. Increasing research specialisation will lead to a further expansion of international collaborations, a greater need for research managers and administrators, and an increasing number of research management societies to provide the essential tools necessary to operate in a universal research environment. Since the first INORMS Congress in Australia in 2006, the number of representatives from different countries has continued to grow to its peak at the RMAN-J hosted 20th anniversary Congress in 2021. A very successful 2023 INORMS Congresses recently concluded in Durban, South Africa (https://conference.eventsair.com/QuickEventWebsitePortal/inorms/inormscongress) and the 2025 INORMS Congress, to be hosted for the first time by EARMA, is to be held in Madrid, Spain (https://earma.org/conferences/inorms-congress-madrid-2025/). The future of research management as a profession is being accepted worldwide, and INORMS will continue to be the nucleus for research management societies as it serves the global research management community.

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It should be noted that some of the information presented in this article is based on oral history. Where possible, such recollections were verified with others and/or compared to documents available.

References

Beasley, K. (2006). The history of research administration. In E. C. Kulakowski & L. U. Chronister (Eds.), *Research administration and management* (pp. 9–29). Jones and Bartlett.

Dibb-Leigh, J. (2007, November 19). *An historical account of ARMS* [Presentation]. ARMS Conference, Australia.

Massey, J., & Cur, C. (2006). Setting the scene for international collaboration: INORMS 2006. *Research Global*, *14*, 14–15.

Society of Research Administrators. (1992). *Society of Research Administrators a quarter century of service in research management*. Society of Research Administrators.

Stroebel, A., & van Eldik, P. (2010). INORMS 2010 Managing the impact: New approaches to research and innovation management. *Research Global*, *25*, 12–13.

Taylor, J. (2001). *The RISE of RAGnet: The first ten years*. https://arma.ac.uk/wp-content/uploads/2022/10/The-Rise-of-RAGnet-the-First-Ten-Years.pdf

Wile, H. (2008). The first twenty-five years: A history of the National Council of University Research Administrators. In T. J. Roberts, G. Sanders, & W. Sharp (Eds.), *The second twenty-five years* (pp. 13–25). National Council of University Research Administrators. https://www.ncura.edu/Portals/0/pdf/NCURA_History.pdf

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Section 2: Context

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Chapter 2.1

A Novel Definition of Professional Staff

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Abstract

Based on a review of professional staff (PS), which includes research managers and administrators, in 54 academic publications, I propose a novel definition for this category of staff: 'degree holding university employees who are primarily responsible for developing, maintaining and changing the social, digital and physical infrastructures that enable education, research and knowledge exchange'. The proposed definition facilitates the development of new research questions that target the level of the organisational fields of higher education and science, to complement research on the university and individual levels. This view supports the study of the contributions of PS to higher education and science. I anticipate that such a broader focus will help to counter and nuance accounts of 'administrative bloat' by focusing on how PS as a group shape and are shaped by the organisational fields of higher education and science, rather than dismissing them as superfluous or parasitic.

Keywords: Professional staff; research management; universities; review; definition; higher education

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Introduction

Based on a review of definitions of PS in academic literature, in this chapter, I propose a novel definition for this category of staff: 'degree holding university employees who are primarily responsible for developing, maintaining and changing the social, digital and physical infrastructures that enable education, research and knowledge exchange'. I propose a new definition for two reasons: (1) the existing popular narrative and even much of the scholarly research on PS defines them by what they do not do (research and teaching), and the proposed definition aims to enable more inclusive and constructive narratives around PS; and (2) the existing body of literature on PS is highly dispersed and does not agreed upon a definition of PS, so by proposing an overarching definition I aim to help integrate the body of literature about PS and stimulate future research on PS. In particular, I believe that research on the level of the organisational fields of higher education and science to be promising. DiMaggio and Powell (1983) define organisational fields as 'those organizations that, in the aggregate, constitute a recognized area of institutional life'. As such, building upon existing insights about individuals and their roles within universities, research at this level about PS will contribute to a nuanced understanding of the role of this group in higher education as a whole. Research managers and administrators constitute one of the occupational groups that fall under this category of university employees.[1] I hope that this novel definition facilitates practical discussions about the role of research managers and administrators, as well as research into this specific role.

In recent decades, a new and distinct group of employees has emerged at universities. On the one hand, the primary responsibilities of these employees are not in teaching and education, distinguishing them from academics. On the other hand, in general, they hold higher education degrees (Acker et al., 2019; Allen-Collinson, 2007; Berman & Pitman, 2010; Gornitzka & Larsen, 2004; Harman & Stone, 2006; Krücken et al., 2013; Ryttberg & Geschwind, 2017; Shelley, 2010; Szekeres, 2011), possess highly specialised knowledge (Karlsson & Ryttberg, 2016; Qu, 2021; Ryttberg, 2020), experience considerable levels of autonomy (Aarrevaara & Dobson, 2016; Karlsson & Ryttberg, 2016; Qu, 2021; Ryttberg, 2020; Ryttberg & Geschwind, 2017), and hold strategic positions in networks both within and beyond the university (Cox et al., 2017; Daly, 2013; De Jong et al., 2016; Harman & Stone, 2006; Ryttberg, 2020), which sets them apart from the clerical, technical and manual staff, such as secretaries, laboratory analysts and animal caretakers. I refer to this group of employees as PS, as this term is most commonly used in the literature (Whitchurch, 2020) and preferred by these employees themselves (Sebalj et al., 2012).

Despite the rapid growth of this body of staff (see for instance Stage & Aagaard, 2019, who report a 500% increase in Denmark between 1999 and 2018), there is relatively little research available about PS (Bossu et al., 2018). Evidence-based discussions about PS are further complicated by national differences in referring to this group of employees (Acker et al., 2019). As far as I am aware, existing academic reviews about PS have not concentrated on terms and definitions (e.g. Gander et al., 2019; Schneijderberg & Merkator, 2013; Szekeres, 2011; Veles & Carter, 2016). Therefore, I took up the task of reviewing the academic literature about PS to identify the diversity of

[1] Additionally, organisations such as consultancy firms, hospitals, public research organisations and research funders may employ research managers and administrators. The definition of PS that I propose in this chapter, however, is based on literature about PS employed by universities.

alternative terms that authors use, as well as the definitions or descriptions of these terms. The analysis of terms, definitions and descriptions in 54 documents enables me to propose a novel definition of PS that unites the different national and disciplinary discussions.

The remainder of this chapter is organised as follows. In the next section, I explain the methodology. The Web of Science and Scopus were consulted to retrieve relevant documents, and searched for terms and definitions within these documents, which I subsequently analysed. In the following section, I discuss the results and support the proposed novel definition of PS. The section includes an overview of retrieved terms, definitions and descriptions, as well as a visualisation of the construction of the definition that I propose. In the final section, I conclude by discussing the rhetorical and analytical value of this definition.

Method

I reviewed the terms for and definitions and descriptions of PS that authors use to refer to this category of employees in their research. This chapter is based on a body of literature that was collected to review the available insights on the contribution of PS to academic knowledge development. Thus, studies about PS who solely work in education or other student-related areas of work, such as sports or counselling, were not included in the analysis. In this chapter, I summarise the different steps of the literature collection and the description of the dataset. See De Jong and Del Junco (under review) for a more detailed exposition. I also explain how I analysed the data for the purpose of this chapter.

Data Collection

The collection process consisted of four steps. In step 1, Cay del Junco and I searched the Web of Science (21 June 2021) and Scopus (13 July 2021) for articles, books, book chapters, reviews, and 'early access' articles (in the case of the Web of Science) containing *universit* AND (administrat* OR staff)* in their titles. After comparing the results and removing duplicates, we retained 2,197 documents. Step 2 entailed an analysis of titles and abstracts to identify those documents that were likely to talk about the involvement of PS in academic research. Many titles that included *administrat**, were about drug administration or senior leadership of universities, which in the United States are often referred to as 'administrators'. Only 42 documents were retained in step 2. In step 3, we used forward and backward citation tracking to identify additional relevant documents, as we expected that the wide distribution of relevant publications and terms that we were not aware of prevented us from capturing all relevant publications. We repeated this process until we no longer found relevant publications that were not included already. A total of 103 documents were added in this step. In step 4, we considered documents that were not linked to the original set of documents through citations, but that colleagues suggested during informal discussions, as well as seminar and conference presentations. Only documents that were included in the Web of Science and/or Scopus were retained. This resulted in the identification of an additional 22 documents. Due to the goal of the review that the dataset was collected for, in step 5 we only retained documents for further analysis that presented original research (thus excluding reviews, theoretical papers and opinion pieces) about the competencies, relationships and influence of PS that are relevant for their contributions to academic knowledge development.

Description of the Dataset

The final dataset consists of 54 documents, including eight book chapters and 46 journal articles, authored by 71 unique authors. The journal articles were published in 26 unique journal titles, in line with the hypothesis that the academic literature about PS is highly dispersed. Doubtless, the focus on competencies, relationships and influence will have resulted in the exclusion of publications that are considered to be seminal to broader discussions about PS, but that did not present original research relevant to the broader review. Nevertheless, I believe that the broadness of the dataset will have guarded me against overlooking crucial elements for the construction of a novel definition. Also, I realise that limiting the search to the Web of Science and Scopus may have excluded publications authored by PS in professional journals. Yet, the perspective of PS is well represented in our dataset. All three most cited authors currently work or have worked as PS.

Thirty-two documents are about PS in general, or position the study of particular roles within the broader discussion of PS. The definitions and descriptions of PS in these documents serve as the main input for the novel definition. Twenty-two documents focus on specific PS roles. The definitions and descriptions in these documents help to fine-tune the novel definition, making it inclusive to a broad diversity of specific roles. The three most represented organisational roles in the overall set are research managers and administrators (15 documents), librarians (10 documents) and technology transfer officers (7 documents). The three most represented countries of study are the United Kingdom (14 documents), Australia (10 documents) and Germany (6 documents). Note that a single paper can cover multiple roles and/or countries.

Data Analysis

The final set of documents was analysed in NVivo (version 12.6.1) software for qualitative analysis. I searched each document for the term(s) that the authors used and for corresponding definitions of the terms. If no definition was provided, I searched for descriptions that reveal how authors had implicitly defined the term(s) they used to refer to PS. Inspired by the Gioia methodology (Gioia et al., 2012), which supports the systematic and inductive analysis of qualitative data, I identified commonly used components of definitions and descriptions of PS. These components were used to develop the novel definition of PS.

PS: Terms, Definitions and Descriptions

In this section, I review the terms that are used to denote PS. I also discuss the definitions and descriptions of these terms.

No less than 18 alternative terms are used to refer to PS in the reviewed documents (Table 2.1.1). Some of these terms are contested. Allen-Collinson (2007) considers 'support' pejorative, a label that Szekeres (2004) attaches to 'administration'. Similarly, several authors suggest that 'non-academic' is problematic, as it others and disrespects people by negating them – labelling them by what they are not (Allen-Collinson, 2009; Dobson, 2000; Mcinnis, 1998). Therefore, a novel definition of PS should avoid these words due to their negative connotations.

Related to the variation in terms to refer to PS, there does not seem to be a widely agreed-upon definition of PS yet. For the 19 terms that authors use, including 'PS', I found 22 definitions and descriptions. Seven studies did not explicitly define or describe the term(s) used, leading to four terms that were not defined in any of the reviewed

Table 2.1.1. Terms and Definitions.

Term	Definition or Description
(the) Administration	• 'given the job of trying to balance external and internal needs' (Frølich et al., 2019)
Administrative professionals	• 'Administrators work in strategic areas such as internationalization, business liaison and research funding support' (Karlsson & Ryttberg, 2016)
Administrative personnel	• 'clerical staff and professional administrative staff/ higher administrative staff' (Gornitzka & Larsen, 2004)
Administrative staff	• 'all persons working as support staff in administrative units without managerial competencies' (Krücken et al., 2013)
	• Not explicitly defined or described in reviewed document (Hüther & Krücken, 2018; Mcinnis, 1998)
Administrators	• 'focused on the management and support of the primary process' (Kallenberg, 2016)
	• 'Academic university management (President/rector, vice-presidents, deans, heads of institutes, etc.): this includes all leading managerial positions within the university that are held by academics, typically only for a limited period of time. 2. Administrative university management (senior administrative managers, heads of offices and service facilities, etc.): this includes full-time administrative management staff with responsibility for staff, organization and resource administration within a specific area.2 3. Administrative staff: this includes all persons working as support staff in administrative units without managerial competencies' (Krücken et al., 2013)
Allied staff	• 'non-academic staff' (Wohlmuther, 2008)
Blended professional	• Individuals 'whose roles include initiatives associated with the social responsibilities of institutions to their communities, as well as more market-oriented, income generating projects' (Whitchurch, 2010c)
General staff	• Not explicitly defined or described in reviewed documents. (Dobson, 2000; Szekeres, 2006)
Grassroots administrators	• Not explicitly defined or described in reviewed document (Qu, 2021)
Higher education professionals	• 'not primarily active in teaching and research, although they might be involved in some teaching and some research, but entrusted mainly to prepare and support decisions of the management, establish new services or professionalize existing ones, and actively shape the core activities of the organization' (Kehm, 2015a, 2015b)
	• Organizational professionals working in a management role or a support and services role (Schneijderberg, 2015)

(*Continued*)

Table 2.1.1. (*Continued*)

Term	Definition or Description
New professionals	• Not explicitly defined or described in reviewed document (Daly, 2013)
Non-faculty professional staff members	• Not explicitly defined or described in reviewed document (Sprague, 1994)
Para-academic	• 'staff who specialize in one type element of academic life' (Macfarlane, 2011)
Professional and managerial staff	• 'a large and influential group, responsible for the day-to-day operation, management, and planning of the university or college' (Wilkins & Leckie, 1997)
Professional and scientific staff	• 'employees without academic appointment whose jobs require some higher education or equivalent experience, the ability to exercise independent judgement, and minimum supervision' (Henkin & Persson, 1992)
Professional staff	• 'All had management or developmental roles and were not employed on academic staff contracts (although as we will see, many undertook work which was "academic" in nature) and all were employed on HEE Level 7 or above' (Berman & Pitman, 2010) • 'the graduate and/or professional entry staff that have high levels of autonomy and responsibility for managing and leading business-related functions in the university' (Kallenberg, 2020) • 'administrative staff, general staff, non-academic staff, allied staff' (Szekeres, 2011) • Refers to Whitchurch's (2009) notion of the 'blended professional' (Takagi, 2015) • 'staff who increasingly, for instance: have academic credentials such as master's and doctoral level qualifications, or a teaching or research background in the college sector; work in teams, dealing with institutional initiatives that require a range of specialist, academic and policy contributions, from bids for one-off infrastructure funding to the establishments of more long-term regional partnerships; undertake quasi-academic functions such as conducting study-skill sessions for access students, speaking at outreach events or conducting overseas recruitment visits; and have the possibility of moving into an academic management role, for instance, a pro-vice-chancellor post with a portfolio such as quality, staffing or institutional development' (Whitchurch, 2008a) • Not explicitly defined or described in reviewed document (Gray, 2015; Whitchurch & Gordon, 2009)

(*Continued*)

Table 2.1.1. (*Continued*)

Term	Definition or Description
Professional support staff	• 'individuals in support roles who are commonly highly qualified and have an academic degree. They do not necessarily identify as administrators, nor are they employed as academics. They are situated somewhere in between. According to this research, they may also be viewed as actors in a third space. This is a concept used when exploring groups of staff at HEIs who do not fit the conventional binary descriptors of "academics" or "non-academics" […]' (Ryttberg, 2020) • 'Their functions typically require highly educated specialists and experts in specific areas of administration […]. Furthermore, they do not identify themselves with the term administrator […], which refers to functions that are more clerical or secretarial […]' (Ryttberg & Geschwind, 2019) • Not explicitly defined or described in reviewed document (Ryttberg & Geschwind, 2017)
Third space professional	• Described as individuals working in 'an emergent territory between academic and professional domains, which is colonized by less bounded forms of professional' (Whitchurch, 2008a) • 'groups of staff in higher education who do not fit conventional binary descriptors such as those enshrined in "academic" or "non-academic" employment categories … They are likely to work in a multi-disciplinary or multi-professional environment or team, either for a time-limited period or on a permanent basis. They may also build up new forms of expertise, such as tutoring in academic literacy or the conversion of teaching programmes to online platforms, that represent new space and require a blend of academic and professional inputs' (Whitchurch, 2015)
University professional services staff	• 'provide specialist functions to enable other staff to focus on their own areas of competence and responsibility' (Gibbs & Kharouf, 2020)

documents at all – but may have been defined elsewhere. One term, 'para-academic', is defined as 'individuals who specialise in one type of element of academic life' (Macfarlane, 2011), which includes PS, but not exclusively. The term refers to those with full-time research or full-time teaching positions as well. Although this captures an interesting development in academia, it is too broad for the purpose of defining PS. Regarding the definitions and descriptions of the remaining terms, 'allied staff' simply describes PS as non-academic staff (Wohlmuther, 2008).

My analysis of more elaborate definitions and descriptions identifies identity (Ryttberg, 2020; Ryttberg & Geschwind, 2017, 2019), academic degree (Ryttberg, 2020; Ryttberg & Geschwind, 2017), organisational roles (Gibbs & Kharouf, 2020; Kallenberg,

2016), nature of the work (Berman & Pitman, 2010; Gornitzka & Larsen, 2004; Henkin & Persson, 1992; Hockey & Allen-Collinson, 2009; Kallenberg, 2020; Kehm, 2015a, 2015b; Krücken et al., 2013; Szekeres, 2011; Whitchurch, 2008c, 2010c; Wilkins & Leckie, 1997) or even specific jobs (Karlsson & Ryttberg, 2016; Krücken et al., 2013) as elements of definitions. Still, some of these definitions and descriptions also include 'othering' elements, by referring to non-academic employment statuses (Berman & Pitman, 2010; Henkin & Persson, 1992; Ryttberg, 2020; Ryttberg & Geschwind, 2017, 2019; Whitchurch, 2008c).

A closer inspection of these elements of definitions and descriptions informed which elements I incorporated into the novel definition. 'Academic degree', including bachelor's, master's and doctoral degrees, was included as in general this is a distinctive characteristic of PS compared to secretarial, technical and maintenance staff. As 'university' denotes the type of organisation that PS commonly work at, this element was included as well. The 'nature of the work' was identified as 'enabling primary processes', following Kallenberg (2016) and authors that talk about involvement in for example research. Gibbs and Kharouf (2020) and the objective to exclude othering elements inspired the use of 'enabling'. I did not include 'identity', as a closer reading reveals that the main point of this element is that PS do not identify as administrators nor academics. Thus, this would introduce a negative or othering element to the novel definition. Still, I made sure not to include references to administration (or academics) in the proposed definition to respect the identity of PS. I did not include references to specific roles either as this would limit the scope of the definition. Yet, I translated these roles into generic responsibilities. For example, Karlsson and Ryttberg's (2016, p. 1) definition included examples of concrete roles in 'internationalization, business liaison and research funding', which simultaneously indicate responsibilities around social infrastructures (relationships with international partners and companies) and primary processes in universities (knowledge development and knowledge transfer).

Next to PS and its alternatives, 22 documents focus on one or more of the following subgroups: research managers and administrators (10 documents), librarians (8 documents), technology transfer officers (2 documents), faculty managers (1 document), grant officers (1 document), information technology staff (1 document) and staff involved in developing research data management policies (one document). Although these roles both inform the definition of PS that I present in this section, due to space limitations I have not included the corresponding terms in Table 2.1.1.

The analysis of definitions and descriptions of these specific roles provides further support for the included elements, as well as for fine-tuning them. The work on research managers and administrators (e.g. Allen-Collinson, 2006; Beime et al., 2021; Ito & Watanabe, 2021) and technology transfer (Harman & Stone, 2006; Sapir, 2020) highlighted the enabling of primary processes as central to the work of PS. Although librarians are not defined in any of the included documents, a closer reading of these documents (e.g. Antell et al., 2017; Cox et al., 2017; Joo & Schmidt, 2021; Sanches, 2015) shows that in addition to managing collections of books and other texts, they increasingly have responsibilities around data management, digitalisation of libraries and online-repositories. This led to the addition of 'physical' and 'digital' to the element of infrastructure.

Combining the elements that I identified through our analysis of existing terms, definitions and descriptions I propose to define PS as 'degree holding university employees who are primarily responsible for developing, maintaining and changing the social, digital and physical infrastructures that enable education, research and knowledge exchange'. See Fig. 2.1.1 for a visualisation of the construction of this

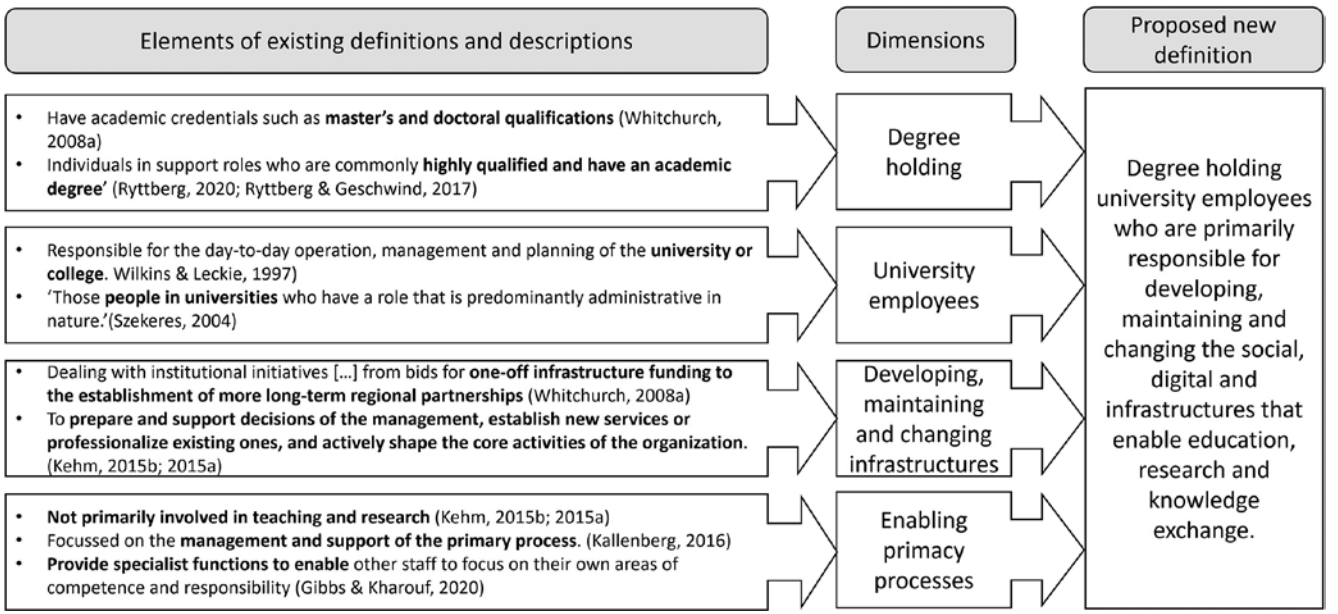

Fig. 2.1.1. Data Structure.

new definition based on elements of existing definitions and descriptions. Words and phrases that are printed in bold informed the identification of the elements.

Conclusion

In this chapter, I have reviewed the terms that authors use to refer to PS in academic literature, as well as the definitions and descriptions of these terms that they provide. This analysis resulted in a novel definition of PS:

> Degree-holding university employees who are primarily responsible for developing, maintaining and changing the social, digital and physical infrastructures that enable education, research and knowledge exchange.

Rhetorically, it defines PS by what they do, rather than by what they do not do, and puts them at the centre of the core tasks of the university, rather than positioning them at the periphery, as terms such as 'administration' and 'support' signal. Thus, the definition steers us away from narratives about PS that can be characterised as 'othering' or 'pejorative' (Allen-Collinson, 2006, 2009; Dobson, 2000; Mcinnis, 1998; Szekeres, 2004).

Analytically, while acknowledging that the division of different types of responsibilities in academia is increasingly blurred (Bossu et al., 2018; Kallenberg, 2016; Krücken et al., 2013; Schneijderberg & Merkator, 2013), it distinguishes different functions in universities based on primary responsibilities (Stage & Aagaard, 2019).

Such a distinction facilitates the development of new research questions that target the level of the organisational fields of higher education and science, to complement research on the university and individual levels. According to DiMaggio and Powell (1983), the advantage of the organisational field perspective is that it takes into account 'the totality of relevant actors'. This view supports the study of contributions of PS, including research managers and administrators, to higher education and science, rather than limiting it to the study of roles in the specific organisations they work for. I anticipate that such a broader focus will help to counter and nuance accounts of 'administrative bloat' (*cf*. Ginsberg, 2013) by focusing on how PS as a group shape and are shaped by the organisational field of higher education, rather than dismissing them as superfluous or parasitic. In particular, the proposed definition resonates with the concept of 'institutional work', which refers to 'the purposive action aimed at creating, maintaining, and disrupting institutions', and facilitates understanding how micro-level actions relate to institutional change (Lawrence & Suddaby, 2006, p. 215). Sapir (2020) and Beime et al. (2021), both included in the reviewed dataset, provide examples of such work. The first study shows how technology transfer professionals maintain social infrastructures for knowledge exchange by securing the freedom to publish in collaboration with industry, whereas the second demonstrates how grant advisers change social infrastructures by stimulating competition among academics. The proposed definition enables identifying similar contributions of PS, for example, through the lens of institutional work.

Declaration of Interest

The authors declare no conflict of interest.

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References

Aarrevaara, T., & Dobson, I. R. (2016). An analysis of the opinions of university non-academic staff in the Nordic countries. *Journal of the European Higher Education Area*, *3*, 1–14.

Acker, S., McGinn, M., & Campisi, C. (2019). The work of university research administrators: Praxis and professionalization. *Journal of Praxis in Higher Education*, *1*(1), 61–85.

Allen-Collinson, J. (2009). Negative 'marking'? University research administrators and the contestation of moral exclusion. *Studies in Higher Education*, *34*(8), 941–954. https://doi.org/10.1080/03075070902755641

Allen-Collinson, J. A. (2006). Just 'non-academics'?: Research administrators and contested occupational identity. *Work, Employment and Society*, *20*(2), 267–288. https://doi.org/10.1177/0950017006064114

Allen-Collinson, J. A. (2007). 'Get yourself some nice, neat, matching box files!' Research administrators and occupational identity work. *Studies in Higher Education*, *32*(3), 295–309. https://doi.org/10.1080/03075070701346832

Antell, K., Foote, J. B., Turner, J., & Shults, B. (2017). Dealing with data: Science Librarians' Participation in Data Management at Association of Research Libraries Institutions. *College & Research Libraries*. https://doi.org/10.5860/crl.75.4.557

Beime, K. S., Englund, H., & Gerdin, J. (2021). Giving the invisible hand a helping hand: How 'Grants Offices' work to nourish neoliberal researchers. *British Educational Research Journal*, *47*(1), 1–22. https://doi.org/10.1002/berj.3697

Berman, J. E., & Pitman, T. (2010). Occupying a 'third space': Research trained professional staff in Australian universities. *Higher Education*, *60*(2), 157–169. https://doi.org/10.1007/s10734-009-9292-z

Bossu, C., Brown, N., & Warren, V. (2018). Professional and support staff in higher education: An introduction. In C. Bossu & N. Brown (Eds.), *Professional and support staff in higher education* (pp. 1–8). Springer. https://doi.org/10.1007/978-981-10-6858-4_29

Cox, A. M., Kennan, M. A., Lyon, L., & Pinfield, S. (2017). Developments in research data management in academic libraries: Towards an understanding of research data service maturity. *Journal of the Association for Information Science and Technology*, *68*(9), 2182–2200. https://doi.org/10.1002/asi.23781

Daly, S. (2013). Philanthropy, the new professionals and higher education: The advent of Directors of Development and Alumni Relations. *Journal of Higher Education Policy and Management*, *35*(1), 21–33. https://doi.org/10.1080/1360080X.2012.727701

De Jong, S. P. L., & Del Junco, C. (under review). *How do professional staff influence academic knowledge development? A literature review and research agenda*.

De Jong, S. P. L., Smit, J. P., & Van Drooge, L. H. A. (2016). Scientists' response to societal impact policies: A policy paradox. *Science and Public Policy*, *43*(1), 102–114. https://doi.org/10.1093/scipol/scv023

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, *48*(2), 147–160. https://doi.org/10.2307/2095101

Dobson, I. R. (2000). 'Them and us'—General and non-general staff in higher education. *Journal of Higher Education Policy and Management*, *22*(2), 203–210. https://doi.org/10.1080/713678142

Frølich, N., Christensen, T., & Stensaker, B. (2019). Strengthening the strategic capacity of public universities: The role of internal governance models. *Public Policy and Administration*, *34*(4), 475–493. https://doi.org/10.1177/0952076718762041

Gander, M., Girardi, A., & Paull, M. (2019). The careers of university professional staff: A systematic literature review. *Career Development International*, *24*(7), 597–618. https://doi.org/10.1108/CDI-07-2018-0191

Gibbs, T., & Kharouf, H. (2020). The value of co-operation: An examination of the work relationships of university professional services staff and consequences for service quality. *Studies in Higher Education*, *0*(0), 1–15. https://doi.org/10.1080/03075079.2020.1725878

Ginsberg, B. (2013). *The fall of the faculty* (Reprint ed.). Oxford University Press.

Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2012). Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. *Organizational Research Methods*, *16*(1), 15–31. https://doi.org/10.1177/1094428112452151

Gornitzka, Å., & Larsen, I. M. (2004). Towards professionalisation? Restructuring of administrative work force in universities. *Higher Education*, *47*(4), 455–471. https://doi.org/10.1023/B:HIGH.0000020870.06667.f1

Gray, S. (2015). Culture clash or ties that bind? What Australian academics think of professional staff. *Journal of Higher Education Policy and Management*, *37*(5), 545–557. https://doi.org/10.1080/1360080X.2015.1079397

Harman, G., & Stone, C. (2006). Australian university technology transfer managers: Backgrounds, work roles, specialist skills and perceptions. *Journal of Higher Education Policy and Management*, *28*(3), 213–230. https://doi.org/10.1080/13600800600979959

Henkin, A. B., & Persson, D. (1992). Faculty as gatekeepers: Non-academic staff participation in University Governance. *Journal of Educational Administration*, *30*(2). https://doi.org/10.1108/09578239210014487

Hockey, J., & Allen-Collinson, J. (2009). Occupational knowledge and practice amongst UK University Research Administrators. *Higher Education Quarterly*, *63*(2), 141–159. https://doi.org/10.1111/j.1468-2273.2008.00409.x

Hüther, O., & Krücken, G. (2018). *Higher education in Germany—Recent developments in an international perspective*. Springer International Publishing. https://www.springer.com/gp/book/9783319614786

Ito, S., & Watanabe, T. (2021). Multilevel analysis of research management professionals and external funding at universities: Empirical evidence from Japan. *Science and Public Policy*, scaa074. https://doi.org/10.1093/scipol/scaa074

Joo, S., & Schmidt, G. M. (2021). Research data services from the perspective of academic librarians. *Digital Library Perspectives*, *37*(3), 242–256. https://doi.org/10.1108/DLP-10-2020-0106

Kallenberg, T. (2016). Interacting spheres revisited. In R. M. O. Pritchard, A. Pausits, & J. Williams (Eds.), *Positioning higher education institutions: From here to there* (pp. 177–197). SensePublishers. https://doi.org/10.1007/978-94-6300-660-6_10

Kallenberg, T. (2020). Differences in influence: Different types of university employees compared. *Tertiary Education and Management*, *26*(4), 363–380. https://doi.org/10.1007/s11233-020-09058-w

Karlsson, S., & Ryttberg, M. (2016). Those who walk the talk: The role of administrative professionals in transforming universities into strategic actors. *Nordic Journal of Studies in Educational Policy*, *2016*(2–3), 31537. https://doi.org/10.3402/nstep.v2.31537

Kehm, B. M. (2015a). Academics and new higher education professionals: Tensions, reciprocal influences and forms of professionalization. In *Academic work and careers in Europe: Trends, challenges, perspectives* (pp. 177–200). Springer. https://doi.org/10.1007/978-3-319-10720-2_9

Kehm, B. M. (2015b). The influence of new higher education professionals on academic work. In *Forming, recruiting and managing the academic profession* (pp. 101–111). Springer. https://doi.org/10.1007/978-3-319-16080-1_6

Krücken, G., Blümel, A., & Kloke, K. (2013). The managerial turn in higher education? On the interplay of organizational and occupational change in German Academia. *Minerva*, *51*(4), 417–442. https://doi.org/10.1007/s11024-013-9240-z

Lawrence, T., & Suddaby, R. (2006). Institutions and institutional work. In T. Lawrence, R. Suddaby, R. Clegg, C. Hardy, & W. R. Nord (Eds.), *Handbook of organization studies* (2nd ed., pp. 215–254). Sage. https://papers.ssrn.com/abstract=3197577

Macfarlane, B. (2011). The morphing of academic practice: Unbundling and the rise of the para-academic. *Higher Education Quarterly*, *65*(1), 59–73. https://doi.org/10.1111/j.1468-2273.2010.00467.x

Mcinnis, C. (1998). Academics and professional administrators in Australian Universities: Dissolving boundaries and new tensions. *Journal of Higher Education Policy and Management*, *20*(2), 161–173. https://doi.org/10.1080/1360080980200204

Qu, M. (2021). The role of grassroots administrators in building international partnerships: A multi-level governance perspective. *Learning and Teaching*, *14*(3), 1–21. https://doi.org/10.3167/latiss.2021.140302

Ryttberg, M. (2020). Legitimacy dynamics of professional support staff at higher education institutions. *Higher Education Policy*, *35*, 218–233. https://doi.org/10.1057/s41307-020-00206-w

Ryttberg, M., & Geschwind, L. (2017). Professional support staff at higher education institutions in Sweden: Roles and success factors for the job. *Tertiary Education and Management*, *23*(4), 334–346. https://doi.org/10.1080/13583883.2017.1322631

Ryttberg, M., & Geschwind, L. (2019). Professional support staff in higher education: Networks and associations as sense givers. *Higher Education*, *78*(6), 1059–1074. https://doi.org/10.1007/s10734-019-00388-2

Sanches, T. (2015). From tradition to innovation: Exploring administration practices in four Portuguese University Libraries. *Journal of Library Administration*, *55*(5), 376–393. https://doi.org/10.1080/01930826.2015.1047273

Sapir, A. (2020). Brokering knowledge, monitoring compliance: Technology transfer professionals on the boundary between academy and industry. *Journal of Higher Education Policy and Management*, *0*(0), 1–16. https://doi.org/10.1080/1360080X.2020.1804657

Schneijderberg, C. (2015). Work jurisdiction of new higher education professionals. In U. Teichler & W. K. Cummings (Eds.), *Forming, recruiting and managing the academic profession* (pp. 113–144). Springer International Publishing. http://link.springer.com/book/10.1007/978-3-319-16080-1

Schneijderberg, C., & Merkator, N. (2013). The new higher education professionals. In B. M. Kehm & U. Teichler (Eds.), *The academic profession in Europe: New tasks and new challenges* (pp. 53–92). Springer. https://doi.org/10.1007/978-94-007-4614-5_5

Sebalj, D., Holbrook, A., & Bourke, S. (2012). The rise of 'professional staff' and demise of the 'non-academic': A study of university staffing nomenclature preferences. *Journal of Higher Education Policy and Management*, *34*(5), 463–472. https://doi.org/10.1080/1360080X.2012.715994

Shelley, L. (2010). Research managers uncovered: Changing roles and 'shifting arenas' in the academy. *Higher Education Quarterly*, *64*(1), 41–64. https://doi.org/10.1111/j.1468-2273.2009.00429.x

Sprague, M. M. (1994). Information-seeking patterns of university administrators and nonfaculty professional staff members. *The Journal of Academic Librarianship*, *19*(6), 378–383. https://doi.org/10.1016/0099-1333(94)90030-2

Stage, A. K., & Aagaard, K. (2019). Danish universities under transformation: Developments in staff categories as indicator of organizational change. *Higher Education*. https://doi.org/10.1007/s10734-019-00362-y

Szekeres, J. (2004). The invisible workers. *Journal of Higher Education Policy and Management*, *26*(1), 7–22. https://doi.org/10.1080/1360080042000182500

Szekeres, J. (2006). General staff experiences in the Corporate University. *Journal of Higher Education Policy and Management*, *28*(2), 133–145. https://doi.org/10.1080/13600800600750962

Szekeres, J. (2011). Professional staff carve out a new space. *Journal of Higher Education Policy and Management*, *33*(6), 679–691. https://doi.org/10.1080/1360080X.2011.621193

Takagi, K. (2015). Blurring boundaries and changing university staff: The case of the University of Hong Kong. *Frontiers of Education in China*, *10*(4), 578–607. https://doi.org/10.1007/BF03397089

Veles, N., & Carter, M.-A. (2016). Imagining a future: Changing the landscape for third space professionals in Australian higher education institutions. *Journal of Higher Education Policy and Management*, *38*(5), 519–533. https://doi.org/10.1080/1360080X.2016.1196938

Whitchurch, C. (2008a). Shifting identities and blurring boundaries: The emergence of third space professionals in UK Higher Education. *Higher Education Quarterly*, *62*(4), 377–396. https://doi.org/10.1111/j.1468-2273.2008.00387.x

Whitchurch, C. (2008c). Beyond administration and management: Reconstructing the identities of professional staff in UK higher education. *Journal of Higher Education Policy and Management*, *30*(4), 375–386. https://doi.org/10.1080/13600800802383042

Whitchurch, C. (2009). The rise of the blended professional in higher education: A comparison between the United Kingdom, Australia and the United States. *Higher Education*, *58*(3), 407–418. https://doi.org/10.1007/s10734-009-9202-4

Whitchurch, C. (2010c). Some implications of 'public/private' space for professional identities in higher education. *Higher Education*, *60*(6), 627–640. https://doi.org/10.1007/s10734-010-9320-z

Whitchurch, C. (2015). The rise of Third Space Professionals: Paradoxes and dilemmas. In U. Teichler & W. K. Cummings (Eds.), *Forming, recruiting and managing the academic profession* (pp. 79–99). Springer International Publishing. http://link.springer.com/book/10.1007/978-3-319-16080-1

Whitchurch, C. (2020). Professional staff identities in higher education. In P. N. Teixeira & J. C. Shin (Eds.), *The international encyclopedia of higher education systems and institutions* (pp. 2338–2341). Springer. http://link.springer.com/book/10.1007/978-94-017-9553-1

Whitchurch, C., & Gordon, G. (2009). *Academic and professional identities in higher education: The challenges of a diversifying workforce*. Taylor & Francis Group. http://ebookcentral.proquest.com/lib/uvtilburg-ebooks/detail.action?docID=465356

Wilkins, J. L. H., & Leckie, G. J. (1997). University professional and managerial staff: Information needs and seeking. *College & Research Libraries*, *58*(6), 561–574. https://doi.org/10.5860/crl.58.6.561

Wohlmuther, S. (2008). 'Sleeping with the enemy': How far are you prepared to go to make a difference? A look at the divide between academic and allied staff. *Journal of Higher Education Policy and Management*, *30*(4), 325–337. https://doi.org/10.1080/13600800802155192

Chapter 2.2

The Research Administration as a Profession (RAAAP) Survey

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Abstract

In this chapter, we look at survey responses from the third Research Administration as a Profession Survey (RAAAP-3) conducted in 2022. We examine some demographic attributes of Research Managers and Administrators (RMAs) such as gender identity, age when entering the profession, age in the current role, and other personal characteristics such as birth country and current country of employment. We also explore the types of institutions where RMAs are employed, the type of work they do, their highest academic qualifications, whether they obtained professional accreditations, and their affiliation with any RMA professional associations. Each topic is investigated both globally and by geographic region to highlight similarities and differences. Overall we find the

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profession to be global, female-dominated, highly academically qualified, and mainly working in the higher education sector.

Keywords: RAAAP; demographic attributes; gender; qualifications; native country; role; age; RMA; RMA associations

History of RAAAP

The RAAAP project started with an award from the National Council of University Research Administrators (NCURA) Research Program in 2015. The initial project (see Kerridge & Scott, 2018a) was to create a questionnaire to survey RMAs around the world on their perceptions of the relative importance of 'soft' transferrable skills and 'hard' technical/RMA-specific skills. Due to a large number of responses, a snapshot of the RMA profession around the world was created. Following the initial survey in 2016, a second (RAAAP-2) survey was endorsed by INORMS, the International Network of Research Management Societies (see https://inorms.net/activities/raaap-taskforce/; https://bit.ly/raaap) and conducted in 2019 and included a focus on research engagement and impact. This chapter provides an overview of demographic data from the third iteration (RAAAP-3) from 2022. The survey also included a focus on 'How I Became a Research Manager and Administrator' – HIBARMA, see Chapter 2.3, Dutta et al. (2023) in order to discover more about routes into the profession.

Methodology

This survey was developed based on the previous iterations of the RAAAP survey, in 2016 and 2019. The main structure and questions from the past surveys were kept, enabling longitudinal studies on the evolution of the profession around the world (however, longitudinal analyses are not included in this chapter). Additionally, in eight of the questions, respondents were asked to reply concerning their 'first role as RMA' and 'current role as RMA', enabling a deeper analysis of the career progression within the profession.

The questionnaire was developed in the third quarter of 2021 and sent for review and feedback to the INORMS member associations. As with past iterations, the involvement of RMA associations was key to ensuring that all questions were understandable in all contexts across the globe and also to supporting the dissemination of the survey to its members, maximising the survey's geographic coverage and the respective number of respondents.

The final survey contained 46 questions (see Fischer et al., 2022), providing up to 403 data points per respondent. The survey was constructed and delivered in Qualtrics. The estimated completion time was between 20 and 30 minutes, and the questionnaire included multiple-choice, Likert-type rating scales, and open-ended questions. In all questions related to the profession, respondents were asked to provide more information on their answers, to the non-mandatory open-ended question 'please give details'. All questions were optional.

The RAAAP-3 survey was submitted and approved (with minor amendments) by each of the authors' institutions' ethical and compliance committees. The survey was launched on 25 January 2022 and disseminated to all INORMS member associations to cascade it to their members as they wished, including promoting it on their web pages, newsletters, and mailing lists.

The results presented below describe the sample participating in the survey, and, due to the number of responses, this is a potentially characteristic picture of the

Research Management and Administration community. In addition, comparisons between responses provided in the different geographic regions can provide interesting insights into the profession around the world. For that, responses were grouped into five geographic regions, based on the datapoint ***AnalysisRegionofEmployment*** created and computed from the ***CountryOfEmployment***. The geographical regions are *Canada*, *Europe (excluding UK)*, *Oceania*, *UK*, *USA*, and the *Rest of the World* (including responses from 28 other countries). Note that throughout this chapter field names from the data sets are shown in ***bold italics***, field values are shown in *italics*, and text from the questionnaire in '*quoted italics*'.

The RAAAP-3 survey captured 5,076 responses in total. Of those, only 3,532 provided geographic locations, spanning 66 different countries (***CountryOfEmployment***). The top 5 countries represented in the survey are the *USA* (30.9%), *UK* (13.5%), *Australia* (9.7%), *Canada* (5.0%), and *China* (3.4%); the darker hues in Fig. 2.2.1.

In terms of the ***AnalysisRegionofEmployment***, the *USA* represents 30.9% of the responses, followed by *Europe (excluding UK)* with 28.5%, UK with 13.5%, *Rest of the World* with 11.3%, *Oceania* with 10.8%, and *Canada* with 5%.

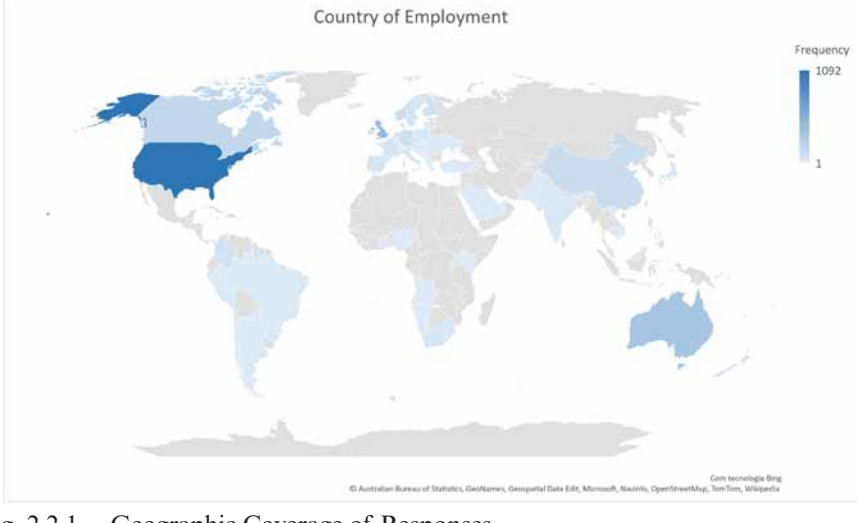

Fig. 2.2.1. Geographic Coverage of Responses.

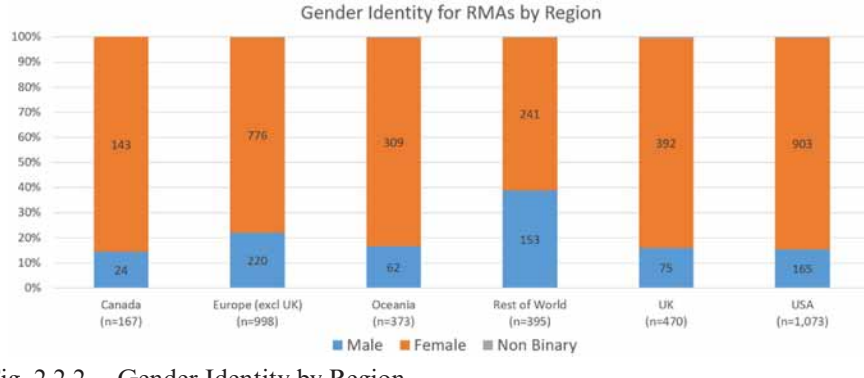

Fig. 2.2.2. Gender Identity by Region.

RAAAP-3 Data

In this section, we highlight some of the major high-level findings from the RAAAP-3 main dataset (Kerridge, Dutta, et al., 2022a).

Fig. 2.2.2 shows the self-identified gender (***GenderExtended***) excluding *Prefer not to provide* across all regions (***AnalysisRegionOfEmployment***), it is clear that the profession is dominated by female respondents (79.5% of n = 3,521) a finding that has been made many times, for example, by Kerridge and Scott (2018a) and Shambrook et al. (2015). The greatest polarisations are in *Canada* (85.6% of n = 167), *USA* (84.2% of n = 1,073), *UK* (83.4% of n = 470), and *Oceania* (82.8% of n = 373) in terms of female RMAs. The *Rest of the World* region has the highest rate of self-identified male respondents (38.7% of n = 395) but is still a predominantly female workforce (61.0%). There are many potential reasons for these differences. For example, Shambrook et al. (2015) showed that in the USA the profession flipped from being predominantly male to predominantly female over time – perhaps as the profession matured, or more generally that there were more women in the workforce. In the *Rest of the World* region there are many countries where RMA is a new profession. Another potential contributor may be cultural differences, for example, the ratio of females in a specific country or region's workforce, in general. Another area for future investigation is the engagement of males within the professional associations, which was the main mechanism for the distribution of the survey.

As we look at the age ranges of people in their first RMA role (***FirstAgeRange***) by Region (***AnalysisRegionOfEmployment***), we see that the largest proportion enter the field between the ages of *25 and 34* (47.2% of n = 3,444). This is especially true in *Europe* (excluding UK), where 52.9% (of 989) reported entering the field between the ages of *25 and 34*, and in the *UK*, with 52.6% (n = 470). Interestingly, the *USA* (43.2% of n = 1,070) and *Oceania* (43.0% of n = 377) shared the lowest percentage of workers entering the RMA profession between the ages of *25 and 34*. More investigation is needed, but this may be due to the circuitous, or 'labyrinthine' as Poli, Kerridge, et al. (2023) describe in Chapter 2.4, routes that many take on their way to finding themselves in the RMA profession. Respondents in the *35–44* age range were the second largest group to report entering the field, with 28.0%. The *USA* boasts the largest percentage of respondents aged *24 and under* entering the field as their first job (17.3%) while *Canada* has the lowest percentage of respondents entering at an age below 25 (4.7% of n = 170). However, when looking at the ages of RMAs now (see Fig. 2.2.3) there are

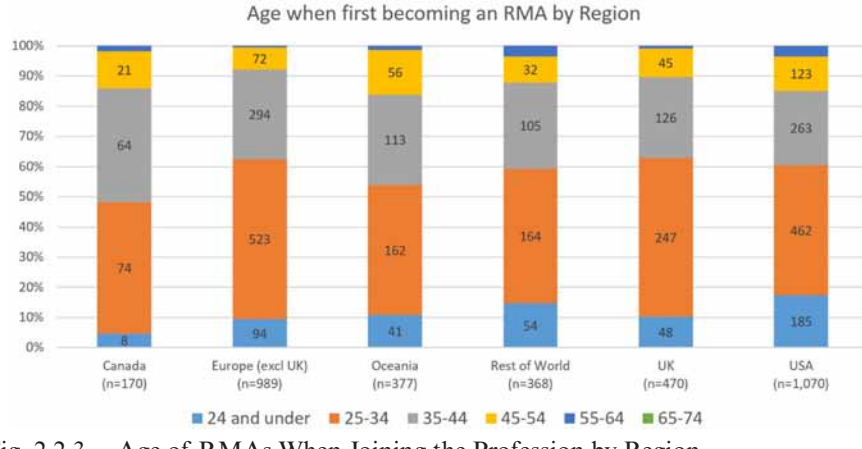

Fig. 2.2.3. Age of RMAs When Joining the Profession by Region.

very few (0.4% of $n = 3{,}451$) *24 and under*, which could suggest that RMAs are now joining at a later age – or perhaps more likely those *24 and under* are so new to the profession that they have not yet engaged with the associations that distributed the survey.

When comparing the age range of those entering their first RMA role (***FirstAgeRange***, see Fig. 2.2.4) and respondents' current age ranges (***AgeRange***) by Region (***AnalysisRegionOfEmployment***), it appears we have an ageing population who have remained in RMA positions. With the largest proportion of respondents (37.1% of $n = 3{,}451$) reporting their age in the *35–44* range, the second largest group was the *45–54* age range (31.1%). *Oceania* saw the largest percentage of respondents fall in this range, with 37.7% (of $n = 374$) in the range *45–54*. Overall, we even see a sizeable percentage (15.3%) of RMAs in the *55–64* age range. This is especially prominent in the *USA*, where 23.1% (of $n = 1{,}067$) of RMAs are in the *55–64* age range, and in *Canada*, where 19.3% (of $n = 171$) are aged *55–64*. The *USA* even reported 4.8% of respondents in the *65 and over* age range. Whether this points to later retirement ages in the *USA* or a highly developed professional workforce who are passionate about their field and continue working late in life would need further investigation. *Europe* and the *UK* reported similar percentages of respondent age ranges, with the *35–44* (Europe 43.8% of $n = 992$, *UK* 41.8% of $n = 471$) most common, with *45–54* range trailing a little behind (*Europe* 30.0% and *UK* 32.5%).

When asked how senior (***CurrentRoleLevelR3***) they are, across the world (***AnalysisRegionOfEmployment***), nearly a quarter (23.0% of $n = 3{,}476$) reported that they were in *Leader* positions, with the largest proportion (29.0% of $n = 1{,}088$) in the *USA*. Conversely, the average for managerial positions was 37.1% with the *USA* having the second lowest proportion (33.6%) and the *UK* having the largest proportion (50.5% of $n = 473$). *Canada* had the lowest proportion of *Manager* staff (24.4% of $n = 176$), but the highest of O*perational* staff (47.2%). Whether these differences represent structural differences in the organisation of RMA around the world, a difference in self-perception, or the local semantics of the definitions, is unclear. For example, some may see the word '*Manager*' and assume it pertains only to having subordinate staff, whereas others may view the management of a function, even if they are the only person in that function, as being managerial as opposed to administrative. Overall, it seems that the RAAAP-3 survey elicited responses from RMAs at a broad range of levels of seniority from the various regions of the world, see Fig. 2.2.5.

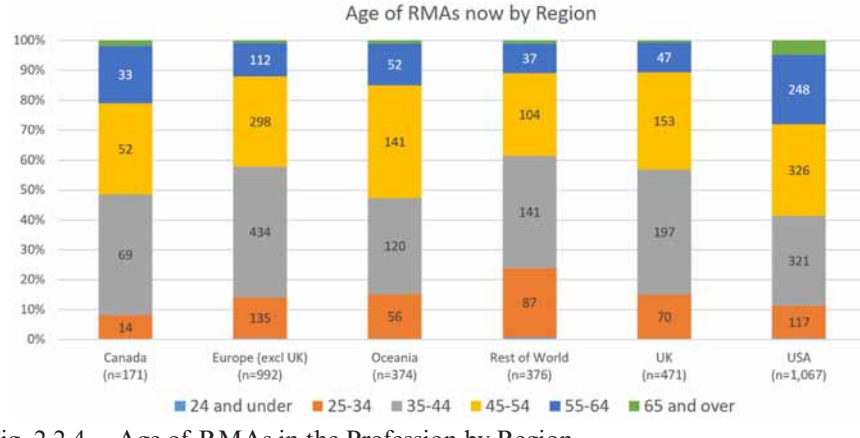

Fig. 2.2.4. Age of RMAs in the Profession by Region.

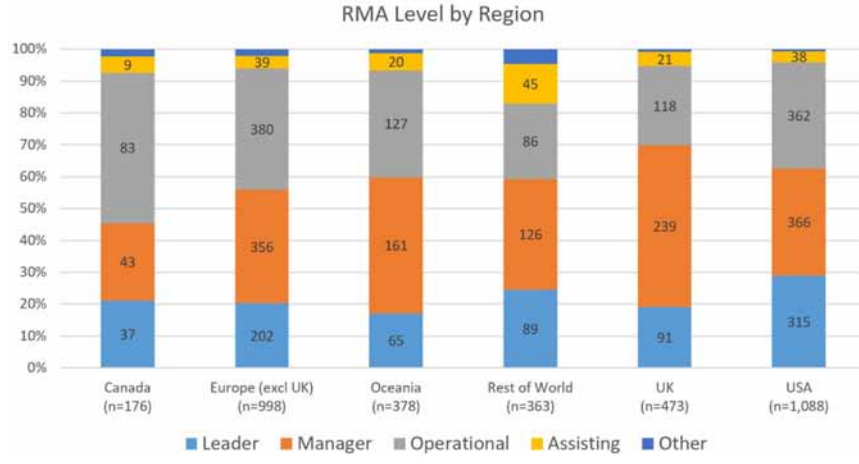

Fig. 2.2.5. The (Self-reported) Role Level of RMAs by Region.

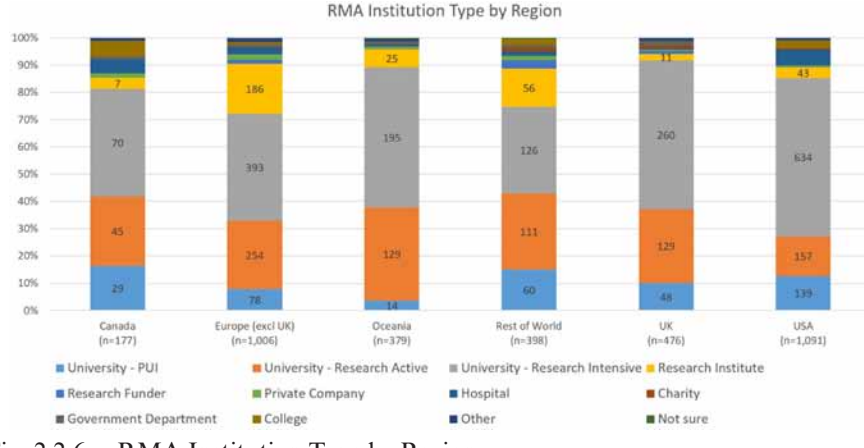

Fig. 2.2.6. RMA Institution Type by Region.

When asked what type of institution (***InstitutionCharacter2***) they worked in by Region (***AnalysisRegionOfEmployment***), the majority reported working in a *University – Research Intensive* (47.6% of $n = 3{,}527$). Fig. 2.2.6 shows this was true for each geographic region, with the *Rest of the World* reporting the lowest percentage (31.7% of $n = 398$) and the *USA* reporting the highest percentage (58.1% of $n = 1{,}091$). *University – Research Active* was the next highest designation of institution represented in the survey, with the highest percentage coming from *Oceania* (34.0% of $n = 379$) and the lowest from the *USA* (14.4%). Also in the university research ecosystem, we have *University – PUI* (Predominantly Undergraduate Institution) with 10.4% and *Research Institutes* with 9.3% of the responses. *Private Companies, Hospitals, Charities, and Colleges* all had representation, but the proportion of respondents was low. Whether this is due to there actually being fewer RMAs outside universities and research institutes, or that those working in non-traditional research areas are unaware of the RMA community and the professional associations that were largely responsible for the distribution of the survey is unclear, this is discussed by Santos et al. (2023, Chapter 2.5).

When using the macro-areas of Japanese taxonomy for RMA sub-areas of work (see Takahashi & Yoshioka-Kobayashi, 2016), which is looking at those that work in all of the subareas in each of the four major areas of '*Research Development and Policy*' (RDP, ***JRespFor_RDP***), '*Pre Award*' (***JRespFor_Pre***), '*Post Award*' (***JRespFor_Post***), and '*Other Areas*' (***JRespFor_Other***), we see similarities and differences across the ***AnalysisRegionOfEmployment***, shown in Fig. 2.2.7. Without exception in response to what parts of RMA do you work in, the most common area is '*Pre Award*', with globally 37.5% (of n = 3,389) of RMAs covering all the aspects. Almost ubiquitously RDP was the next most common area (26.8% globally) apart from the *USA*, where '*Post Award*' (28.0% of n = 1,075) outstrips RDP (22.2%). This is perhaps surprising, given the high proportion of leaders in the *USA*. Although this could potentially be explained by those leaders focusing on individual aspects or sub-areas of *RDP*, rather than macro-areas, which are displayed in this chart. Globally, those who work in all of the '*Other Areas*' is a low percentage (4.4%), this is perhaps unsurprising as some of these areas are at the border of what is generally accepted as RMA, and again, all of the sub-areas would need to be undertaken for the result to show in ***JRespFor_Other***.

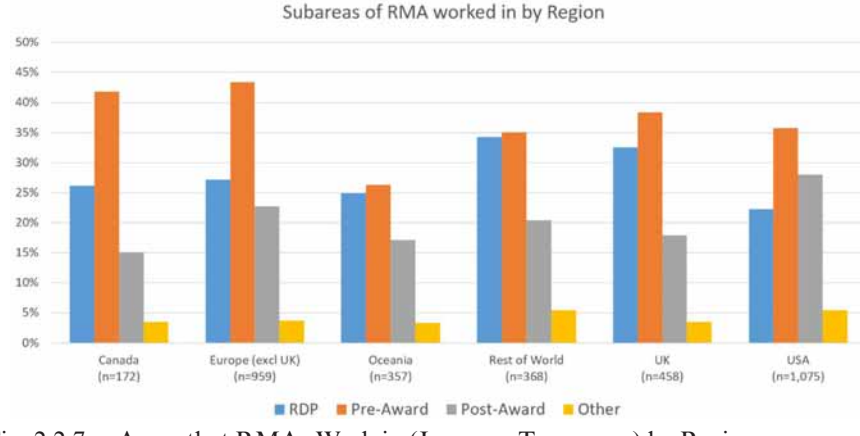

Fig. 2.2.7. Areas that RMAs Work in (Japanese Taxonomy) by Region.

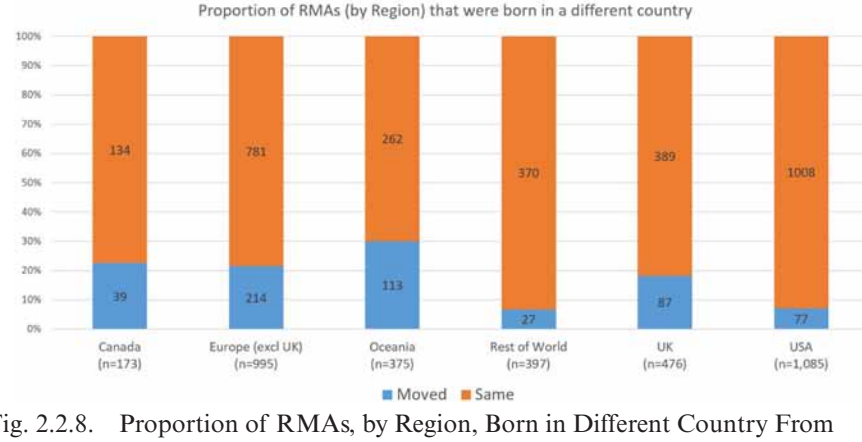

Fig. 2.2.8. Proportion of RMAs, by Region, Born in Different Country From Where They Now Work.

A measure of RMA geographic mobility is shown in Fig. 2.2.8 by comparing ***CountryOfBirth*** with ***CountryOfEmployment***, and shown by ***AnalysisRegionOfEmployment***. Note that a person that was born in the same country as they currently work, but had worked elsewhere in between would show as Same, whereas someone born abroad, perhaps on a trip, but had never ventured outside their country after that would show as Moved, so this metric should be treated with caution. However, overall 15.9% (of n = 3,501) of RMAs now work in a country where they were not born. Looking at the *UK* the 18.3% (of n = 476) is a little higher than the national average (14.5%[1]). *Oceania* sees the largest mobile workforce with 30.1% (n = 375). The *USA* (7.1% of n = 1,085) and the *Rest of the World* (6.8% of n = 397) have the lowest levels. The latter is difficult to comment on due to the large variety of countries included, whereas the former differs greatly from the national *USA* average of 17.4%.[2]

The survey included 42 professional associations around the world for RMAs to indicate their affiliations '*26. With which professional organizations are you affiliated?*' When five or more responses to the question '*26a Other Association(s): Please provide details*' included a particular association, backcoding the responses provided an additional 10 associations, giving a total of 52 professional associations. Fig. 2.2.9 shows the number of affiliations RMAs have with different associations (***Assoc_ACU_Member***. ***Assoc_UIDP_Member***, by region ***AnalysisRegionOfEmployment***). Of the 3,582 responses, 53.2% of RMAs have one affiliation, and 15.3% have two affiliations. Interestingly, as the survey was distributed mainly by INORMS member associations, 25.2% report not having any affiliation with any RMA association. Overall 21.6% of RMAs have two or more association memberships, but this is skewed by the 35.9% (of n = 1,092) in the *USA*, and the 23.3% (of n = 1,007) in *Europe (excluding UK)*. The former benefits from a large number of national associations, and the latter from a pan-European association and a number of national associations.

RMAs were asked to choose their '*20. Level of Academic Qualification Gained BEFORE becoming an RMA and DURING your time as an RMA*'. Fig. 2.2.10 shows a comparison of ***HighestQualification*** (computed from the highest of ***HighestQualBefore***

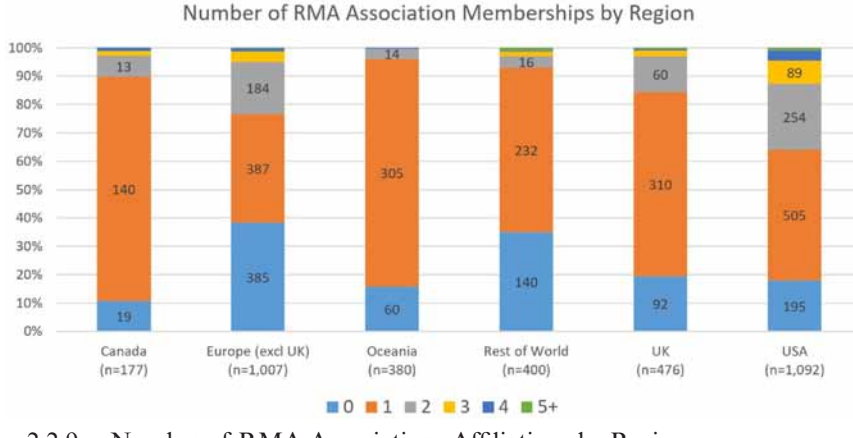

Fig. 2.2.9. Number of RMA Associations Affiliations by Region.

[1] https://migrationobservatory.ox.ac.uk/resources/briefings/migrants-in-the-uk-an-overview/
[2] https://www.bls.gov/news.release/pdf/forbrn.pdf

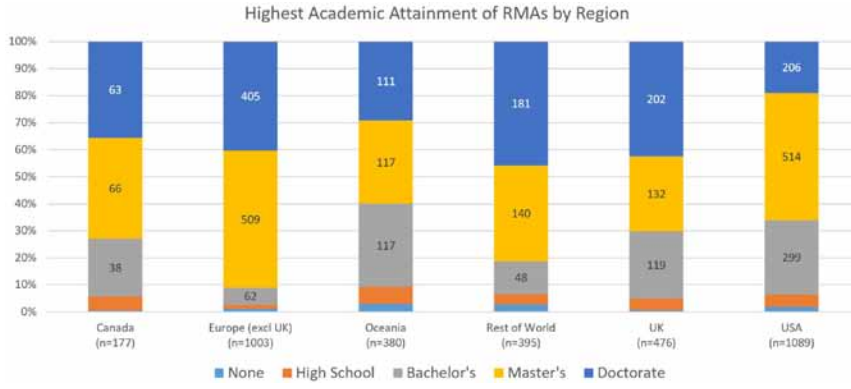

Fig. 2.2.10. Highest Academic Qualifications of RMAs, by Region.

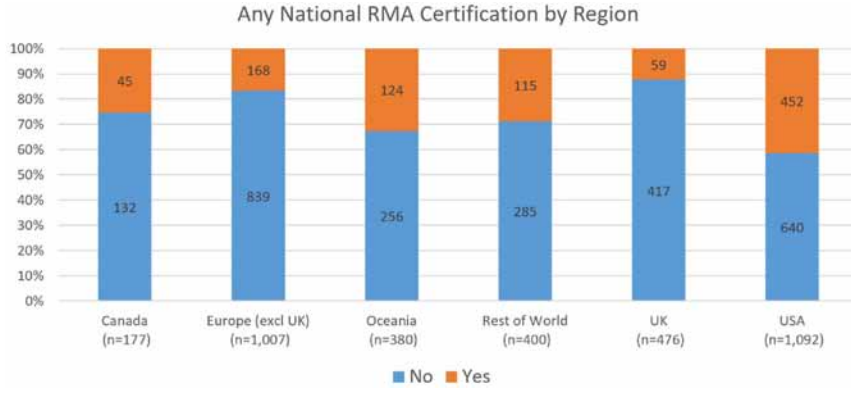

Fig. 2.2.11. Professional Accreditation of RMAs by Regions.

and ***HighestQualDuring***) by ***AnalysisRegionOfEmployment***. Of the RMAs who responded to this question, 42.0% (n = 3,520) have a *Master's* degree, and a further 33.2% have a *Doctorate* degree, with 19.4% having a *Bachelor's* degree. In terms of *Master's* degrees, the largest proportion was in *Europe (excluding UK)* with 50.7% (of n = 1,003), and the next largest proportion was 47.2% (of n = 1,089) from the *USA*. Looking at RMAs with *Doctorate* degrees, the *Rest of the World* has the highest proportion (45.8% of n = 395) of RMAs with the UK (42.4% of n = 476) and *Europe (excluding UK)* (40.4% of n = 1,003) not far behind. Overall the RMA profession is highly academically qualified. The high proportion of *Doctorates* is likely associated with the number of RMAs who have moved from research with 25.1% (of n = 3,334) indicating that '*I was previously an academic/researcher and moved into research administration*' being a top factor in their becoming an RMA (see Dutta et al., 2023).

The RAAAP-3 survey also asked '*21. Please select all professional accreditation that you have related to research management and administration*'. Fig. 2.2.11 is an analysis of ***AnyCRA*** (a computed variable from any positive response to the options ***PQ_AU_ARMF*** . ***PQ_OTHER***) by ***AnalysisRegionOfEmployment***. Across regions, 27.3% (of n = 3,532) of RMAs had at least one certification. Certification was the highest in the *USA* at 41.4% (of n = 1,092) and lowest in the *UK* at 12.4% (of n = 476) and *Europe (excluding UK)* at 16.7% (of n = 1,007). This is probably related to the length of time

that RMA-specific certification has been available in the various regions – nearly 30 years in the *USA*, and fewer than 10 in the *UK* and *Europe (excluding UK)*.

Summary and Reflections

The high number of respondents who included geographic data (n = 3,532) provides an important illustration of the Research Management and Administration community, with interesting insights into the profession around the world.

The profession is dominated by females in all regions of the world, but with less polarisation in the *Rest of the World* where RMA is a newer profession than in other regions. In terms of age range, the largest proportion of respondents entered the profession between the ages of *25 and 34*, followed by the *35–44* age range, with some differences between regions of the world. *Canada* and *USA* have the largest proportion of older RMAs in their current role. When contrasting the age range of those entering their first RMA role and respondents' current age ranges, the largest proportion of respondents reported their current age in the *35–44* range, followed by the *45–54* age range. A possible reason is that the longer you are in the profession, the more opportunities you have to engage in the RMA associations and they were the main dissemination channel of the survey.

High levels of academic qualifications characterise the RMAs who responded to the survey, with 42.0% having a *Master's* degree, 33.2% a *Doctorate* degree, and 19.4% a *Bachelor's* degree. The high proportion of *Doctorates* can possibly be explained by the 25.1% of RMAs who moved from research into RMA (see Dutta et al., 2023), suggesting a link between these two professions. The large majority of respondents (81.4%) reported working in the University context, mostly in a *University – Research Intensive* (47.6%), but *University – Research Active* (23.4%), *University*, and *Research Institutes* (10.4%) also had high proportions of respondents. This could, potentially, be an identity issue, with RMAs who work in other types of organisations unaware they work in Research Management and Administration (see Santos et al., 2023, Chapter 2.5). Overall, the RAAAP-3 survey elicited responses from RMAs at a broad range of levels of seniority and areas of RMA work from the various regions of the world. When looking at the level of seniority, the majority of respondents identified their role as either *Manager* or *Operational*. Though these terms may be interpreted differently in different regions, more people indicated they work somewhere in the middle of the professional hierarchy, with fewer selecting *Leader* and *Assisting*. Drilling down more, when asked what sub-area of work they were employed, the most common area was *Pre-Award*, followed by *Research Development and Policy,* and then *Post-Award*.

Across regions, more than a quarter of all respondents reported having at least one RMA-specific certification (27.3%). There was variation within the regions, with the *USA* having a higher proportion responding in the affirmative (41.4%), this could be related to the length of time that these certifications have been available. Another indicator of professionalisation is the creation and engagement with RMA professional associations. As stated above, 42 professional associations were presented as options in the survey, and another 10 were added due to having 5 or more unique respondents report an affiliation, for a total of 52 professional associations. Globally, over half (53.2%) of respondents reported affiliation with one association and over one-fifth (21.6%) with two or more associations. It is perhaps surprising that over a quarter (25.2%) reported having no RMA association affiliation given the primary method of distribution of the survey was through the associations.

In summary, RMA is a recognised profession across the world, with different levels of development and maturity in each region's professional communities. Even given these differences in maturity, it is clear that RMA is ubiquitous, and supports all elements of the research lifecycle.

Acknowledgements

We would like to thank the thousands of research managers and administrators around the world who took the time to complete the survey. In particular the authors would like to acknowledge the various RAAAP-3 champions and their respective associations in INORMS and beyond for disseminating and promoting the survey.

References

Dutta, M., Oliveira, C. I., Fischer, M., & Kerridge, S. (2023). Routes into research management and administration. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 125–140). Emerald Publishing.

Fischer, M., Kerridge, S., Oliveira, C. I., & Dutta, M. (2022). *RAAAP-3 HIBARMA questionnaire (Version 3)*. figshare. https://doi.org/10.6084/m9.figshare.20459370.v3

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Kerridge, S., & Scott, S. F. (2018a). Research administration around the world. *Research Management Review*, *23*(1), 34.

Poli, S., Kerridge, S., Ajai-Ajagbe, P. A., & Zornes, D. (2023). In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 141–151). Emerald Publishing.

Santos, J. M. R. C. A., Varela, C., Kerridge, S., & Fischer, M. (2023). Where do RMAs work? In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 155–166). Emerald Publishing.

Shambrook, J., Lasrado, V., Roberts, T. J., & O'Neal, T. (2015). *2015 Profile of a research administrator*. https://srainternational.org/sites/default/files/documents/Shambrook,%20Jennifer.pdf

Takahashi, M., & Yoshioka-Kobayashi, T. (2016). Understanding URAs in Japan: A conceptual framework for unified comprehension to diversified roles of URAs. *The Journal of Science Policy and Research Management*, *31*(2), 223–235.

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Chapter 2.3

Routes into Research Management and Administration

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Abstract

This chapter presents results from the 'How I Became a Research Manager and Administrator' (HIBARMA) section of the 2022 Research Administration as a Profession (RAAAP-3) global survey of Research Managers and Administrators (RMAs). Here we focus on routes into the profession, the skills that were useful in gaining that first RMA role and the career satisfaction of individuals. In addition, we look at some of the qualitative feedback from the survey questions to present an overall picture of the variety of backgrounds and routes that can lead people to the field of RMA. Finally, illustrative vignettes highlight the diversity of routes into the profession and some common themes attracting professionals to 'the best job of all' (Andreson, 2016) – Research Management and Administration.

The Emerald Handbook of Research Management and Administration Around the World, 125–140

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Keywords: RAAAP; HIBARMA; career; profession; routes into the profession; skills; career satisfaction; role

Introduction

Previous surveys (including previous iterations of RAAAP) have provided some information about routes into the profession. There have been a few recent initiatives for collecting testimonials and personal stories that have added colour and context. This chapter will summarise these findings and initiatives and focus on the results of the third iteration of the RAAAP survey which included a section on HIBARMA. We will look at various types of backgrounds and skills that RMAs brought with them to the profession, along with their level of knowledge about what this field entails. We will explore career satisfaction and perceived challenges. Finally, we will present some excerpts from respondents' text, highlighting a few of the fascinating background stories, along with a few of their reasons for entering the profession, frustrations, and passion for the field of research management and administration and the RMA community. Overall, we will see that while there are some common routes into the profession, RMAs can come from just about any conceivable background.

Methodology

RAAAP-3 is the third iteration of the Research Administration as a Profession survey, initially funded by NCURA (Kerridge & Scott, 2018a). The first survey was conducted in 2016, and the second in 2019, but the focus of this chapter is the 2022 survey. Each survey included common elements in relation to RMA demographics as well as a guest section. For this third iteration, the additional questions (Fischer et al., 2022) focused on its routes into the profession, giving RAAAP-3 the subtitle 'HIBARMA' (How I Became a Research Manager and Administrator). As with the previous iteration, the survey was endorsed by the International Network of Research Management Societies (INORMS). As such, the 20 or so member organisations were committed to disseminating the survey to their members. While exact numbers are difficult to derive due to overlapping memberships, it is estimated that the survey was distributed to around 30,000 individuals.

The survey was constructed with feedback from INORMS members in the latter half of 2021, received ethical/IRB approval from the co-principal investigators' institutions, and then tested before launch in January 2022. It remained open until May 2022, to allow the various associations to schedule reminders into their standard communications schedules.

Following the survey closure a process of data cleansing, anonymising, and limited back coding was undertaken – for example, when a country was not selected but an institution was provided.

Results

In total, there were 5,076 responses (Kerridge, Dutta, et al., 2022), however, only 3,532 provided geographic location from 66 countries (***CountryOfEmployment***). As for previous RAAAP survey iterations, these were grouped into the following ***AnalysisRegionofEmployment***: 30.9% (of n = 3,532) from the *USA*; 28.5% from *Europe (excluding UK)*; 13.5% from the *UK*; 10.8% from *Oceania*; 5.0% from *Canada;* and 11.3% from all other areas, aggregated into *Rest of the World*.

The following results focus on the questions related to entrance into the Research Management and Administration Profession, included either in Part A of the survey or Part C, specially dedicated to understanding – How I Became a Research Manager and Administrator (HIBARMA). As mentioned before, this is not a representative sample of the RMAs around the world, but, taking into consideration the high number of completed responses obtained, it is still a useful snapshot of the profession and the only study bringing together data from the different regions of the world. The results presented could then lead to further studies and discussions on the matter.

When asked, see Fig. 2.3.1, '*17. How did you come to work in research management and administration?'* (***JoinRAReason***) across the world (***AnalysisRegionOfEmployment***), more than half (59.2% of n = 3,523) reported that they came to the profession because it was a job they *Applied* for ('*perhaps one of many when you were looking for a job*'), indicating many may not have been seeking out RMA when they applied. The largest proportions of those who just *Applied* were in the *UK* (70.8% of n = 476) and in *Canada* (68.9% of n = 177). It is worth noting that coming to the profession by intentional *Choice* was the second highest response in general (21.2%) in all the analysed regions except in the *USA*, where *Other reasons* (14.9% of n = 1,090) to come into the profession was a little higher than by *Choice* (13.5%). Coming to the profession because of being *Moved by the leadership or supervisor (not by choice)* was the least common reported option overall (8.7%). This observation holds true for each region, except in the *Rest of the World* where almost a quarter of respondents (23.5% of n = 396) reported being moved to the profession.

Considering that most of the respondents came to the profession just because a job was available, it is worth trying to understand what made them apply for the position.

With the next question, see Fig. 2.3.2, '*18. How important were the following factors to move into research management and administration?',* respondents were asked to rank several factors that contributed to their move into RMA. When analysing all the factors, the only one considered by the majority of respondents to be '5 Really important/relevant' or '4' (5 and 4 on the 5-point Likert-type scale) was '*It was a profession I felt my skills would be a good match for*' (***JoinRASkillsMatch***) (69.1% of n = 3,436). Following that, the fact that '*A position was available, so I applied and got the job, even though I did not have any experience*' (***JoinRAJustApplied***) was rated 5 or 4 on the Likert-type scale for almost half of the respondents (47.9% of n = 1,610). The next most common

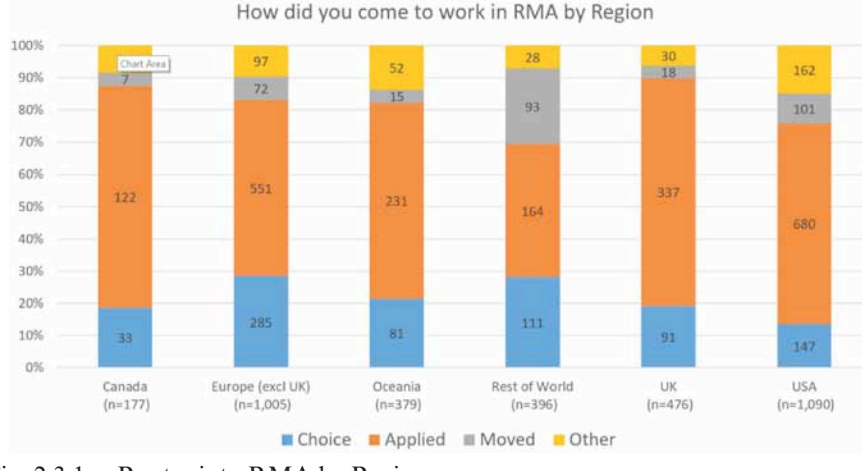

Fig. 2.3.1. Routes into RMA by Region.

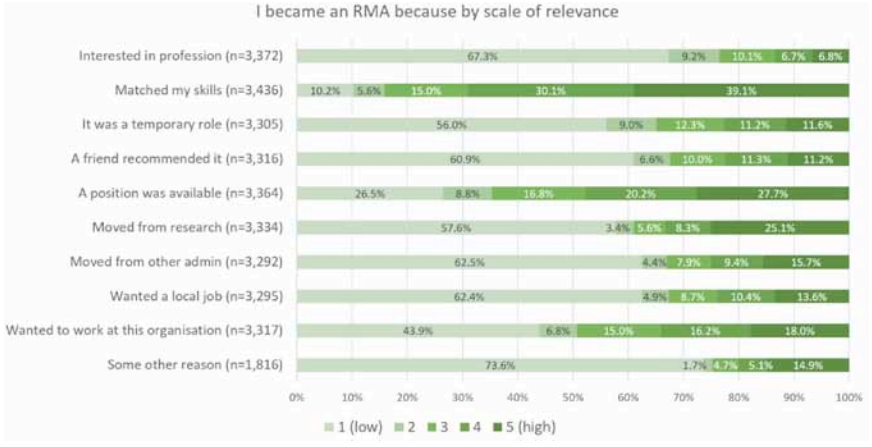

Fig. 2.3.2. Factors to Become an RMA by the Scale of Relevance.

factors were '*I wanted to work at this particular University/College/etc …*' (***JoinRAUni***) (34.2% of $n = 3{,}317$) and '*I was previously an academic/researcher and moved into research administration*' (**JoinRAResearcher**) (33.4% of $n = 3{,}334$). While some factors are highly important, it seems that all these factors were important to some.

When analysing these factors in the different regions of the world (***Analysis-RegionOfEmployment***) and considering the top two responses on the Likert-type scale, we do not see many differences across the world, Table 2.3.1. However, for '*It was a profession I was interested in while studying*' (***JoinRAInterested***), which was the least important factor overall (13.5%), was one of the top reasons for the *Rest of the World* region (37.6% of $n = 370$). This suggests, perhaps counterintuitively, that while RMA is a somewhat hidden profession in most of the world, even where it has been around for over 50 years such as in the *USA* and *Canada*, in other parts of the world where it is newer, there is more visibility.

Considering that most of the respondents reported that the matching of skills was relevant or very relevant to their move into the RMA profession, it is then useful to explore what these skills are.

When asked '*36. What skills/experience do you believe helped you get your first RMA role?',* respondents could select from a list of 15 different skills/experiences, plus '*Other (please give details)*', Table 2.3.2. The top five skills selected by the respondents across the world were '*Organisational skills'* (***SkillOrganisational***) (72.1% of 3,465), '*Communication skills'* (***SkillComms***) (69.7%), '*Motivation to learn new things'* (***SkillLearning***) (67.8%), '*Team player/personable'* (***SkillTeam***) (63.3%), and '*Attention to detail'* (***SkillDetail***) (63.1%). On the other hand, the least selected skill was '*Training/Certification in some aspect of RMA*' (***SkillTraining***) (8.0%), probably suggesting that very few respondents come to the profession already possessing training or certification in RMA subjects, rather than that those certifications are not valued.

There is not much regional variation in these top-rated skills with the notable exception of *Rest of the World*. There, the top attribute was *Research experience* (***SkillResearch***) (57.3% of $n = 391$) and the second most useful was *Interest in Research* (***SkillResearchInterest***) (52.7%). Perhaps a greater tradition in moving to the RMA profession from previous research positions may explain that divergence. A noticeable outlier is the importance of '*Prior experience in international contexts*' (***SkillInternational***) which for *Europe (excluding UK)* at 39.2% (of $n = 990$) is much higher than the

Table 2.3.1. Factors considered important for becoming an RMA by Region

	Canada (n=82-173)	Europe (excl UK) (n=516-984)	Oceania (n=204-371)	Rest of World (n=235-376)	UK (n=233-469)	USA (n=546-1,063)	Total (n=1,816-3,436)
Interested in profession (a)	9.4%	13.7%	8.9%	37.6%	8.0%	9.3%	13.5%
Matched my skills (b)	71.1%	70.2%	66.6%	63.8%	72.5%	69.0%	69.1%
It was a temporary role (c)	26.8%	25.2%	28.5%	24.9%	21.3%	17.7%	22.7%
A friend recommended it (d)	22.6%	19.3%	25.5%	26.5%	16.0%	26.0%	22.6%
A position was available (e)	49.4%	48.5%	49.7%	40.7%	45.6%	49.7%	47.9%
Moved from research (f)	37.4%	44.5%	33.6%	44.3%	37.7%	16.7%	33.4%
Moved from other admin (g)	24.7%	20.3%	31.7%	27.2%	31.3%	23.8%	25.1%
Wanted a local job (h)	30.4%	19.2%	19.7%	13.0%	31.3%	29.2%	24.0%
Wanted to work at this organisation (i)	36.8%	28.5%	30.0%	35.7%	31.9%	41.1%	34.2%
Some other reason (z)	30.5%	15.5%	20.1%	18.3%	24.9%	21.4%	20.0%

Table 2.3.2. Skills and experiences that helped to get the first RMA role by Region

	Canada (n=176)	Europe (excl UK) (n=990)	Oceania (n=374)	Rest of World (n=391)	UK (n=472)	USA (n=1,062)	Total (n=3,465)
Research experience	59.7%	47.0%	43.0%	57.3%	48.3%	25.2%	41.9%
RMA	42.0%	35.7%	23.3%	33.2%	28.0%	30.7%	31.8%
Training/ Certification	8.5%	9.6%	5.6%	17.6%	2.8%	6.0%	8.0%
Multitasking	65.9%	61.7%	51.1%	46.8%	58.5%	63.7%	59.2%
Attention to detail	77.8%	48.4%	68.7%	44.0%	62.9%	79.6%	63.1%
Organizational skills	76.1%	73.2%	77.0%	47.1%	78.8%	75.0%	72.1%
Interest in Research	71.0%	57.2%	55.1%	52.7%	60.0%	40.2%	52.3%
Research organisation experience	64.8%	52.5%	57.2%	39.9%	55.9%	37.9%	48.2%
Team Player	68.8%	58.4%	66.3%	40.9%	69.1%	71.8%	63.3%
Data interpretation	55.1%	45.8%	53.7%	39.6%	63.3%	57.6%	52.4%
Communication skills	75.6%	60.9%	77.5%	51.4%	77.8%	77.2%	69.7%
Learning new things	64.2%	68.3%	58.8%	51.4%	64.0%	76.2%	67.0%
International skills	14.2%	39.2%	13.9%	17.9%	16.5%	6.8%	19.8%
Problem Solving	63.6%	56.5%	62.8%	41.2%	61.7%	68.4%	60.1%
Integrity	60.2%	45.6%	50.0%	46.8%	44.1%	64.6%	52.6%
Service Culture	44.9%	39.1%	46.3%	27.9%	34.7%	48.8%	41.3%
Other skills	8.0%	6.2%	11.8%	3.3%	7.4%	10.7%	8.1%

other regions. It is also interesting to observe the differences across the world concerning the number of skills highlighted as relevant by at least 50% of its respondents. In *Canada* and in *Oceania*, 11 skills were selected by more than 50% of its respondents, in *UK* this number was 10, in *USA* 9, in *Europe (excluding UK)* 8, but in the *Rest of the World* only 4 skills were selected by more than 50% respondents from this region.

Considering that across the world more than half of respondents (59.2% of $n = 3{,}523$) came to the profession because '*It was a job I applied for (perhaps one of many when you were looking for a job*' (*Applied*), we thought it would be interesting to understand what their initial career plan was before becoming an RMA.

When asked '*34. What career did you intend to pursue before becoming an RMA?*' (***CareerPlan***), across the world, more than a quarter (28.4% of $n = 3{,}288$) wanted to pursue a *13. Scientific* career, the next most popular career area was *16. Education* (16.0%, $n = 525$) and 13.6% ($n = 447$) reported they had *No plan* for their career. Careers in *14. Administration* (9.7%,), *17. Health* (6.4%), and *11. Finance* (6.1%) was the next most popular career areas plans for RMAs when they started thinking about possible professions.

Note that, in both Tables 2.3.3 and 2.3.4 where no individual cell in a column exceeded 4.0%, those columns were combined (in order to reduce the number of columns in the table, and hence aid readability) into the first column show (1.9,12,20.21 – Various). Also, note that none of the columns had all 0.0% entries.

Similar results are obtained when comparing the ***CareerPlan*** in the different regions across the world (***AnalysisRegionOfEmployment)***. Pursuing a *13. Scientific* career was the top initial career plan in all regions, followed by a career in *16. Education* was the second most selected career, except in the *UK* where the option *No plan* occupied the second position (24.2% of $n = 454$). It is also worth noting that in the *USA* a career in *11. Financial* had a relatively high proportion of responses (11.6% of $n = 1{,}033$), coming in third with the same number of responses as *No plan*.

Clearly a large proportion of RMAs did not plan a career in Research Management and Administration. Looking at their most recent career area might shed some light onto how they found their way into the profession. For that, respondents were asked '*Thinking about what you did* ***before you became a research manager and administrator****, for the (up to 3) most important role/jobs that you had, please indicate the approximate number of years, select the best fit of industry sector for your role (not your employer as a whole), …*' and here we look at the responses to 'Most Recent pre-RMA role' *(**PreRMARoleAreaRecent**)*.

The results are similar to the responses regarding career plans, with almost one-quarter of the respondents working in the *13. Scientific* (23.5% of $n = 2{,}802$) area before coming to the RMA profession, followed by the area of *16. Education* (22.7%) and with *14. Administration* (20.7%) becoming more prominent. A possible explanation is that a great proportion of RMAs started by working in the University (part of *16. Education*) sector and then moved to Research Management and Administration – worldwide 81.4% (of $n = 3{,}527$) RMAs work in Universities – see the discussion of ***InstitutionCharacter2*** in Chapter 2.2, Oliveira, Fischer, et al. (2023).

We do see that RMAs can come from any sector into the profession. Considering this diversity, it can be important to understand *'35. What were the top challenges in your initial role in RMA?*'. For this question, respondents were asked to select from a list of nine challenges, with the option to identify *Other* challenges and to register that *No challenges* were faced.

Table 2.3.3. Career planned before being an RMA by Region

	Canada (n=172)	Europe (excl UK) (n=909)	Oceania (n=354)	Rest of World (n=366)	UK (n=454)	USA (n=1,033)	Total (n=3,288)
1. Agriculture	3.5%	2.0%	1.4%	2.2%	0.4%	0.6%	1.4%
2. Mining	0.0%	0.1%	0.3%	1.1%	0.0%	0.0%	0.2%
3. Manufacturing	0.0%	0.6%	0.6%	2.7%	1.1%	0.5%	0.8%
4. Electricity	0.0%	0.1%	0.0%	0.5%	0.0%	0.0%	0.1%
5. Water supply	0.0%	0.8%	0.0%	2.5%	0.4%	0.0%	0.5%
6. Construction	0.0%	0.0%	0.6%	1.1%	0.7%	0.0%	0.3%
7. Retail	0.0%	0.1%	0.0%	0.5%	0.0%	0.3%	0.2%
8. Transportation	0.0%	0.3%	0.3%	0.5%	0.0%	0.1%	0.2%
9. Accommodation	0.0%	0.1%	0.0%	0.3%	0.4%	0.3%	0.2%
10. Information	0.6%	4.1%	3.7%	7.1%	3.3%	3.1%	3.8%
11. Financial	4.7%	4.2%	3.7%	3.6%	1.8%	11.6%	6.1%
12. Real estate	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.1%
13. Scientific	27.9%	35.3%	33.3%	29.0%	28.9%	20.3%	28.4%
14. Administration	8.7%	9.8%	11.6%	6.6%	8.1%	10.8%	9.7%
15. Public administration	4.1%	4.6%	2.5%	4.9%	1.5%	2.6%	3.3%
16. Education	25.6%	12.0%	14.1%	18.3%	16.5%	17.4%	16.0%
17. Health	6.4%	3.3%	7.3%	6.6%	4.6%	9.5%	6.4%
18. Arts	2.3%	2.3%	4.8%	0.8%	4.6%	5.4%	3.7%
19. Other services	3.5%	3.6%	3.7%	3.8%	2.9%	5.0%	4.0%
20. Homeworking	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.1%
21. Overseas	1.2%	2.5%	0.0%	0.8%	0.4%	0.3%	1.0%
No plan	11.6%	14.1%	12.1%	7.1%	24.2%	11.6%	13.6%

Table 2.3.4. Area of most recent job before RMA by Region

	Canada (n=172)	Europe (excl UK) (n=909)	Oceania (n=354)	Rest of World (n=366)	UK (n=454)	USA (n=1,033)	Total (n=3,288)
1..9,12,20..21 - Various	4.7%	6.7%	3.1%	12.3%	3.5%	2.5%	5.1%
10. Information	0.6%	4.1%	3.7%	7.1%	3.3%	3.1%	3.8%
11. Financial	4.7%	4.2%	3.7%	3.6%	1.8%	11.6%	6.1%
13. Scientific	27.9%	35.3%	33.3%	29.0%	28.9%	20.3%	28.4%
14. Administration	8.7%	9.8%	11.6%	6.6%	8.1%	10.8%	9.7%
15. Public administration	4.1%	4.6%	2.5%	4.9%	1.5%	2.6%	3.3%
16. Education	25.6%	12.0%	14.1%	18.3%	16.5%	17.4%	16.0%
17. Health	6.4%	3.3%	7.3%	6.6%	4.6%	9.5%	6.4%
18. Arts	2.3%	2.3%	4.8%	0.8%	4.6%	5.4%	3.7%
19. Other services	3.5%	3.6%	3.7%	3.8%	2.9%	5.0%	4.0%
No plan	11.6%	14.1%	12.1%	7.1%	24.2%	11.6%	13.6%

Across the world, the top challenges reported by the respondents were the '*Lack of knowledge, expertise'* (***ChallengeLackOfKnowledge***) (59.9% of *n* = 3,446), the '*Lack of training'* (***ChallengeLackOfTraining***) (43.1%), the '*Unclear career framework/job architecture at the institution*' (***ChallengeCareer***) (34.3%), and '*Not having a professional network for support'* (***ChallengeNoNetwork***) (30.5%). The selection of these as top challenges can be related to the fact that most of the respondents came to the profession without a previous experience or knowledge about it, or specialised training. The absence of a clear career framework, and many times clarification about the profession and its roles, is also an added difficulty, intrinsically related to the '*Lack of professional recognition/lack of respect'* (***ChallengeRecognition***) (21.3%, *n* = 735). A very low number of respondents (4.8%) reported '*I had no challenges'* (***ChallengeNone***) in their first role as RMA.

Across the world (***AnalysisRegionOfEmployment***), similar challenges are faced by RMA professionals (Table 2.3.5). It is particularly interesting to observe that, even in regions where the profession exists for a longer period, such as in the *USA* and *Canada*, the '*Unclear career framework/job architecture at the institution*' is reported by the respondents to be in the top three challenges. One notable regional difference is for the challenge '*Not a permanent position*' (***ChallengePermanent***) (23.3%) which is much lower in the *USA* (6.8% of *n* = 1,048). This could be related to the mainstreaming of RMAs due to the age of the profession in the US, but this is not reflected in *Canada* (33.0% of 176) where permanency is a sizeable issue for those joining the ranks of RMA.

Regardless of the challenges mentioned above, and when asked *'37. Are you satisfied with your career choice in RMA?'*, most of the respondents are satisfied with their career choice '*Yes*' (56.3% of *n* = 3,474) or '*Mainly*' (34.3%). Combining these two responses gives an overall career satisfaction of 90.6%, as compared to the responses for 'A little' (5.0%), 'No' (1.2%), and 'Not Applicable – this is just a job, not a career' (3.2%).

Taking this metric of RMA career satisfaction (***Career Satisfaction*** = *Yes* or *Mainly),* then satisfaction ranges from 94.1% (of *n* = 1,002) in the *USA* to 86.5% (of *n* = 385) in the *Rest of the World*, as shown in Fig. 2.3.3.

Case Studies

Through the RAAAP-3 survey, not only did we obtain rich quantitative data as above, but also insights from real-life experiences of RMAs reflecting some of their interesting background stories, biggest challenges, and enthusiasm for this profession.

For instance, when participants were asked to provide detailed information on their previous roles before they became an RMA, there was a free text box '*33a. Please give details'*. We received some responses that reflected traditional career paths of higher education, doctoral study, and research. However, we also obtained responses from those arriving from very different sectors, for example, journalists, national park rangers, the retail industry, theatre artists, etc. This supports the premise that RMA is an area where transferable skills are important. Below are some quotes from RMAs, together with their personal context. Note that **emphasis** has been added by the authors.

Table 2.3.5. Top challenges in the initial role in RMA by Region

	Canada (n=176)	Europe (excl UK) (n=980)	Oceania (n=371)	Rest of World (n=391)	UK (n=470)	USA (n=1,058)	Total (n=3,446)
No Network	27.3%	34.1%	25.9%	36.6%	28.5%	27.9%	30.5%
Lack of Knowledge	58.0%	56.7%	55.3%	54.0%	53.8%	69.8%	59.9%
Lack of training	44.3%	41.9%	36.9%	48.8%	33.8%	48.2%	43.1%
Understanding the culture	21.6%	17.2%	27.5%	24.8%	25.5%	25.6%	23.1%
New profession	20.5%	27.3%	12.9%	23.3%	20.9%	16.3%	20.7%
Lack of professional recognition	22.2%	26.0%	17.5%	19.4%	21.7%	18.7%	21.3%
No permanent position	33.0%	31.1%	31.8%	25.8%	31.5%	6.8%	23.3%
Unclear Career Framework	35.2%	36.3%	31.0%	35.0%	38.3%	31.3%	34.3%
Lack of institutional policies	21.0%	28.6%	14.0%	28.4%	17.7%	16.4%	21.4%
Other Challenge	18.2%	10.4%	17.3%	6.1%	16.4%	13.7%	12.9%
No challenge	5.7%	5.0%	8.4%	2.6%	3.8%	4.5%	4.8%

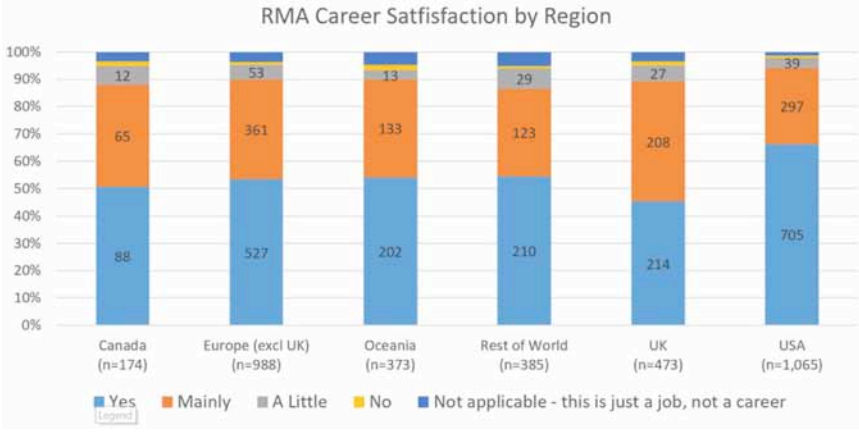

Fig. 2.3.3. RMA Career Satisfaction by Region.

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*'I was working as a consultant with The Economist Intelligence Unit (**Economist Impact** today) prior to my current RMA, and before that as a **public servant** in the city hall of the largest city in Latin America'.*

This professional has been employed in an operational role for less than 5 years. They started as a Research Assistant, developed an impact framework, and presently work as a Research Impact Officer.

*'Most recent pre-RMA role: **Interpreter** (in the sense of resource education) at a historic site. Other pre-RMA role: Various one-off projects for state parks. Longest-ago pre-RMA role: **Trail work and similar duties in federal parks** and forests'.*

This RMA is in an operational role for 10–14 years. Within the RMA profession, they started as a Principal Investigator of a USAID-funded project in the peace corps. Now they work in export compliance.

*'I have worked in Mental Health since 1995. I was a **psychotherapist** in private practice for the past 8 years. I was a **home based therapist** with court involved youth for the 8 years before that. I was in graduate school before that. I was a **substance abuse counselor** for 8 years before that'.*

This professional has recently started their career as an RMA, supporting pre- and post-award duties.

*'**TV/Film editor**, previously **swimming teacher** and **swim programme manager'**.*

As an RMA for the past 5 years, this professional is now working in a permanent position as a Research Manager in a clinical trials unit within a higher education organisation.

*'In New Jersey, I had been a **certified Probation Officer** within the Cumberland County's community service program with a caseload of adults and juveniles that I placed in positions to complete their court mandated hours, handled compliance, reports, and closing cases. Prior to that I was a certified **Probation Investigator** within the IV-D (Child Support Unit) where I worked a caseload of 600–700 orders. …*

*For 4-years, I worked **international exports** of veneer logs to Italy, Germany, Japan, Taiwan etc. I handled the financial end of the business (the books, payroll, insurance, and contracts). During the summer, when the sap ran, I worked part time and attended college to finish BA. This was a fascinating job, where I dealt with business men primarily, and included instances of death, theft and murder'.*

A seasoned RMA for the past 30 years, this professional is a Research Administrator II and in a managerial role in their organisation.

When asked to provide '*17a. Please give details*' following the question '*17. How did you come to work in research management and administration?*', the responses were equally insightful. Some mentioned that it happened accidentally, some joined simply due to the availability of a position or a stable salary; still others felt that RMA offered better work life balance.

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*'Fell into RMA somewhat **accidently** – I was sessionally teaching and took a short fixed term opportunity in RMA over the summer. Ended up thoroughly enjoying it and before I knew it, I was in deep'.*

An RMA for the past 9 years, this professional initially started as grants development support and is now a functional and programmatic lead for all library-delivered research support at their organisation.

*'I had a rich experience with **project management outside academia**, I also worked as a project management lecturer at university for a while (before maternity leave), and I had experience of working in a Tech. startup. I was looking for a **stable enough work environment** where I could use and further develop my skills and combine them with my family duties (work-life balance). I had no idea RMAs were a "Thing", but I'm very excited about the whole movement now. I also started studying my second Masters in Research Management. I love this course'.*

This RMA has been a Project Administrator for the past 3 years.

*'I moved into this after having children – I found research administration more **family friendly**. I was able to find a part time job (almost impossible in other research roles) and it seemed **less dog eat dog competitive** – I knew I didn't have the time or stamina to compete with those without children. I actually discovered I **enjoyed it more than research** so I stayed'.*

As a Project Manager for an NIHR-sponsored project, this RMA has been in this profession for the past 3 years.

*'I was just an administrative assistant. Until we had a researcher panicking and yelling in the hallway one day because they **had a proposal due that day** and his admin didn't know what to do/how to help. **I stepped in, calmed him down**, and helped get the **proposal submitted. It hasn't stopped since**'.*

This RMA started as an Administrative Assistant in the department of Chemistry in their organisation 15–19 years ago. Currently, in a leadership position, they work as Manager for Training & Development in Sponsored Projects Services.

*'I applied for the role of Impact Officer when I finished a fixed-term lectureship (which came straight after my PhD). I felt my expertise in **participation in theatre** would translate well to impact work, but it has been even more fitting a role that I thought when I first applied to it. When I applied I didn't consider it as a longer term career, but now that my **role has broadened** in terms of responsibility and includes research it has become my **preferred career path**'.*

This RMA started as an Impact Officer 4 years back. This is their first RMA role and they manage and support research impact for their university.

We were also interested to find out why some RMAs remained in their career of service for a long time *'19b. If you would like to provide more information (on why you stayed or why you are planning on leaving/have left research administration*) please do so'. What makes them stick to this profession? Some were in this sector for their love of research and new learning, some with the ability to be supportive to others, and a few liked the salary this profession offered. Some also provided their perceptions, positive and negative, on how researchers and faculty members view RMAs.

'I don't think I'm naturally inclined towards a service role but I ***like that I get to exercise creativity, autonomy, critical thinking, writing skills*** *and don't think many non-research professions would offer the intellectual and collegial advantages of this one. I also appreciate the role's flexibility – there's always room to innovative, propose new initiatives, etc. (at least where I am, with supportive management). Finally, having* ***built a portfolio career across pre- and post-award****, I feel there are decent opportunities to continue to seek interesting work'*.

This professional has been an RMA for the past 9 years. They work in a senior pre-award research support role providing capacity building and proposal development support to collaborative projects, mostly European Union.

'I'm ***excited about this profession****, enjoyed all research projects I have been working on so far, and I* ***still see a lot of unexplored potential*** *in the research infrastructures in our geographical region, these are my reasons to stay'*.

A seasoned RMA for more than 10 years, this professional started as an administrative support to certain scientific committees and currently is managing an EU-funded project as consortium coordinator.

*'****NCURA has become like a family to me****. At one point I lost my job and was looking outside research administration. The* ***thought of losing my NCURA friends was very depressing****. Thank goodness I found another job!'*

An RMA for more than 30 years, this professional started as an accountant in a central university office and is currently providing broad administrative support to a large, well-funded Principal Investigator's lab.

'Working in research administration seems to have changed in ways that now are making me reconsider staying in the field. Despite the major role research administration plays in supporting faculty and other university research, as well as enabling funding for universities, it seems ***research administration staff are treated generally poorly*** *– a high, unrelenting work demand partnered with lack of respect from faculty and administrators. This plays out in office space, salaries, insufficient funding and other support, lack of support by higher administration to deal with faculty behaviour, and so on. Sadly, a younger women in this field (who recently also completed her PhD) commented to me that it seemed increasing like a female ghetto. Are men choosing this field? What roles/levels are they working in research administration, and how long do they stay before moving on and/or up? Why does the field appear to largely attract women?* ***I've enjoyed my career in the field, particularly the problem solving and variety, but the opportunity to work remotely and have time to think during COVID has made me reconsider continuing****'*.

An RMA for more than 20 years, this professional has been Director of the Research Office for over a decade. Initially starting their career as a Research Associate, they moved onto an Assistant Director's role before their current position.

'I feel that the ***job matches my strengths and experience*** *and I love the conviviality of my team. There is always something* ***new to learn****. Going fully digital has been a great learning experience and our systems will be updated shortly. I'm looking forward to being part of the team implementing the new system'.*

This professional has been an RMA for the past 9 years. They support grants management as a full-time RMA in their university. They are also involved in training and capacity building new team members.

It is hoped that analyses of these inputs could inform institutional/university leaderships, allowing them to design systems that make RMAs feel more valued in their profession.

Conclusions

RMAs come from every different kind of background imaginable. Skill sets and paths into the profession are noticeably varied. Looking back at the various topics covered, though, some themes do begin to emerge. Only just over a fifth (21.2% of 3,523) intentionally joined the RMA profession, with nearly three times as many (59.2%) happening upon it. The profession is in some ways hidden and unknown.

Over a quarter (25.1% of 3,334) reported that they had moved from research into research administration, finding it to be family friendly and having more job stability than a series of research contracts.

Certainly some of the skills would be transferable from a research background, but also from many other fields. Over two thirds (69.1% of n = 3,436) of respondents said they entered RMA because they believed '18. … *It was a profession I felt my skills would be a good match for*' (4+5 on the 5-point Likert-type scale). Without exception this was the top reason across regions, ranging from 72.5% (of n = 469) of *UK* respondents believing their skills would transfer well, to 63.8% (of n = 376) in the *Rest of the World*.

When asked about these skills, it is not surprising that the following skills were selected as the most relevant by most regions: '*Organisational skills*', '*Communication skills*', '*Motivation to learn new things*', '*Team player/personable*', and '*Attention to detail*'. In contrast with these soft/transferable skills being important, the '*Lack of knowledge, expertise*' was the biggest challenge for new RMAs (59.9% of 3,446). In an ever-changing ecosystem, full of rapidly evolving technologies and policies, this may be a persistent issue. Even with the initial learning curve, 9 out of 10 RMAs were satisfied (*Yes* – 56.3% (of 3,458) or *Mainly* 34.3%) with their career choice.

Reviewing the quotes from some of the responses, the breadth of the collective backgrounds and identities of RMAs becomes apparent. There is no one clear path to the profession, but many, and a multitude of experiences to be gained along the way and shared with the broader RMA community. The passion many feel for their profession and community resonates in these excerpts.

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References

Andreson, R. (2016). *The best job of all*. NCURA. https://www.ncura.edu/Publications/ProductInfo.aspx?productcd=ChildrensBook

Fischer, M., Kerridge, S., Oliveira, C. I., & Dutta, M. (2022). *RAAAP-3 HIBARMA questionnaire (Version 3)*. figshare. https://doi.org/10.6084/m9.figshare.20459370.v3

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Kerridge, S., & Scott, S. F. (2018a). Research administration around the world. *Research Management Review*, *23*(1), 34.

Oliveira, C. I., Fischer, M., Kerridge, S., & Dutta, M. (2023). The research administration as a profession survey. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 113–123). Emerald Publishing.

Chapter 2.4

Research Management as Labyrinthine – How and Why People Become and Remain Research Managers and Administrators Around the World

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Abstract

This chapter explores the results of an international survey (RAAAP-2) to provide global insight into research management and administration (RMA) as a relatively new field of investigation within the area of higher education management (HEM). Building on that extensive survey, the purpose of this chapter is to investigate qualitatively how and why people become and remain research managers and administrators, focussing primarily on their skills, roles, and career paths.

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Findings from the analysis confirm that a career in RMA is rarely an intentional choice and can be described as *labyrinthine*, which could be even compared and contrasted with a *concertine* academic career described by Whitchurch et al. (2021). While conclusions confirm the gender implications of the profession, which is overall highly 'female'; further conclusion sheds light on RMAs across regions and suggests how this varied ecosystem could even undermine the recognition of RMA as a profession.

Keywords: Research management and administration; profession; professionalism; insider research; labyrinthine career; societal ethos; Research Administration as a Profession

1. Introduction

The purpose of this chapter is to explore how and why people become and remain research managers and administrators, and in doing so, explore the skills, roles, and career paths that enable a transition into and within the field of RMA. In connection with this purpose, the chapter also provide some insights into the level of professionalisation of RMAs in different regions throughout the world as allowed by the extensive RAAAP-2 dataset (Kerridge, Ajai-Ajagbe, et al., 2022).

The chapter builds on the work of the Research Administration as a Profession (RAAAP) study (Kerridge & Scott, 2016, 2018a), by further investigating the qualitative component of the RAAAP-2 dataset, to explore issues relating to the professional identity of RMAs. The dataset includes responses from individuals in research institutes, research funding organisations, colleges, the private sector, and universities – though the overwhelming majority of responses are from the latter group. The identities of RMAs working outside academia are explored, for example, by Santos et al. (2023, Chapter 2.5).

1.1. Objective of the Study

Research management and administration is one of the managerial functions we find not only in universities but also in an array of research institutions. However, the field of investigation on RMA is inextricably linked with the broader and more general area of HEM and with its vast body of knowledge; this does not mean, though, to exclude any practitioners from any other sector from this view.

Moving from functions to individuals, the distinction between the broad field of HEM and this sub-field of RMA is also made to include RMAs as one of the occupational groups supporting research activities in the HE sector (Hockey & Allen-Collinson, 2009; Shelley, 2010).

Regarding conceptual clarification (Evans, 2002) of the doing and doers in RMA, there is no one simple or standard occupational definition for RMA. Some define RMA via the roles of individuals working in the area (Beasley, 2006), while others point to what these individuals do in their leading or managing research (Chronister & Killoren, 2006). When we talk about 'research management' or 'research administration', therefore, we refer to the same area of work. It should be noted that the differences in terms adopted to describe those who work in this area may reflect some cultural norms, for example, we refer to 'research administration' in the USA and to 'research management and administration' in the UK (Kerridge, 2021a).

2. Literature Review

The chapter focuses on RMA to further explore the RAAAP-2 dataset and so gain a further level of understanding of roles, skills, and career paths of the workforce of RMAs in each region.

Noting views that it is still debateable refer to RMA as a definitive profession (Agostinho et al., 2018; Dunleavy et al., 2019; Langley, 2012; Poli, 2018a; Poli et al., 2014; Poli & Toom, 2013; Starbuck, 2014), in this chapter, we have adopted the term 'profession' refer to individuals in relation to their work in RMA because RMA already fulfils several 'profession' criteria, for example, the promotion of advanced qualifications, the establishment of professional associations, and an academic voice for the professional community (Lewis, 2014).

The wide range perspective adopted in this chapter mirrors the growing number of studies investigating RMA globally; these studies have covered regions throughout Europe, from the UK (Allen-Collinson, 2009; Derrick & Nickson, 2014; Kerridge, 2012; Langley, 2012; Shelley, 2010) to Portugal (Agostinho et al., 2018; Trindade & Agostinho, 2014; Vidal et al., 2015), from Italy (Poli, 2011; Romano & Albanesi, 2021) to Sweden (Widforss & Rosqvist, 2015); and internationally from Japan (Ito & Watanabe, 2017) to Canada (Acher et al., 2019) through Southern Africa (Williamson et al., 2020), to mention but a few.

The studies above have been varied in their coverage of topics, spanning from career paths (Lewis, 2014; Regan & Graham, 2018) to the debate on RMA as a profession (Acker et al, 2019; Carter & Langley, 2009; Langley, 2012; Schützenmeister, 2010; Williamson et al., 2020), and from professional frameworks to the foundation steps to foster the professionalisation of the community (Green & Langley, 2009; Williamson et al., 2020), among others. One further line of inquiry has focussed on university administrators that are more frequently women and also on RMA as a female profession (Allen-Collinson, 2007, 2009; Eveline, 2005; Krug, 2015; Losinger, 2015; Pearson, 2008; Ricketts & Pringle, 2014; Simpson & Fitzgerald, 2014; Szekeres, 2004). This evidence of a profession that is largely female is likely to arise from 'unacknowledged value' (Angervall et al., 2015), but also from dynamics of micropolitics, or the pervasiveness of gentleman's clubs or also from a set of gendered cultural barriers preventing women from accessing the most senior roles in academic and professional leadership (Morley, 1999, 2008; O'Connor, 2015) so to mirror the predominant male academic world. In the USA, for example, Shambrook et al. (2015) indicate that research administration has changed over time from a male-dominated to a female-dominated field. Internationally, about 77% of research administrators identify as female (Kerridge & Scott, 2018a), and in Canada, the figure is even higher at 81% (Zornes, 2019). To be noted how this trend of feminisation of the profession is not equalised in leadership roles where there is international evidence that men are over-represented (Kerridge & Scott, 2018a, pp. 26–27) revealing the 'glass ceiling'.

3. Methods

This section of the chapter describes the method in use, that is, work-based or practitioner research. Work-based research simply refers to the researcher's context (Costley et al., 2010; Guzmán-Valenzuela, 2016) where organisational, professional, and even personal contexts are likely to influence the way work-based research is conducted. In this sense, work-based research is likely to engage with a wide range of sources (Costley et al., 2010; Whitchurch, 2006) spanning from professional, such as conference proceedings and institutional reports, to academic, peer-reviewed research and beyond.

One of the primary concerns when conducting work-based research refers to the definition of an audience we are speaking to (Costley et al., 2010); this definition helps ensure that motivations and contributions of the work-based research undertaken are fully considered and overtime questioned.

After clarifying for whom this study is written, the next aim is to explain the leading epistemological and ontological elements that lie behind the analysis conducted in this chapter. Following Crotty (1998), we adhere to social constructivism as the epistemology, and to interpretivism as the theoretical perspective.

In addition, to the choice of social constructivism, we explain how the chapter is co-authored by a multicultural team of RMAs, current and past role holders in the field; as it is, the team shows a variety of characteristics, in research and/or in research support, meant to partially fulfil the diversity of a social constructivist stance. Thus, on the one hand, the blend of cultures aims to show the multiple, varied lenses through which the authors interpret the field of RMA; while on the other hand, are these varied lenses that explain and reinforce the choice of social constructivism and interpretivism as the epistemology and ontology.

The main data collection was the RAAAP-2 dataset, namely, an international survey that used an online questionnaire (Kerridge et al., 2020) to collect quantitative and qualitative responses from RMAs around the world (Kerridge & Scott, 2016, 2018a). The approach overall adopted is qualitative and grounded in thematic analysis (Creswell & Clark, 2017; Creswell & Creswell, 2017; Morse, 2010; Robson, 2002). Hence, qualitative thematic analysis was carried out following Miles and Huberman (1994); in so doing, recurring themes and patterns were manually coded, while categories of analysis emerging from the data itself were meant to reflect and align with the purpose of the research, to be exhaustive and mutually exclusive. Once identified recurring parts of the data and coding them, we defined codes that have been manually analysed and so included into categories arranged as 'a chest of drawers' (Evans, 2002).

For example, under the subject 'why people joined research administration' themes emerged related to practical, opportunity, skills matched, asked, and other. For the subject 'why people have stayed in research administration' the following themes emerged: practical, contribution, purpose, and other. Further examples of these themes included the number and type of roles held; why a person joined research administration; why they stayed), and then these themes were further disaggregated by region (*Analysis Region of Employment*: *UK*; *USA*; *Canada*; *Oceania*; *Europe [excluding UK]*; and *Rest of the World* region [including South and Central America, Asia, and Africa]), so to provide a more insightful perspective on data to readers from all these regions. All these themes were used across regions for comparisons and contrast.

4. Results and Discussion

4.1.1. Why People Join the Profession

Overall, when asked how they came to work in research administration, less than a fifth made an intentional choice (19.8% of $n = 4{,}313$), most fell into the position (59.5%), and some were moved into an RMA role (9.9%), and the remainder for other reasons. These proportions varied by region, with only 13.0% (of $n = 1{,}419$) choosing the career in the *USA*, compared to 27.9% (of $n = 1{,}000$) in *Europe (excluding UK)*. This seems to be counter intuitive as the profession has a much longer history in North America, and yet is still relatively unknown, or seemingly not initially attractive as a career. This could however be explained by the apparent correlation with the movement of researchers into RMA: 15.5% (of $n = 1{,}360$) *USA* respondents indicated (top 2 on a 5-point Likert-type scale) this was a contributing factor, compared to 46.3% (of $n = 955$) from *Europe*

(excluding UK). Researchers are perhaps more likely to know about RMAs and actively consider this as a career move. However, it is clear that RMAs come from a wide variety of other backgrounds (see Dutta et al., 2023, Chapter 2.3).

Respondents typically felt they possessed the generic skills/experience and/or specialist skills to work in RMA, however, continuous learning was necessary and inevitable due to factors such as 'organisational context', and 'immersion'. RMAs cited practical reasons for joining the profession including flexibility, security, benefits, location, that they needed a job, etc. Many respondents, regardless of region, noted that they felt their skills matched the requirements for the position with communication and writing skills being of primary importance.

Responses indicated opportunities and ease of movement between RMA roles as well as between non-RMA roles and RMA roles. It is not clear whether those who reported career advancement typically joined RMA when the field was much younger and smaller. Overall, there appears to be more of a 'push' from Research than a 'pull' to RMA with respondents indicating that they enjoyed RMA in large part because of its proximity to research. There was a much less obvious push from regular HE admin to RMA, with respondents typically reporting that they fell from or were absorbed into RMA from this area – while also noting that RMA is a more attractive and challenging area of (HE) admin … that is, more attractive than regular (HE) admin. However, concerns were noted overall that an RMAs career is rarely spent in the same institution or in the same division. As a result, the career in RMA is seldom something 'that others could follow' and so its evolution is more often hard to describe, making it difficult for individuals to 'choose' this career path at the start of their careers. Furthermore, there are a number of instances of 'bi-directional' careers and instances where individuals have taken more junior positions after holding more senior ones, moving to other HEIs, or even back to research later in their career.

4.1.2. Why They Stay

Overwhelmingly there were comments regarding the wider purpose/contribution of the role to the research enterprise. Repeatedly, respondents noted the value of research in making a difference in society, the role of innovation and the need for innovation, and that research helps address the world's problems. Research was described as dynamic, creative and vital to society, and the role of research administration in contributing to the effectiveness of research came through in all regions.

There were also strong statements regarding practical reasons for staying including having a permanent job, pension, benefits, being 'good' at the role, close to retirement, flexibility, and job satisfaction. In the USA, there were a large number of responses that focused on the networks and relationships that people have within the profession as a reason they stay with respondents citing strong networks, a great boss, great colleagues, team atmosphere, and an ability to mentor as it seems to be in a variety of other jobs. There were concerns raised throughout the responses focused on challenges with the profession, including comments such as there being limited recognition of the role, that it is a very stressful role, insecurity in some regions as a result of cuts, pressure by the administration to work evenings and weekends, and concerns about the risks associated with non-compliance by faculty members.

What also came through in the analysis, was that RMAs can be (perhaps uniquely, compared to other areas of HE, and so it was throughout the regions) involved in generating their own career opportunities as effective RMA helps grow and diversify an institution's research function, thus providing more opportunities and roles within RMA. There is scope for RMA roles to change and develop over time, into a greater range of

tasks. Respondents reported scope for creativity in RMA roles, and this was highlighted as an element of job satisfaction in RMA, that is, why people stayed in the profession.

4.2. Results on Careers, Roles, and Skills

4.2.1. Labyrinthine Careers

RMAs are well educated with 72.0% (of $n = 4{,}317$) holding a masters' or doctoral degrees and just under half (49.2%, of $n = 4{,}273$) are over 45 years of age, and only a few (0.5%) are under 25. Careers in RMA were found to be non-linear and labyrinthine in that they were more likely to arise from other roles previously held (e.g. administrative roles in a library, in department management or finance; or from research). These careers may therefore be represented as a 'labyrinth' consisting of multiple choices and directions, including moving laterally. In addition, these careers were likely to have spanned across the university, from departments and local offices to the central administration. As a result, individuals were more likely to have held roles non-exclusively in RMA, roles in other university functions, and often roles in research. These careers appear to have been constructed moving from both specialised and generalist roles with no clear pattern represented – chance and opportunity were critical factors. RMAs tend to come from other sectors both inside and outside of research and RMAs were less used to getting stuck in the 'same HEI, function, division or even job'. Consequently, RMA careers are not easy to describe and span from temporary positions to moments of serendipity, or second-choice careers to passion-driven choices (for research and the social mission embedded in a university institution) to a good compromise between research and management (or between passion and a job that makes a living and money).

4.2.2. Broad Spectrum Roles

Overall, 77.0% (of $n = 4{,}109$) RMAs who responded noted that this was not their first RMA role, and 52.3% had had at least two other RMAs roles before. This 'mobility' translated within the RMA role itself with a common thread being the variety of functions or tasks, changing responsibilities, and changing titles. An RMA may be in research support and research, and they appear to be keen to embed research-based skills coupled with research support skills and responsibilities. Some also hold other administrative roles and/or research roles as part of their remit. Respondents felt that RMA is a flexible profession and provides opportunities to do new and varied things (compared to other areas of HE admin) – for example, 'meet people', 'progress in career'; utilise existing skills. Research management and administration was also seen as a 'prestige function' in that it was regarded as challenging and creative, an aspirational profession. However, in a small minority of responses, RMA is regarded as a 'no rule profession' or a 'no rule field of practice'; this means that individuals see themselves not just as invisible but also as not led by a common ground of understanding and knowledge. This also highlights the search for recognition, the unclear or varied professional qualifications paths, and the distance that some of these individuals feel towards those peers working in different support functions to which they may feel disconnected.

4.2.3. Wide Ranging Skills

Overwhelmingly, people noted the importance of having relevant skills for the position, and then further developing those skills and adding new skills after taking on the role. Skills are described to be 360-degree or wide ranging and they even look like never enough for the role. These skills appear to vary a little across the regions

and so – if pre-existing the role or gained later through practice or professional associations – seem to depend on where research managers and administrators find themselves. In addition to skills, we see how the role played by professional associations in relation to professional development and training on these skills is generally unclear in the majority of the regions and only in the USA does its added value come to be highlighted. This should be of particular importance to the INORMS organisations with regard to the need for professional development, network with colleagues, and for mentorship possibilities.

4.3 Results by Regions

4.3.1. Canada

For many Canadian research administrators, when asked why they joined the profession, it appeared that it was not an intentional choice. Respondents focused on practical reasons (e.g. needed a job, relocation, and job security), or on the opportunity the role provided. Respondents from Canada saw their skills as a match for the role citing legal skills, project management skills, accounting experience, grants experience, writing skills, and considerable relevant prior experience or expertise. When asked why they have stayed in the profession, the tone of responses changed. While there were still practical reasons for why people stayed, there were also those that focused on the bigger picture, the contribution of research to the wider world, the importance of research, and the idea of contributing to society. A number of respondents talked about the importance of the work noting that we 'help researchers address the world's problems' and that we are 'able to reduce the admin burden of PIs'. There were cautions however as well with one respondent noting 'while I love the work, it is the most stressful job I have ever had, not only due to its complex nature but because of the extremely heavy workload, without a break from constant demands', these high stress levels in RMA are explored by Shambrook (2012, 2022, 2023, Chapter 4.5) and Watson (2009). Respondents noted that 'there is also high risk in terms of determining eligibility, giving advice on budget development, strategy, etc.'. In response to questions regarding when their skills were developed there was a mix among respondents. Some noted that their skills were a good fit upon joining the profession while others noted the development of skills on the job and their growth with regard to the changing environment. For many, it was a conscious blend of the two – an acknowledgement of what they brought to the role, and their own development since being in the role.

4.3.2. Europe (Excluding UK)

With regard to why they joined the profession, responses ranged from intentional to falling into the role. Many respondents noted practical reasons for joining the profession including 'job insecurity and continuous search for funding as a scientist contributed to my career switch', or 'after four and a half years of post doc decided I wanted a permanent position', or 'my research funding ran out before the next grant was confirmed'. Many identified RMA as a distinct opportunity, making an 'active decision not to become a postdoc scientist', or as a way to become a leader. For many, there was a shift in a role from industry or government to the academic sector. Within this group of respondents, many are highly educated and were researchers themselves before shifting to an administrative role. There was also a strong focus on the match of skill sets to the position as being a reason for joining the profession. When asked why they have stayed in the profession, respondents noted practical reasons (e.g. flexible working hours, it suited where they were in terms of their family life) as well as the purpose and contribution

the profession makes. Respondents focused on the possibility of making a difference, of helping researchers navigate the various funding systems, and contributing to 'making important research happen'. Responding to questions regarding when their skills were developed, overwhelmingly for this group it is a 'both' scenario – skills were developed before taking on the role and continued to be developed once in the role. Comments also point to the complexity of the role with respondents stating that 'rules are undefined, and decisions depend in part on the relationship of the directors with the researchers' and that 'research is a dynamic constant changing business'.

4.3.3 Oceania

When asked why they joined the profession, responses focused on practical reasons, opportunities, and a match with their skill set. Within this group, there was a very strong recognition of a 'contribution' to the bigger picture – the idea of being part of something that makes a difference. Respondents cited practical reasons for joining including location, good working conditions, wanting to work in a university environment, and the likelihood of more stable employment. Respondents also focused on the opportunity that the role provided in terms of a career path, chance for advancement, and a desire to influence the sector. The pressures of academia were also noted with one respondent stating they 'did not want to make the sacrifices that a high career researcher needed to make and did not see older people in the labs'. When asked why they have stayed in the profession, there was a strong connection to the purpose of the role and the larger purpose of research more generally with respondents identifying the 'contribution to something bigger', the value and importance of the work, and the ability to make a difference. As one respondent pointed out,

> the main focus of a university is a dual one of education and research. Education is the single most powerful tool to change the lives of individuals and of communities, and research is the key to resolving many issues. I can contribute a small part to this greater goal in my work in the university.

Respondents also noted the importance of networks with colleagues and the support that research management societies provide. In response to questions regarding when skills were developed, most spoke of bringing skills to the position and then either adding skills, or further developing their existing skills. As with other groups, the importance and opportunity for professional development comes through clearly.

4.3.4 UK

When asked why they joined the profession, research managers and administrators in the UK provided a mix of practical reasons, opportunity for career advancement, and/or skills matching. For those respondents in this region, there were a number of cases where there was a reorganisation of the university/department, or a redeployment. There were many incidents of individuals shifting from positions as researchers into RMA. For example, one respondent noted that they were 'one of those people who got a PhD and didn't know quite what to do next'. Respondents also noted a desire to work in an academic environment and to 'stay connected to research but not do it myself'. When asked why they have stayed in the profession, individuals noted job satisfaction, flexibility, less stress than other roles, and excellent professional development

resources. Respondents also commented on a sense of purpose of the role and the support it provides for the research conducted. Individuals in this region also raised concerns regarding uncertainty overall in the sector. With regard to skills development, more than half noted a mixture of developing the skills needed prior to joining the profession, and then continuing to develop those skills and add new ones once they were in the profession.

Similarly, another individual noted that

> most of the generic skills (problem solving, communication, collaboration and writing) were developed in my previous roles. However, my understanding of research impact, and the complex subtleties of handling academics and their research in general, has been entirely developing in my research admin position.

4.3.5 USA

When asked why they joined the profession, the majority of comments under this section focussed on the practical or the fact that skills matched. As compared to other regions, there were fewer instances where comments would be classed as 'opportunity'. The reasons why people joined the profession included a clear 'evolution' of the role and this group of respondents had a large number of responses included that a person 'fell into' the role, that it was an accident, or that they hadn't known they were in research administration. This group also spoke about excellent mentors they had, which played a role in their joining the profession. Practical reasons for joining the profession included a change in career path, good benefits, stable work, and flexibility. Concerns were noted around a lack of prestige or appreciation of the role with one respondent stating 'It is not an easy job to learn or to be an expert at and takes a lot of work. However, you are undervalued and underappreciated with no real say in university decisions'. When asked why they stay in the profession, this group of respondents focused on practical reasons including a number who stated they were close to retirement. There were a high number of reasons that focused on purpose, that is, on the bigger picture and importance of research in society. A number of respondents spoke about the purpose and contribution of the profession and the ability to make a difference. As one respondent suggested 'It's cool to be on the front lines of where change really happens'. Another noted that they stay in the profession because of 'the feeling that I'm supporting life-changing research and making the world a better place'. It was not all positive however with one person noting 'I have a love/hate relationship with the challenges of this job, especially some days'. More than any other group, this set of respondents talked about the value and importance of networks, mentors, and the various associations for the profession. When asked when their skills were developed, there was an overwhelming majority of responses indicating that skills were brought into the position and then additional skills were added, or existing skills evolved. One respondent noted 'I've learned a great deal through professional training over the years. I've learned equally as much from peers and mentors'.

4.3.6 Rest of the World (Including South and Central America, Asia, Africa) and Those That Did Not Indicate a Region

When considering why they joined the profession, there was a mix between those who made an intentional choice and those who 'fell into' the position. For example, for

some it was a practical decision in that 'it seemed a better way to advance', for others it provided an opportunity 'to contribute to the improvement of research support, policy, leadership'. Some respondents however stated that 'I did not know what I was getting into' or focused on the evolution noting that 'it just evolved, I liked it, so I kept at it and climbed the ladder'. Respondents saw a clear match of their transferable skills to the profession citing various academic backgrounds, and for one respondent the intentional decision was to 'demystify the world of research and to provide the kind of support I did not receive'. When asked why they stayed in the profession, nearly every response was focused on the contribution they could make. Responses included aspects of helping others, making a difference, sharing knowledge, and acknowledging the need for this service in the university. There was concern raised however with the role of research administration with one respondent stating there was 'limited recognition of the importance of the role'. In response to questions regarding when skills were developed, that is, before they took on the role, after, or both, the importance of both existing skills and the development and/or adaptation of skills while in the position was highlighted. It was clear that the role evolves that there is 'a need to learn constantly and while working'. It should be noted that while the *Rest of the World* is not a cohesive geographic region, the broad experiences of RMAs are similar to the other regions.

5. Conclusions

5.1 Labyrinthine Careers for RMAs

The analysis confirms that careers in RMA are more often non-linear and could be tentatively defined *labyrinthine*. They are more likely to follow unpredictable trajectories that span sectors (in higher education and other sectors), functions (e.g. in RMA or in finance or in HR), and even roles (even within RMA, individuals may move from grant writing to post-award). This career framework not only means upward and downward mobility for RMAs, but it may frequently include their choice of so called 'lateral careers', as explained by Whitchurch (2016, 2019), among others; with this latter confirmed to be a growing trend in higher education both for those in professional services and for academics, even those in a 'concertina' career (Locke et al., 2016; Whitchurch, 2019; Whitchurch et al., 2021). The results above suggest an unsurprising similarity between today's professional and academic careers in the HE sector globally.

Defining as 'labyrinthine' these professional careers points to the 'idea of the labyrinth', which is a metaphor purposively borrowed from the literature on gender studies in use to describe women's careers as represented by a labyrinth for the complexity of the journey, its challenges, and goals (Eagly & Carli, 2008). Hence, this 'idea of the labyrinth' helps us describe the unpredictability of careers in RMA.

In addition, building on the quantitative part of the survey carried out by Kerridge and Scott (2018a) and Shambrook and Roberts (2011) representing RMA as a predominantly female profession, the analysis confirms the femininity of the profession with women still making the majority of the workforce in RMA. However, the *labyrinthine* career, visibly widespread in all regions, may be explained by several factors. For example, it may showcase women's postdoc precarity and the fact that they may have little choice other than to join the professional workforce to earn a living. It may also reveal their heavy family burdens associated or not with a lack of parental support. Also, this labyrinthine trend could also stem from *labyrinthine* choices required to women as single mothers (O'Keefe & Courtois, 2019).

5.2 Falling Into the Profession or Sliding Into it Moving From Other Career Paths or From Different Functions

From the results shown above, we see that a large proportion of RMAs have career paths that do not intentionally lead to RMA; often, these RMAs have been absorbed or appointed from more traditional researcher/faculty positions to research administration so to highlight the array of shades that the access to the profession may have.

However, once becoming RMAs, most are satisfied with their choice, only 10.2% (of $n = 4{,}097$; top two choices on a 5-point Likert-type scale) want to leave. This supports the often-expressed view that RMA is a hidden profession, lacking in visibility, perhaps there is more that the INORMS member associations can do to raise the profile of the profession.

5.3 Remaining in the Profession May Have a Gender Component

The analysis indicates that RMAs generally value the stability and benefits of working in research organisations (e.g. flexibility, security, location) as much as the nature and content of their work. Though some respondents highlighted the stress of RMA, others highlighted the ability to carve out their own paths – and noted this as a positive aspect of RMA. It could be interesting for further investigation to explore whether the profession co-incidentally retains a predominantly female workforce because they typically have greater family burden/responsibilities and so remain in careers that provide positives and benefits as mentioned above. It might also be that women are actively shaping the professional culture and valued skills within RMA – this could be self-reinforcing.

6. Limitations, Recommendations, and Future Research

While the dataset was extensive, the pool of regions varied and in some ways arbitrary based on the response rate. Furthermore, the research questions in the survey were very broad and could not enable further follow-up questions or insights into the data, it is hoped that the RAAAP-3 survey (Oliveira, Fischer, et al., 2023, Chapter 2.2) will address some of these issues.

The main threads identified refer to career paths and their trajectories in RMA and to how RMAs roles developed over time. While further lines of investigation may focus on the importance of professional associations for the RMA role and for RMAs themselves; and on the role or contribution of less or more mature professional associations supporting these RMAs. Lastly, whether gender issues in RMA are a result or indeed depart from the generic gender pattern in HE management as pictured by Morley (1999, 2008) and O'Connor (2015).

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References

Acker, S., McGinn, M. K., & Campisi, C. (2019). The work of university research administrators: Praxis and professionalization. *Journal of Praxis in Higher Education*, *1*(1), 61–85.

Allen-Collinson, J. A. (2007). 'Get yourself some nice, neat, matching box files!' Research administrators and occupational identity work. *Studies in Higher Education*, *32*(3), 295–309.

Agostinho, M., Moniz Alves, C., Aresta, S., Borrego, F., Borlido-Santos, J., Cortez, J., Lima Costa, T., António Lopes, J., Moreira, S., Santos, J., Trindade, M., Varela, C., & Vidal, S. (2018). The interface of science: The case for a broader definition of research management. *Perspectives: Policy and Practice in Higher Education*, *24*(1), 19–27. https://doi.org/10.1080/13603108.2018.1543215

Allen-Collinson, J. (2009). Negative marking? University research administrators and contestation of moral exclusion. *Studies in Higher Education*, *34*(8), 941–954.

Beasley, K. (2006). The history of research administration. In E. C. Kulakowski & L. U. Chronister (Eds.), *Research administration and management* (pp. 9–29). Jones and Bartlett.

Carter, I., & Langley, D. (2009). Overview of research management and administration. *Perspectives: Policy and Practice in Higher Education*, *13*(2), 31–32. https://doi.org/10.1080/13603100902805359

Chronister, L. U., & Killoren, R. (2006). The organization of the research enterprise. In E. C. Kulakowski & L. U. Chronister (Eds.), *Research administration and management* (pp. 41–61). Jones and Bartlett.

Costley, C., Elliott, G. C., & Gibbs, P. (2010). *Doing work-based research: Approaches to enquiry for insider-researchers*. Sage Publications.

Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. Sage Publications.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publications.

Crotty, M. J. (1998). *The foundations of social research: Meaning and perspective in the research process* (pp. 1–256). Sage Publications.

Derrick, G., & Nickson, A. (2014). Invisible intermediaries: A systematic review into the role of research management in university and institutional research processes. *Journal of Research Administration*, *45*(2), 11–45.

Dunleavy, K., Noble, M., & Andrews, H. (2019). The emergence of the publicly engaged research manager. *Research For All*, *3*(1), 105–124.

Dutta, M., Oliveira, C. I., Fischer, M., & Kerridge, S. (2023). Routes into research management and administration. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 125–140). Emerald Publishing. https://doi.org/10.1108/978-1-80382-701-820231012

Eagly, A. H., & Carli, L. L. (2008). *Through the labyrinth: The truth about how women become leaders*. Harvard Business School Press.

Evans, L. (2002). *Reflective practice in educational research*. Continuum.

Eveline, J. (2005). Woman in the ivory tower: Gendering feminised and masculinised identities. *Journal of Organizational Change Management*, *18*(6), 641–658.

Green, J., & Langley, D. (2009). *Professionalising research management*. Higher Education Funding Council for England (HEFCE) and the Medical Research Council (MRC). http://researchsupportarchive.leeds.Ac.uk/images/uploads/docs/PRMReport.pdf

Guzmán-Valenzuela, C. (2016). Unfolding the meaning of public(s) in universities: Toward the transformative university. *Higher Education*, *71*, 667–679.

Hockey, J., & Allen-Collinson, J. (2009). Occupational knowledge and practice amongst UK University Research Administrators. *Higher Education Quarterly*, *63*(2), 141–159.

Ito, S., & Watanabe, T. (2017, July). Survey analysis for workplace management of universities' research managers and administrators [Conference presentation]. In *Portland international conference on management of engineering and technology* (pp. 1–7). IEEE.

Kerridge, S. (2012). *Electronic research administration reflections on research management and administration (RMA) in UK universities and in particular on electronic research administration (ERA) and its perceived effect on the quality and quantity of research* [Doctoral dissertation]. University of Sunderland.

Kerridge, S. (2021a). Research administration around the world. *Journal of Research Administration*, *52*(1), 11–14.

Kerridge, S., Ajai-Ajagbe, P., Kiel, C., Scott, S., Shambrook, J., Wakefield, B., & Zornes, D. (2020). *RAAAP-2 Questionnaire (pdf) (Version 1)*. figshare. https://doi.org/10.6084/m9.figshare.11901897.v1

Kerridge, S., Ajai-Ajagbe, P., Kiel, C., Shambrook, J., & Wakefield, B. (2022). *RAAAP-2 Datasets (17 linked datasets) (Version 1)*. figshare. https://doi.org/10.6084/m9.figshare.18972935.v1. https://inorms.net/activities/raaap-taskforce/raaap-survey-2019/

Kerridge, S., & Scott, S. F. (2016). *RAAAP questionnaire [pdf]*. Retrieved August 4, 2017, from https://doi.org/10.6084/m9.figshare.5278114

Kerridge, S., & Scott, S. F. (2018a). Research administration around the world. *Research Management Review*, *23*(1), 34.

Krug, K. (2015). It's not just the glass ceiling, it's the caste ceiling. In E. Whittaker (Ed.), *Solitudes of the workplace: Women in universities* (pp. 172–190). McGill-Queen's University Press.

Langley, D. (2012). Research management and administration: A reflection of where we are and where we need to go as a profession. *Perspectives: Policy and Practice in Higher Education*, *16*(3), 71–76.

Langley, D., & Green, J. (2009). Professionalising research management. *Research Global*, *22*, 6–7.

Lewis, K. (2014). Constructions of professional identity in a dynamic higher education sector. *Perspectives: Policy and Practice in Higher Education*, *18*(2), 43–50.

Locke, W., Whitchurch, C., Smith, H., & Mazenod, A. (2016). Shifting landscapes. In *Meeting the staff development needs of the changing academic workforce*. Higher Education Academy.

Losinger, I. (2015). The non-nons: Secretarial and clerical staff. In E. Whittaker (Ed.), *Solitudes of the workplace: Women in universities* (pp. 156–171). McGill-Queen's University Press.

Miles, M., & Huberman, A. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Sage.

Morley, L. (1999). *Organising feminisms. The micropolitics of the academy*. St. Martin's Press.

Morley, L. (2008). The micropolitics of professionalism: Power and collective identities in higher education. In B. Cunningham (Ed.), *Exploring professionalism* (pp. 99–120). Bedford Way Papers.

Morse, J. M. (2010). Simultaneous and sequential qualitative mixed method designs. *Qualitative Inquiry*, *16*(6), 483–491.

O'Connor, P. (2015). *Management and gender in higher education. Irish Society*. Manchester University Press.

O'Keefe, T., & Courtois, A. (2019). 'Not one of the family': Gender and precarious work in the neoliberal university. *Gender Work and Organization*, *26*, 463–479.

Oliveira, C. I., Fischer, M., Kerridge, S., & Dutta, M. (2023). The research administration as a profession survey. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 113–123). Emerald Publishing.

Pearson, A. K. (2008). Disrespectin' administrative staff work: Can we talk? In A. Wagner, S. Acker, & K. Mayuzumi (Eds.), *Whose university is it, anyway? Power and privilege on gendered terrain* (pp. 127–139). Sumach.

Poli, S. (2011). Centralised versus decentralised. Issues of professionalism in research support services. Presentation to the EARMA conference, June 22–24, Braganca.

Poli, S. (2018a). Who are today's research managers? Roles, professional development, and evolution of the profession. In J. Anderson, K. Toom, & S. Poli (Eds.), *Research management: Europe and beyond* (pp. 2–29). Elsevier.

Poli, S., Andersen, J., Toom, K., & Wilkman, L. (2014). Shaping a new profession in higher education and research institutions. *NCURA Magazine*, August, pp. 54–56.

Poli, S., & Toom, K. (2013). Exploring the theory. Research management as a newer field of investigation. *EARMA LINK Magazine, European Association of Research Managers and Administrators*, January 7–8.

Regan, J. A., & Graham, C. (2018). A career in professional services: accident, serendipity or something more? *Journal of Higher Education Policy and Management*, *40*(1), 3–17. https://doi.org/10.1080/1360080X.2017.1411062

Ricketts, K., & Pringle, J. K. (2014). Going up? Perceived career progress of female general staff across New Zealand universities. *Journal of Higher Education Policy and Management*, *36*(5), 496–508.

Robson, I. (2002). *Real world research*. Blackwell.

Romano, V., & Albanesi, A. (2021). *The role of the Research Manager and Administrator – RMA, in Italy: Professional framework and training needs 2020 Activity Report*. CODAU Research Working Group. https://doi.org/10.5281/zenodo.5513738.Y3j7VeDSJkx

Santos, J. M. R. C. A., Varela, C., Kerridge, S., & Fischer, M. (2023). Where do RMAs work? In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 1–10). Emerald Publishing.

Schützenmeiser, F. (2010). *University research management: An exploratory literature review*. Institute of European Studies, University of California. Retrieved November 2022, from http://escholarship.org/uc/item/77p3j2hr

Shambrook, J. (2012). Comparison of stress-related factors in the 2007 and 2010 Research Administrator Stress Perception Surveys (RASPerS). *Journal of Research Administration*, *43*(2), 107–118.

Shambrook, J. (2022). Stress in research administration: Raising awareness, strengthening resilience. In *Sponsored research administration: A guide to effective strategies and recommended practices* (pp. 120:147–120:159).

Shambrook, J. (2023). RASPerS: Prevalence of occupational stress and associated factors in RMA professionals. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 373–383). Emerald Publishing.

Shambrook, J., Lasrado, V., Roberts, T. J., & O'Neal, T. (2015). *2015 Profile of a research administrator* [Poster presentation]. Society for Research Administrators International symposium, Las Vegas, NV. https://srainternational.org/sites/default/files/documents/Shambrook,%20Jennifer.pdf

Shambrook, J., & Roberts, T. J. (2011). 2010 Profile of a research administrator. *Research Management Review*, *18*(1), 19–30.

Shelley, L. (2010). Research managers unc–vered – Changing roles and 'shifting'arenas' in the academy. *Higher Education Quarterly*, *64*(1), 41–64.

Simpson, A., & Fitzgerald, T. (2014). Organisational and occupational boundaries in Australian universities: The hierarchical positioning of female professional staff. *Studies in Higher Education*, *39*(10), 1929–1941.

Starbuck, S. (2014). Yes, I am a research manager, but I don't cost bids [Conference presentation]. *The ARMA 2014 conference proceedings: Learning from the past; Preparing for the Future 2014*. ARMA.

Szekeres, J. (2004). The invisible workers. *Journal of Higher Education Policy and Management*, *26*(1), 7–22.

Trindade, M., & Agostinho, M. (2014). Research management in Portugal: A quest for professional identity. *Research Management Review*, *20*(1), n1.

Vidal, S., Laureano, R., & Trindade, M. (2015). Assessing the impact of Grant Managers on the success of grant applications. *Perspectives: Policy and Practice in Higher Education*, *19*(3), 84–91.

Watson, D. (2009). *EBOOK: The question of morale: Managing happiness and unhappiness in university life*. McGraw-Hill Education.

Whitchurch, C. (2006). Who do they think they are? The changing identities of professional administrators and managers in UK higher education. *Journal of Higher Education Policy and Management*, *28*(2), 159–171.

Whitchurch, C. (2019). From a diversifying workforce to the rise of the itinerant academic. *Higher Education*, *77*(4), 679–694.

Whitchurch, C., Locke, W., & Marini, G. (2021). Challenging career models in higher education: The influence of internal career scripts and the rise of the "concertina" career. *Higher Education*, *82* (*3*), 635–650. https://doi.org/10.1007/s10734-021-00724-5

Widforss, G., & Rosqvist, M. (2015). The project office as project management support in complex environments. *Procedia Computer Science*, *64*, 764–770.

Williamson, C., Dyason, K., & Jackson, J. (2020). Scaling up professionalization of research management in Southern Africa. *Journal of Research Administration*, *51*(1), 46–72.

Zornes, D. (2019, February). *Research administration as a profession: RAAAP project* [Webinar presentation]. Canadian Association of Research Administrators.

Chapter 2.5

Where Do RMAs Work?

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Abstract

In this chapter, we will explore where Research Management and Administrators (RMAs) work, in terms of the types of organisations and their structures. While the majority of RMAs work in research-performing organisations (RPOs), such as universities, research institutes and hospitals, some work in other related organisations, such as research funders, think tanks and consultancy firms (non-RPOs). These different working contexts will be critically analysed in light of previous studies, and data collected through surveys and interviews. Quotes will be used to illustrate different professional settings. The interviewees selected derive from two world regions (USA and Europe) to understand the different challenges and settings associated with the diverse

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research ecosystems that each region represents. Finally, major conclusions and recommendations will be highlighted.

Keywords: Identity; funder; central; departmental; PIoS; Portugal; UK; USA; RAAAP

Introduction

Existing RMA studies include research on the career of the professionals (RMAs) working in this area. RMA, once considered an emerging profession (HEFCE, 2007; Kirkland, 2008) represents the evolution of the supporting offices to research and academic activities at universities. The activity became increasingly professionalised following the societal trends that transformed the universities and the pressure of the research funding landscape. The definition of the term RMA is broad and has been shifting from the focus on the functions supporting the project lifecycle at universities, including knowledge exchange (HEFCE, 2007) to include the broader areas of research management detailed below (Agostinho et al., 2018). Recently, Santos et al. (2021a) further broadened the concept to include the professionals working at research funding and policy agencies, incorporating such important studies as Whitchurch (2008a), Shelley (2010) and Allen-Collinson (2016). However, to the best of our knowledge, no specific research has been dedicated to those RMAs working within the sector of policy development and funding of Research and Innovation (R&I) activities.

Based on prior studies and data collected by the authors through surveys and interviews, answers will be sought to the following research questions:

RQ1. Which organisations do RMAs work in and how does this relate to their position in R&I ecosystems?

RQ2. In what parts of those organisations do RMAs work?

RQ3. What differences are there in the makeup of these RMAs and what they do, specifically?

RQ4. What is their identity – do they all feel part of the RMA profession/community?

Data from RMA surveys, namely from the 'Research Administration as a Profession' (RAAAP) project and from the 'Professionals at the Interface of Science' (PIoS) project, provide empirical, supporting evidence of the diversity of working environments and common professional traits of RMAs worldwide. Moreover, longitudinal data from the RAAAP surveys allow for a glimpse of the evolution of RMAs′ workplaces over the last years. These analyses are complemented by first-person information gathered from interviews with representative RMAs.

Literature Review

RMA studies is a recent area of research and RMAs were not always identified as such. Research on staff that support academic and research activities started by looking into the role and relations of the several types of staff at Higher Education Institutions (HEIs). This group was initially branded either as Research Administrators or

Administrative Managers (Drummond, 2003; Whitchurch, 2004). Since those initial studies, the definition and coverage of this staff category has broadened to include more areas of support activities and organisations. On one hand, regarding areas of support activities, these started gradually including communication and dissemination, knowledge and technology transfer, valorisation and impact, science strategy and policy support, research funding, project management, laboratory management, and other areas of scientific affairs working in all types of RPOs (Agostinho et al., 2018). On the other hand, regarding organisations, Kerridge and Scott (2018a) show in their research of RMAs that, while the majority of RMAs work in universities and research institutes, some work in other related organisations, such as hospitals, charities, research funders, government agencies, think tanks, and industry.

We find that the literature about support staff has been led by support staff themselves, motivated (i) by their will to assess their roles and the relevance of their daily tasks, and (ii) as a result of the process of specialisation of their roles in response to the needs of researchers and decision-making structures. This motivation comes from the objective of recognition of the profession. Kirkland (2008) suggests five factors for the increased need of research management activities based on the complexification of the research ecosystem, namely the increased (i) accountability of public-funded research; (ii) competition among researchers; (iii) legal and legislative aspects that frame the governance structures of universities; (iv) project-based research for limited periods; and (v) quality insurance demands of the research outputs. The authors surmise that the increased needs for RMA activities also apply to RMAs working in policy and funding agencies in Research and Development, especially public policy and funding agencies that face the pressure of the increased accountability of publicly funded research.

Methods

In order to explore the differences in identity perception of RMAs working in non-RPOs, in central services in RPOs, and in non-central settings in RPOs, we triangulated information from three sources – –the RAAAP surveys, the PIoS survey and interviews, and subsequent interviews designed explicitly to address that question.

The first RAAAP survey was conducted in 2016 (RAAAP-1) (Kerridge & Scott, 2018a, 2018b) followed by a second survey conducted in 2019 (RAAAP-2) (Kerridge, Ajai-Ajagbe, et al., 2022) and a third iteration in 2022 (RAAAP-3) (Kerridge, Dutta, et al., 2022). The PIoS was a survey conducted in 2020, aimed at collecting data on the identity and participation in professional networks of RMAs working at policy and funding organisations (Santos et al., 2021a, 2021b). This was followed up by interviews with RMA representatives of non-RPOs, RPOs central, RPO non-central, from the United States, United Kingdom and Portugal, selected from the authors´ professional networks.

The SPSS software was used for data treatment of the survey data, using both descriptive and inferential statistical techniques. Interview data was collected using a semi-structured questionnaire. The interviews were recorded, and the corresponding files were stored at the secure institutional servers of the Polytechnic Institute of Bragança (Portugal). Each excerpt used from the interviews was reviewed and approved by the corresponding interviewee. The transcripts are stored at the secure institutional servers of the research team. The participation in this study was voluntary and an informed consent form was obtained before each interview. The collected data is publicly available in an anonymised format (Kerridge, Ajai-Ajagbe, et al., 2022; Kerridge, Dutta, et al., 2022; Kerridge & Scott, 2018b; Santos et al., 2021b). The interviews' data analysis was based on content assessment techniques.

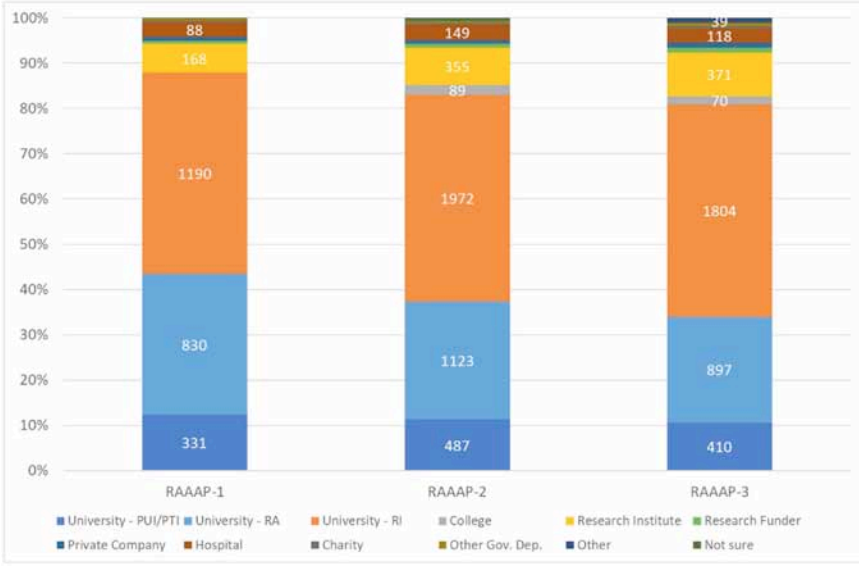

Fig. 2.5.1. Institution Type by RAAAP Survey Iteration.
Source: Authors, from survey data.
University – PUI/PTI: Primarily undergraduate/training institution; University – RA: research active; University – RI: research intensive.

Evidence From Surveys

The data discussed next was retrieved from the four different surveys forming part of the RAAAP and PIoS series.

Data From the RAAAP Surveys

The vast majority of RAAAP respondents are based in universities, followed by research institutes, and then by a combination of different types of organisations (Figure 2.5.1.). The distribution of the respondents per type of institution shows a very similar structure among the surveys. Nearly one in every two respondents were affiliated with University – RI. If we extend the affiliation to universities as a whole, they cover around 85% of all respondents. Other categories of organisations mentioned by the respondents include: (freelance) consultants, temporary organisations ('programs', 'projects'), 'across' institutions (e.g. a health research centre located in a hospital that reports to the faculty of medicine at a university and the research institute that is affiliated with the hospital), 'hybrid' institutions (e.g. state medical school with hospital), and other such as intergovernmental organisations and museums.

The responses from RMAs at organisations other than universities and research institutes show that RMAs work in institutions that cover all sectors of the R&I ecosystems, specifically science policy making and research funding entities, knowledge and technology producers, and knowledge and technology users (*RQ1*). RMAs are therefore considered to be a cornerstone of contemporary R&I ecosystems.

The majority of respondents work at 'Central Offices/Services or Departments' (62.7%, 57.9% and 58.4% for RAAAP-1, RAAAP-2 and RAAAP-3, respectively), followed by 'Academic/Research Departments' (23.0%, 23.8% and 23.2%), 'Non-Central Offices/Services or Departments' (9.8%, 13.0% and 12.0%) and others

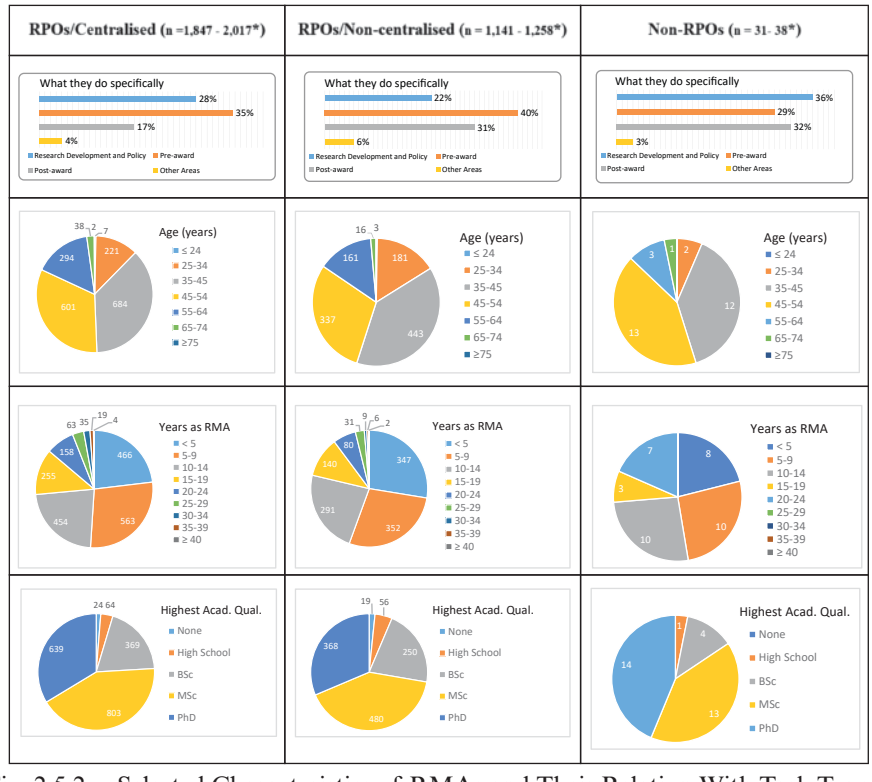

Fig. 2.5.2. Selected Characteristics of RMAs and Their Relation With Task Types and Working Settings.
Source: Authors from RAAAP-3 data.
* Range of the number of respondents for the set of four questions being analysed.

(4.5%, 5.3% and 6.3%). From RAAAP-1 to RAAAP-2 and RAAAP-3, the relative proportion of 'Central Offices/Services or Departments' decreased slightly, and that of 'Non-Central Offices/Services or Departments' increased.

The data shows that RMAs work mainly in organisational units that provide services across the whole institution (Central Office/Service or Department). However, an increased representation of decentralised RMA services (with functions other than academic or research) and other organisational settings can be observed (*RQ2*). This can be due to a tendency to decentralise RMA units, specifically dedicated to particular organisational subunits (e.g. faculties or schools). If so, are there any differences in the nature of the tasks these RMAs perform?

In order to assess what differences there are in the makeup of these RMAs and what they do specifically (*RQ3*), data from the most recent iteration of RAAAP (RAAAP-3) was used. The non-RPO considered was 'research funder'. The RPOs considered were university, research institute and hospital. The other organisation categories were not analysed as they can be either RPOs or/and non-RPOs, and this was not possible to derive from the survey data. The centralised services correspond to 'central office/service', and the non-centralised services correspond to 'non-central office/service'. The analysis results are summarised in Fig. 2.5.2, which collects the most significant features in terms of (1) tasks, (2) age, (3) years employed as RMA, and (4) highest academic qualification level of the respondents. The non-RPOs respondents were not split

into 'centralised' and 'non-centralised' as the response number (n = 34) is relatively low and, consequently, the data should be considered exploratory in nature.

It should be noted that, in this context, 'research development and policy' includes research policy, strategy, research assessment, ethics, governance, policy development, delivering research development or other training and development activities. It can be observed that (*RQ3*):

1. At non-RPOs, a greater number of tasks is performed at the research development and policy levels, followed by post-award and pre-award activities.
2. At RPOs, a greater number of tasks are performed at the pre-award and post-award levels at 'non-central services' than at 'central services', the difference being particularly prominent for post-award.
3. At RPOs, 'centralised RMAs' perform more tasks related with research development and policy than 'non-central services'.
4. At RPOs, the age range of 'centralised RMAs' is similar to that of 'non-centralised RMAs', although somewhat lower for the latter.
5. The average age range of the respondents at non-RPOs is somewhat greater than that of those at RPOs.
6. On average, RMAs at non-RPOs have been in the profession for longer than RMAs at RPOs.
7. On average, 75% of the RMAs, both at non-RPOs and at RPOs, have been employed for less than 15 years.
8. Non-RPO RMAs have higher average academic qualifications, in particular, a higher proportion of respondents with a PhD degree.

Data From the PIoS Survey

To assess if RMAs at non-RPOs feel part of the RMA profession/community (*RQ4*), data from the PIoS survey was used (as there were no questions in the RAAAP surveys that allowed for this analysis). The PIoS survey was disseminated directly among professionals at non-RPOs, and also among RMA associations. A total of 37 responses were obtained for RMAs working at non-RPOs (Santos et al., 2021b). No inferential statistical analyses were undertaken as the response level was too low for this to be meaningful. Thus, this study was exploratory in nature.

Around half of the respondents (48.6%) were working at research funding organisations. The second most representative institution type was that of science policy making (21.6%), followed by think tanks (13.5%), and other types of organisations (16.2%). The three most mentioned tasks are: 'operationalisation of funding mechanisms' (13.9%), 'liaison with stakeholders (e.g. RPOs)' (11.4%) and 'advising on programs and projects' (11.4%).

The respondents were asked whether or not they felt part of the same community/profession as RMAs working in other types of settings in the research ecosystem. Around half (55.0%) of the respondents would include their profession in the same category as that of RMAs working at HEIs and R&D centres, but 27.3% are not sure, and 18.2% do not. This indicates that there is a significant 'mixed identity' or 'undefined identity' in this specific community of professionals. The 'identity certainty' (i.e. the percentage of those that responded 'yes' when asked if they feel they belong to the same category as RMAs at HEIs and R&D centres) increases with increasing academic qualifications (33.3%, 47.6% and 77.8% for BSc, MSc and PhD, respectively). This is thought to have a contribution from a greater involvement of PhDs in the academic world and, thus, from an extended contact with RMAs at HEIs and R&D

centres (e.g. in the context of R&D projects). Also, the 'identity certainty' is greater for former 'scientists/researchers' than for 'managers from outside science' (66.7% and 60.0%, respectively). Possible because the former had a more extensive contact with RMAs at HEIs and R&D centres.

The data from the PIoS survey (see Santos et al., 2021b) also shows that the tasks 'advising on administration procedures', 'advising on funding opportunities' and 'disseminating funding opportunities' are more common for those who identify themselves with RMAs at RPOs (75.0%, 69.2% and 64.3% of the respondents that perform these tasks, respectively). On the other hand, the tasks 'definition of funding mechanisms', 'definition of policy and strategy' and 'other activities' are more common for those who consider they do not belong to the same professional category as RMAs at HEIs and R&D centres (33.3% for each of these tasks). The tasks 'operationalization of funding mechanisms', 'liaising with funding agencies' and 'liaising with stakeholders' are more common for those who responded 'not sure' (34.8%, 28.6% and 26.3%, respectively). The professional identification with RMAs at RPOs seems to be more representative in the case of 'managerial' levels than at the 'strategic' level. But the 'identity uncertainty' is clearly observed at the 'operational', 'managerial' and 'strategic' levels.

Evidence From Interview Data

To further explore *RQs 2*, *3* and *4*, the use was made of interviews with RMAs working in different organisations, to illustrate typical and atypical work contexts. We will look at Europe and North America as the two most mature regions in terms of the RMA profession, and consider the RPO, central and non-central, and non-RPO work settings. Bearing in mind the heterogeneity of professional contexts in Europe, interview quotes will be presented from two distinct countries (the UK and Portugal). Quotes are attributed to interviewees by number and a letter, either P for PIoS or N for those New in this research. Those wishing to be identified are listed in the Acknowledgements section.

Interviews to RMAs Based at RPOs

Awareness About the RMA Profession

The perception of RMA as a profession was a common observation of the interviewees, although this was not always the case:

> I definitely think that it is a profession. We have a very unique skill set, but in a knowledge base that you have to have. – Senior Research Administrator at a University (RPO, Central, USA). (Respondent #1N)

> I knew that I wasn't a researcher and I knew I wasn't … a secretary. (…) I didn't know what I was, … and it was very hard to explain to people what I've done and what I was doing and the importance of what I was doing. – Research Manager and Administrator at a Research Centre of a University (RPO, Non-central, Portugal). (Respondent #7N)

On the Different Roles of RMAs at Central and Non-central Levels

Some differences between the roles of RMAs at central and non-central levels are commonly identified, but the organisational culture is key:

> The specialisation increases when you go to the central levels. That's why for example, I do everything. Because, I'm in the lower level. Because

> if you go to the central services you will have a pre-award even if they do other things but it's a separate pre-award [as different offices] and the people that do the financial issues [also have their own section]. The amount of work and the diversity of work and specialisation changes a lot. – Research Manager and Administrator at a Research Centre of a University (RPO, Non-central, Portugal) (Respondent #7N)

> It's a lot more nuanced depending on where you are in the culture of your organisation and I think in many cases there is a power struggle, but who feels more important, who is the alpha office? There doesn't need to be but it is just, I think, a human culture issue. And again, I think that goes back to organisation and how leadership and how that culture is formed, created and nurtured from that leadership down. Right? I've seen a lot of battles between central and department levels. – Senior Research Administrator at a University (RPO, Central, USA) (Respondent #1N)

> [speaking about departmental vs. central] '… I very much consider us part of the same community. We're just two sides of the same coin'. – Senior Grants & Contracts Administrator at a University (RPO, Non-central, USA) (Respondent #10N)

Are RMAs at RPOs and Non-RPOs Part of the Same Professional Community?
The sense of belonging to the same professional 'area' is common, though keeping in mind relevant specificities:

> I consider that the scope of our work, the audience of our work is different. Maybe in the objectives, but I don't feel we belong to different professional communities. There are specificities but we are more common than different. – Head of Research Funding Affairs Office, non-profit private Foundation (RPO, Central, Portugal) (Respondent #3N)

> I definitely consider those people colleagues, but I guess I still probably don't consider them research administrators in the same vein that I would somebody sitting on … our side of the fence, so I feel like there may be a schism there. (…).– Director of Sponsored Programs at a Private Not-for-profit Institution (RPO, Central, USA) (Respondent #6N)

Nevertheless, for some interviewees, this has never been questioned at all:

> It's funny I've never really thought of our funders as being research management professionals, I thought … they work at a funder … they give us the money. – Research Support and Development Officer, University (RPO, Non-central, UK) (Respondent #5N)

Interviews to RMAs Based at Non-RPOs

Awareness about the RMA profession:

The interviewees showed, generally, to be unaware of the existence of a RMA profession. But in some cases described their profession as research 'facilitator' or

'enabler', and in others mentioned the familiarity with scientific aspects as a common trait with RMAs at RPOs:

> I actually don't believe that most of us, if even any of us, know that there is a name for what we do. – Team Leader at a National Funding Agency (non-RPO, PT) (Respondent #4P)

> I don't think I am doing research management, I think I am facilitating research management … In the broadest possible sense I help manage research but not in a narrow field of research management in that you are providing day-to-day support for the research lifecycle and providing advice, so I would say maybe I am a research manager at the national level rather than at the institutional level, possibly?! – Head of Product at a Not-for-profit Institution (non-RPO, UK) (Respondent #1P)

Are RMAs at RPOs and Non-RPOs Part of the Same Professional Community?
The sense of being part of the same endeavour is clear:

> We are also part of the project and I felt that on several projects, especially when the final meeting takes place and we are invited to go and there's always this gratitude toward us that I never really felt as a consultant, and that really makes us feel like we're part of the team and for me that sensation makes me more of a professional in that area than when I was a consultant. – Team Leader at a National Funding Agency (non-RPO, PT) (Respondent #4P)

The existence of cultural barriers in public administrations is mentioned to inhibit greater professional proximity between RMAs at RPOs and non-RPOs:

> [in relation to their role] '… it's like the frontier between being on the hunt for funding and being the ones getting the funding. Sometimes it might create this barrier and it shouldn't exist'. – Team Leader at a National Funding Agency (non-RPO, PT) (Respondent #4P)

Conclusions

RMAs work mostly at universities and research institutes but cover the entire chain of R&I ecosystems, including non-RPOs.

At RPOs, the majority of RMAs work at central services and perform tasks related to research development and policy, pre-award and post-award, but their presence at non-central services is increasing over time, namely in tasks that require a closer, tailored contact with researchers, in particular, pre-award activities. These RMAs provide a personalised service to researchers that central services often do not. This hints to an increased institutional recognition of the professional profile of RMAs, leading to clearly identified organisational units (i.e. reorganisation of functional units) and/or to an increased demand for RMAs (i.e. creation of new job positions and functional units). This is supported by the fact that the majority of RMAs at RPOs, namely at non-central services, have been employed for fewer than 10 years. Nevertheless, the hypothesis that the decentralisation of RMA services is a real trend needs to be addressed in future studies. Some tensions and a need for close cooperation between central and non-central RMA services, are evidenced.

At non-RPOs a somewhat greater number of RMA tasks is performed at the research development and policy levels, followed closely by post-award and pre-award activities.

Generally, RMAs at non-RPOs consider themselves as part of the wider RMA profession, although 'mixed identities' or 'undefined identities' are significant. Shared vision, mission and aims are mentioned as commonalities. Political drivers and public policy perspectives are examples of differences. RMAs at RPOs also see colleagues at non-RPOs as part of the same community, sharing the same general objectives, in terms of advancing science and technology, only from a different perspective. Increased proximity and lowered barriers among both categories of RMAs are welcome and seen as important to the overall mission of R&I ecosystems.

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Respondent #3N (RPO, Central, PT) – Sheila Vidal, Head of Research Funding Affairs Office, Instituto Gulbenkian de Ciência, Gulbenkian Science, Calouste Gulbenkian Foundation.

Respondent #6N (RPO, Central, USA) – Hagan Walker, Director of Sponsored Programs, Prisma Health.

Respondent #7N (RPO, Non-central, PT) – Inês Rosa, Research Manager and Administrator, INET-md Instituto de Etnomusicologia – Centro de Estudos em Música e Dança, Universidade de Aveiro.

Respondent #10N (RPO, non-central, USA) – Lauren E. Swindell, Senior Grants & Contracts Administrator, University of Virginia, School of Medicine.

Respondent #4P (non-RPO, PT) – Nuno Alves, Team Leader, National Innovation Agency.

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References

Agostinho, M., Moniz Alves, C., Aresta, S., Borrego, F., Borlido-Santos, J., Cortez, J., Lima Costa, T., Lopes, J. A., Moreira, S., Santos, J., Trindade, M., Varela, C., & Vidal, S. (2018). The interface of science: The case for a broader definition of research management. *Perspectives: Policy and Practice in Higher Education*. https://doi.org/10.1080/13603108.2018.1543215

Allen-Collinson, J. A. (2016). Just 'non-academics'?: Research administrators and contested occupational identity. *Work, Employment and Society*. https://doi.org/10.1177/0950017006064114

Drummond, C. N. (2003). Strategic planning for research administration. *Journal of Research Administration*, *34*(2), 4–10.

HEFCE. (2007). *Higher Education Business and Community Interaction Survey*. Higher Education Funding Council for England. https://webarchive.nationalarchives.gov.uk/ukgwa/20120118171806mp_/http://www.hefce.ac.uk/pubs/hefce/2007/07_17/07_17.doc

Kerridge, S., Ajai-Ajagbe, P., Kiel, C., Shambrook, J., & Wakefield, B. (2022). *RAAAP-2 datasets (17 linked datasets) (Version 1)*. figshare. https://doi.org/10.6084/m9.figshare.18972935.v1

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Kerridge, S., & Scott, S. F. (2018a). Research Administration around the world. *Research Management Review*, *23*(1), 1–34.

Kerridge, S., & Scott, S. F. (2018b). *RAAAP "Research Administration as a Profession" data sets and supporting files*. figshare. https://doi.org/10.6084/m9.figshare.c.4022284

Kirkland, J. (2008). University research management: An emerging profession in the developing world. *Technology Analysis & Strategy*, *20*(6), 717–726. https://doi.org/10.1080/09537320802426416

Santos, J. M. R. C. A., Varela, C., & Kerridge, S. (2021a). Professionals at the interface of science: Is there more than meets the eye? *Perspectives: Policy and Practice in Higher Education*, *25*(3), 100–105. https://doi.org/10.1080/13603108.2021.1881842

Santos, J. M. R. C. A., Varela, C., & Kerridge, S. (2021b). *PIoS datasets*. figshare. https://doi.org/10.6084/m9.figshare.16912498

Shelley, L. (2010). Research managers uncovered: Changing roles and 'shifting arenas' in the academy. *Higher Education Quarterly*, *64*(1), 41–64. https://doi.org/10.1111/j.1468-2273.2009.00429.x

Whitchurch, C. (2004). Administrative managers – A critical link. *Higher Education Quarterly*, *58*(4), 280–298. https://doi.org/10.1111/j.1468-2273.2004.00274.x

Whitchurch, C. (2008a). Shifting identities and blurring boundaries: The emergence of Third Space Professionals in UK higher education. *Higher Education Quarterly*, *62*(4), 377–396. https://doi.org/10.1111/j.1468-2273.2008.00387.x

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Chapter 2.6

The Establishment of a Research Project Management Office at a Medical School in University of São Paulo, FMRP-USP, Brazil

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Abstract

The objective of this chapter is to present the creation of the scientific research project management office at the Ribeirão Preto Medical School, University of São Paulo (FMRP-USP), Brazil. The case is about the adoption of Research Management and Administration (RMA) practices in the largest university in Brazil and presents data for the period of 10 years and relevant increase in the number of projects and budget volume managed (USD 2–21 mi) even with a small team (2–5 people). This is a successful case of a participant of The São Paulo Research Foundation (FAPESP) program and a relevant reference to encourage other Brazilian universities to implement the RMA structure. The implementation of RMA practices is not only possible but can be a game changer in a context with scarce resources and the proper policies can make a difference to the RMA professionalisation in the country.

Keywords: Project Management; Project Management Office; scientific research; implementation; RMA structure; case study; Brazil

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Research Ecosystem

The main sources of funding for scientific research in Brazil, as mentioned in more detail in Chapter 5.8 (Juk & Baisch, 2023), are the National Council for Scientific and Technological Development (CNPq[1]), the Coordination for the Improvement of Higher Education Personnel (CAPES[2]) and State Research Support Foundations (FAPs[3]) are coordinated by The National Council of State Research Support Foundations (CONFAP[4]). The FAP with the highest volume of budget and projects is the Sao Paulo Research Foundation (FAPESP[5]). There are also The Funding Authority for Studies and Projects (FINEP[6]) and The National Bank for Economic and Social Development (BNDES[7]).

On top of all these funding bodies, there are tax incentive and innovation promotion laws are federal and state laws that aim to encourage the development of science, technology and innovation in the country. The most important of these laws (Law No. 11,196, of November 21, 2005, popularised as the Good Law[8]) grants tax incentives to companies focused on research and development.

To explain how the funding system works in Brazil, we see how the National Confederation of Industry (CNI[9]) released a survey carried out with 196 medium and large industrial and service companies at the 9th Brazilian Congress of Industry Innovation, on 9 and 10 March 2022: in this survey, only 10% of them used financing public lines to research and development throughout 2020. According to the data, 89% of the companies consulted financed the innovation activity with their own resources.

To complement this overview of funding mechanisms, we consider UNESCO's latest scientific report (2021)[10] highlighted that while research spending increased in most regions between 2014 and 2018, 80% of countries still invest less than 1% of their gross domestic product (GDP) in research and development (in this period, Brazil GDP went from 1.27% to 1.26%). This is because, between 2015 and 2018, the research budget spent by Brazilian federal agencies decreased by 25%.

However, an exception in this scenario is the case of the state of São Paulo, which is responsible for a significant portion of public funding. It can be attributed to a combination of solid public universities (University of Sao Paulo (USP), State University of Campinas (UNICAMP), São Paulo State University (UNESP)) and research funds managed by FAPESP, which has an annual budget corresponding to 1% of the state's total tax revenue, in addition to operational autonomy.

USP has the 9th scientific research production in the world, according to the ranking prepared by the Center for Studies in Science and Technology of the University of Leiden, which evaluated scientific production from 2016 to 2019, considering 1,225 universities from 69 countries, released on 2 June 2021.[11] According to this ranking, USP remains the only Ibero-American institution to be among the 50 best in the world.

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[1] https://www.gov.br/cnpq/pt-br
[2] https://www.gov.br/capes/pt-br
[3] https://confap.org.br/pt/faps
[4] https://www.confap.org.br/
[5] https://fapesp.br/
[6] http://www.finep.gov.br/
[7] https://www.bndes.gov.br/wps/portal/site/home
[8] https://www.planalto.gov.br/ccivil_03/_Ato2004-2006/2005/Lei/L11196.htm
[9] https://www.portaldaindustria.com.br/cni/
[10] https://unesdoc.unesco.org/ark:/48223/pf0000377250_por
[11] https://jornal.usp.br/institucional/usp-e-a-nona-universidade-que-mais-produz-pesquisa-no-mundo-segundo-ranking-de-leiden/

Other Brazilian institutions ranked were UNESP, in 139th place; UNICAMP, in 174th; and the Federal University of Rio Grande do Sul (UFRGS), in 183rd place.

Another ranking, released on 16 September 2021, by the *Times Higher Education*, ranked USP as the 84th best university in the world in the area of Health, followed by UNICAMP, UFRGS and Federal University of Sergipe (UFS), ranked 251–300.

Within this role, Elsevier published the work carried out by a team from Stanford University indicating researchers from Ribeirão Preto Medical School, University of São Paulo (FMRP-USP) are among the 100,000 most influential researchers in the world (Baas et al., 2021).

The scenario depicted above puts us in front of a challenge, that is, the management of funded research and how this looks in Brazil. In fact, Cunningham et al. (2012) report that scientists are encouraged by their institutions to request public funding for research development, but when they receive it, they do not have adequate institutional support. This study indicates that the most significant inhibiting factor in conducting publicly funded research was management: all respondents explained that their time is consumed doing management rather than carrying out research.

Looking specifically at research management and its structures in Brazil, we know that project management offices can have various roles and functions (Pellegrinelli & Garagna, 2009), sizes and structures (Souza & Evaristo, 2006). Ideally, these structures work throughout the life cycle of a project, from the search for funding to its preparation, financial management (bureaucratic part including accountability), as well as managing the execution of the project itself.

A study carried out by CONFIES[12] between November and December 2016 highlighted that a researcher spends, on average, 33% of their time-solving bureaucratic problems that affect, mainly, the purchase of materials, goods and inputs used in the laboratories of higher education and scientific and technological research institutions. The survey was based on interviews with 301 Brazilian researchers who coordinate research projects in 34 federal universities, distributed in 23 states and the Federal District. Considering these results, the former director of CONFIES, Fernando Peregrino, states that this situation is alarming for the country, since 75% of the projects are financed by the public sector, that is, they are guided by the rules of the government itself (Junqueira, 2017).

Given the context described above, however, in addition to academic and professional interest, the management of scientific research projects has attracted the attention of institutions and funders in Brazil. The case described in this chapter is a standard of the locus where the development of RMA is more evolved in Brazil: universities from São Paulo state, health faculties and health research institutions, where most of the funding research projects are concentrated in the country (Oliveira & Bonacelli, 2019). It is important to reinforce that the presented case cannot be generalised to the whole country that has a diversity of realities regarding funding, research structure and universities due to tax distribution and social economic situation of each region and federal state.

Although there is already an association of professionals in Brazil as mentioned in Chapter 5.8 (Juk & Baisch, 2023), due to the incipience of the RMA area in the country, the professionals working with RMA activities do not recognise themselves as part of this community. This situation makes it difficult to map the quantity and profile of these professionals in Brazil until the moment. Because of this, the implementation of

[12] http://confies.org.br/institucional/burocracia-consome-mais-de-30-do-tempo-dos-cientistas-constata-pesquisa/

professional structures inside universities and research institutions is one of the ways to value and recognise the RMA professionals and a starting point to their self-recognition.

About FMRP-USP

Created in 1934, USP is a public university, maintained by the State of São Paulo and linked to the Secretariat of Economic Development. USP has eight campuses with more than 40 faculties,[13]183 courses and more than 50,000 students.

The Ribeirão Preto Campus is formed by the eight units: Ribeirão Preto School of Physical Education and Sport (EEFE), Ribeirão Preto College of Nursing (EERP), Ribeirão Preto College of Pharmaceutical Sciences (FCFRP), Ribeirão Preto Law School (FDRP), School of Economics, Business Administration and Accounting at Ribeirão Preto (FEARP), Faculty of Philosophy, Sciences and Letters of Ribeirão Preto (FFCLRP), Ribeirão Preto Medical School (FMRP) and Ribeirão Preto Dental School (FORP).

Created in 1952, FMRP-USP currently has 299 professors distributed in 16 departments (Biochemistry and Immunology, Cellular and Molecular Biology and Pathogenic Bioagents, Health Sciences, Surgery and Anatomy, Internal Medicine, Pharmacology, Physiology, Genetics, Gynecology and Obstetrics, Medical, Hematology and Clinical Oncology, Social Medicine, Neurosciences and Behavioral Sciences, Ophthalmology, Otorhinolaryngology and Head and Neck Surgery, Orthopedics and Anesthesiology, Pathology and Legal Medicine and Child Care and Pediatrics); it also has 415 technical and administrative staff working in all its departments.

The project management office is not a structure that is part of the organisational chart of all units. In fact, this support to the researcher is offered according to the characteristics of the project, that is, the number and complexity of research funding have determined the implementation of this type of office.

Creation of the Scientific Research Project Management Office at FMRP-USP

The Research Pro-Rectory (PRP-USP), in discussion with a group of six university units (including FMRP-USP) in meetings held between July and October 2010, proposed the implementation of pilot offices for the management of scientific research projects. Public funding was something that could not be neglected given its importance at the university.

However, as soon as the offices began to function, it became necessary to provide adequate training to managers, so that support for scientists is in line with the procedures required by the funding agencies. For FAPESP, the idea of creating a training program for the teams came in October 2010. Currently, this training is prioritised for institutions 'that already have in their organisational structure a work close to what is offered in this program and demonstrate a firm interest in expanding its structure' (FAPESP, 2022). In other words, the existence of institutional support for the researcher is becoming an important criterion in the evaluation of research projects.

From 18 to 21 October 2010, FMRP-USP participated in the first group of the FAPESP training program for teams of the so-called Office of Institutional Support

[13] The list of all research units and institutes can be found at https://www5.usp.br/institucional/escolas-faculdades-e-institutos/.

for Researchers (EAIP), and also in the 1st Workshop for Researcher Support Offices, presenting the case of the implementation of their office, both promoted by FAPESP.

In the case of scientific research management, the idea is to save the scientist the workload necessary to manage these increasingly complex, high-value projects with teams from different entities, so that he can dedicate himself to other activities aimed at science (increasingly organised and competitive) and student guidance (Junqueira & Passador, 2019).

Fortunately, more than 10 years since the start of the FAPESP program it continues despite on several occasions the fear of government support being cut for research funding and an overall lack of public policies to strengthen research in the country. Currently, the case study about FMRP-USP is one among many. Other research institutions have been participants in this pioneering programme, which were also mentioned in Chapters 3.2 and 3.3 due to its mark on the evolution of RMA in the country.

FMRP-USP began providing institutional support for researchers on 1 September 2010, with the implementation of the Project Management Center (CGP), recognised by Project Management Body of Knowledge (PMBoK),[14] to support them in the financial management of scientific research projects financed by FAPESP, CNPq, CAPES and others (Junqueira, 2017).

It is noteworthy that, at the time of its establishment, FMRP-USP did not have the staff allocated for this activity, it did not have experience in managing research projects, nor did it know tools capable of promptly meeting this demand. Therefore, at first, support for scientists was focused on financial management through the unit's existing structure, consisting of the following sections: Accounting, Agreements, Material, Treasury, Purchasing and Import Service and the CGP. The CGP could provide support for the funding request submission phase, requirements analysis and approval by the funding entity, as well as for financial management, which involved purchases and contracts, import and export of goods and services, payments to suppliers and accountability. Therefore, the FMRP-USP proposal for the office (maintained throughout its existence) was primarily focused on financial management, while the management of the execution of the project was in the researchers' hands.

Among the units with resources granted by FAPESP, it is worth mentioning the experience run at Research, Innovation and Dissemination Centers (RIDC).[15] This department has an administrative manager who monitors the daily routine with the coordinator and has been one of the interlocutors between the coordinator and the financial team.

Faced with the challenge of supporting scientists, it became necessary to quickly identify a formal and minimally organised set of resources for managing research projects. Therefore, FMRP-USP focused on three aspects:

- *People*: the key point for the implementation of the CGP was the review of the processes of the financial area, so that the entire team could offer its competence and integrate it to help scientists in the management of their research projects. The objective was to join efforts to optimise resources in the execution of these projects. In addition, at this time it was not possible to hire people and the solution adopted was the appointment of a manager, integrated into all activities.

[14] www.pmi.org
[15] https://cepid.fapesp.br/

- *Processes*: as the focus was financial, the proposed activities were related to purchases and contracts, import and export of goods and services, payments to suppliers and accountability.
- *Tools*: to assist in management, it started with software already adopted by the financial area, the Management Information System (SIG), which was continuously improved to meet the new need. In 2015, USP developed the Project Information Management (GIP) system, to meet the project management of the entire university. Through an agreement with FAPESP, the GIP is integrated into FAPESP's information systems and as of 1 January 2022, it became mandatory for the presentation of accountability for all grants on behalf of USP (the other institutions in the state of São Paulo use the Foundation's own systems). In this way, the management of research projects can be monitored by all users of the information system (financier, university, researchers and other users), under the responsibility of the project team.

Table 2.6.1 shows the number and value of projects under CGP management in the first year of operation while Table 2.6.2 shows the same data for 2022. In 10 years the number of funded projects increased from 20 to 107, representing a relevant increase in the number of managed projects and a significant financial increase from R$ 12,335,720 to R$ 110,011,194 (about USD 2–21 mi). During this period, the team continued performing just financial management activities and jumped from two people to five only, keeping up a lean and efficient operation despite the huge increase in the funded budget to be managed.

While Fig. 2.6.1 represents the number of projects finished in the period from 2010 to 2022 under the management of the CGP, totalling 462 projects managed.

It is worth noting that the CGP currently has five dedicated people on the team plus two interns, and now it can count on the experience and closer support of the Treasury and the Materials Section.

Table 2.6.1. CGP – Grants in Progress September 2011.

Funding Agency	Qty in 2011	%	Funding Agency	Value in 2011 (R$)	%
CAPES	0	0.0	CAPES	–	0.0
CNPq	2	10.0	CNPq	517,920	4.2
FAPESP	18	90.0	FAPESP	11,817,800	95.8
	20	100.0		12,335,720	100.0

Table 2.6.2. CGP – Grants in Progress September 2022.

Funding Agency	Qty in 2022	%	Funding Agency	Value in 2022 (R$)	%
CAPES	2	1.9	CAPES	200,000	0.2
CNPq	14	13.1	CNPq	7,360,287	6.7
FAPESP	91	85.0	FAPESP	102,450,908	93.1
	107	100.0		110,011,194	100.0

Source: Authors.

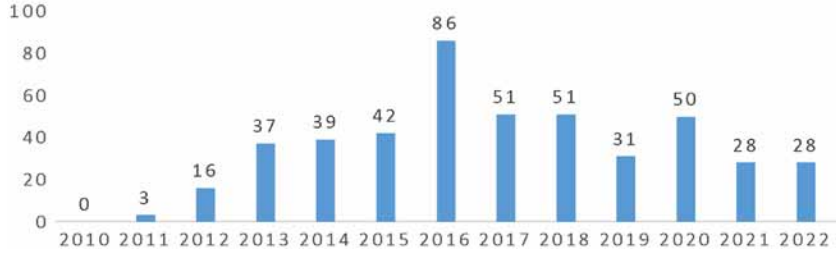

Fig. 2.6.1. Research Project Management – Finished 2010–2022.
Source: Authors.

Given the overview recalled above, it is possible to identify some qualitative findings of the management of scientific research projects: (a) the office has more availability to participate in research project calls launched by funding agencies therefore scientists have more time to dedicate themselves to research; (b) support from FAPESP in the execution of each project, with quick answers to questions that could influence the use of resources, without prejudice to the progress of research. Project management offices have an exclusive channel in 'Talk to the FAPESP', for direct contact with the team that provides the training; (c) FMRP-USP's agility in supporting the infrastructure demands for research projects, since the unit where the research is carried out receives an additional funding from FAPESP exclusive to support infrastructure demands; (d) optimisation of the time and resources involved, both at the institution and at the funding agency; and (e) access by funding agencies to scientists' suggestions for improving standards and adapting procedures to the reality of research administration.

Additionally, another study conducted between 2009 and 2015 on research projects from FMRP-USP evaluated quantitatively time, cost and quality variables and concluded that CGP helped projects meet the expected deadline, helped also the projects have their accountability approved according to the expected requirements and quality without rework (Junqueira & Passador, 2019).

Future Directions

This chapter presented the case of the FMRP-USP scientific research project management office as an example of an organisational structure created to support scientists in financial management that even with a small team allocated and a national context of scarce funding for research had proved their relevance. This case also has merit for contemplating data about RMA activities over a long period since it is still difficult to find organised evidence of RMA impact in Brazilian organisations due to RMA still largely being unrecognised as a profession.

This type of initiative is in line with the structure suggested for the institutional research support office (EAIP) by FAPESP, the main source of funding for the state of São Paulo.[16]

The objective of these offices is to assist the researcher in the administrative part of the projects developed with FAPESP resources, from the contracting, through the purchase of the granted items, through the release of resources, preparation of documents for importation, incorporation of the permanent material acquired until the

[16] Retreived September 24, 2022, from https://fapesp.br/13634/sobre-os-escritorios-de-institutional-support-to-researcher-eaip

finalisation with the presentation of the accountability to FAPESP in the required manner. The CGP has a delimited scope that includes processes that have particularities regarding the regulations of the funding agency. This is a good starting point but if the team were to be expanded then additional processes could be performed.

This type of initiative is also in line with the practices of foreign universities, where support for scientists has already become a routine part of institutional support, and shall be expanded to other faculties at USP. Thus, in order for this type of initiative to become viable for units that do not yet have an office, it is suggested the implementation of a shared project management centre on the USP Campus in Ribeirão Preto. This challenge is supported by the argument that this centre could bring together managers to serve researchers from all units, assuming that the norm is the same for all types of projects, regardless of the research area. This structure even meets the lack of human resources, optimising the dispersed structures that may exist today.

Qualitative results with this type of management were identified and demonstrated the feasibility of institutional management of scientific research projects, with obvious benefits for the scientists served and relevant impact on the number of grants and financial volume approved in the funding agency. It should be noted that the CGP was structured without a significant increase in staff, at the same time it incorporated a significant volume of managerial activities, which were added to the tasks previously developed in the area. This horizontal organisational configuration optimised the results obtained without significantly impacting the human resources involved in the project.

The accomplishments of the FAPESP program training research institutions to implement research support offices are relevant as a national case of public policy but its coverage is restricted to Sao Paulo state institutions. Even in Sao Paulo state, until 2017, there were only 43 trained institutions of a total of more than 1,500 research institutions eligible to participate in the FAPESP program training (Oliveira & Bonacelli, 2019). About the national context, Oliveira et al. (2017) conducted a mapping that identified 20 project management offices in only 14 of the 63 Federal Universities. Brazil is much broader and needs to create government incentives to promote the development of RMA in other regions considering the diversity in culture and research budget of each state.

References

Baas, J., Boyack, K., & Ioannidis, J. P. A. (2021). *August 2021 data-update for "Uptodated science-wide author databases standardized citation indicators"* (Mendeley Data;Version V3) [Data set]. Elsevier BV. https://doi.org/10.17632/btchxktzyw.3

Cunningham, J., O'Reilly, P., O'kane, C., & Mangematin, V. (2012). The inhibiting factors that principal investigators experience in leading publicly funded research. *Journal of Technology Transfer*, *39*, 93–110. https://doi.org/10.1007/s10961-012-9269-4

FAPESP. (2022). *Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP) Homepage*. https://fapesp.br/13634/sobre-os-escritorios-de-apoio-institucional-ao-pesquisador-eaip

Juk, J., & Baisch, R. (2023). Research management and administration in Brazil. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 485–492). Emerald Publishing.

Junqueira, M. A. D. R. (2017). Identificação de variáveis que contribuem para o sucesso de um projeto de pesquisa científica financiado pela Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP) na Faculdade de Medicina de Ribeirão Preto (FMRP) da Universidade de

São Paulo (USP) [Tese de Doutorado, Faculdade de Economia, Administração e Contabilidade de Ribeirão Preto]. *Biblioteca Digital USP*. https://doi.org/10.11606/T.96.2018.tde-24012018-144536

Junqueira, M. A. D. R., & Passador, C. S. (2019). The impact of the project management office on scientific research. *Journal of Public Administration*, *53*(6), 1179–1188. http://dx.doi.org/10.1590/0034-761220180125x

Oliveira, F. S. D., & Bonacelli, M. B. M. (2019). Institutionalization of research administration in Brazil: Some evidences. *Journal of Technology Management & Innovation*, *14*(2), 69–80.

Oliveira, J. M., de Almeida Jurach, G., Pinto, R. S., & Kerchirne, L. M. (2017). Project offices and the federal universities: A study on project management in the context of higher education institutions. *Journal of Business and Projects*, *8*(3), 18–28.

Pellegrinelli, S., & Garagna, L. (2009). Towards a conceptualization of PMOs as agents and subjects of change and renewal. *International Journal of Project Management*, *27*(7), 649–656.

Souza, K. C., & Evaristo, R. (2006). Project management offices: A case of knowledge-based archetypes. *International Journal of Information Management*, *26*(5), 414–423.

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Chapter 2.7

RMA Education, Training and Professional Development in North America and Europe

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Abstract

Starting in the late 1950s with the creation of the National Council of University Research Administrators (NCURA), followed by the formation of other professional organisations both in the USA and Europe, there was a growing sense that research management was indeed a profession. One goal was the creation of professional standards that would lead to a standard training curriculum and, ultimately, a professional credential, and there have been many attempts at developing research administration certification. Now, in the US, accreditation through the Research Administrators Certification Council (RACC) exam has become ubiquitous, whereas in other parts of the world, certification by portfolio is more common. This chapter will compare and contrast the salient features of certification, certificates, and degree programs in research administration and review their development and growth over the past 30 years. The chapter will discuss their relative merits and how they work to advance the profession of research administration.

Keywords: Europe; European Union; North America; ERA; Research Management and Administration; Professionalisation; RAAAP; RACC; NCURA; SRAI; ARMA; EARMA; CRA; CRM; formation-RMA

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Introduction

This chapter focuses on certification for research managers and administrators (RMAs) in Europe and the US – note that in the latter the term 'research administrator' is used with the same meaning as RMA, and in this chapter we use both nomenclatures. Certification through exam and portfolio routes are explored, as well as RMA-specific academic programmes, and the relative merits of each approach for the individual.

Background

If one uses the broadest of definitions, the origins of sponsored research could be traced back to the system of patronage that supported renaissance artists and scientists, with a recognisable through-line up to the National Institutes of Health and Horizon Europe. The origins of research administration as a profession, however, date back to the 1950s, when government agencies in the US began to create complex administrative and financial structures for conducting external research with universities, non-profit research institutions, and the private sector. Prior to that era, the majority of federally funded research was the result of a specific federal agency engaging in a relationship with an individual investigator or laboratory.

The Second World War was a catalyst for change with regard to government sponsorship of research and development, in both the US and Europe. According to Vannevar Bush in his seminal report 'Science, The Endless Frontier' (1945), on the eve of the war, investments in scientific research by the US government were approximately $1.5 billion per year (in current dollars), or a fraction of 1% of FY 2021 expenditures. Because of the exigencies of the war, and the guidance of people like Vannevar Bush in the immediate post-war era, research budgets continued to increase in the immediate post-war era. A significant impetus towards increased spending was defense-related research, driven by concerns of 'falling behind' technologically to the Soviet Union. By 1950, total US outlays for research and development were approaching $18 billion per year and would skyrocket when the Soviet Union launched its Sputnik satellite in 1957 (Brozen, 1961). Expenditures in the European Union were not as dramatic in the immediate post-war era (due to the demands of rebuilding), but have increased steadily since the 1980s with increasing national expenditures and the introduction of pan-European funding from the European Commission.

Prior to World War II, individual scientists or their staff provided the administrative and financial oversight of research, but as those administrative and financial structures grew more complex after the war, laboratories required full-time staff. In some cases, these individuals were trained scientists themselves, but in other cases, administrative and clerical assistants stepped into this role. Starting in the late 1950s with the creation of the NCURA, followed by the formation of other professional organisations both in the USA, Canada, Europe, and other parts of the world, there was a growing recognition that research management was becoming a profession. One goal was the creation of professional standards that would lead to a standard training curriculum and, possibly, a professional credential. An early advocate of this approach was Krebs (1992), who suggested two paths forward for a curriculum in research administration, one of which would eventually become a Master's level programme and the other would become the Certified Research Administrator (CRA) credential.

A similar story unfolded among research administrators in Europe, albeit somewhat later. RMA formation in Europe largely took place on a national basis and with a national flavour. However, the 27 states comprising the European Union operated in a wider supra-national framework that saw the development of a variety of

supra-national research programmes, the best known of which is the Framework Research Programme operating since 1984 (Guzzetti, 1995).

The EU research programmes created an environment where funding, and its concomitant regulations, crossed the borders of the various member states, making the development of transnational standards both practical and necessary. As in the USA and Canada, most European research administrators 'discovered' their vocation through a variety of routes (see, e.g., Dutta et al., 2023, Chapter 2.3; Poli, Kerridge, et al., 2023, Chapter 2.4), resulting in a diverse range of previous professional experiences. It did not take long for employers and sponsors to recognise the need for increased professionalism through education, training, and professional development opportunities.

Significant change started in the US. After nearly two decades of discussion, in 1992 the Society for Research Administration International (SRAI) took steps towards a certification programme by offering a grant that sponsored the creation of the RACC and the CRA credential. The move was not without its detractors, as some felt that the diverse tasks in a research administrators' professional portfolio could never be distilled into a Body of Knowledge, while others feared creating a 'caste system' of professionals who were certified and those who were not.

In addition to professional certification from RACC, a host of entities (primarily academic and non-profit) has offered an array of certificate programmes in research administration. More recently, several academic institutions in the US have established graduate degrees in research administration and at least one (George Washington University) now offers an undergraduate degree, albeit in the narrower field of clinical research administration. As these programmes mature, and because they are offered largely via distance education, one can reasonably anticipate that more academic institutions will offer degree programmes in research administration. This chapter will compare and contrast the salient features of certification, certificates, and degree programmes in research administration and review their development and growth over the past 30 years. The chapter will discuss their relative merits and how they work to advance the profession of research administration.

Definitions

Before delving into the relative merits of the three approaches to professional development, it is important to understand what they are and what they mean. In particular, one needs to understand the critical difference between a certificate and a certification, as the terms are often used interchangeably, but they refer to two quite different credentials. This is not to say that one is inherently or always superior to the other; both perform a useful function in the context of providing professional development to research administrators.

Certification indicates that an individual who holds the certification has met the requirements of an impartial third-party evaluator's review of the individual's professional expertise. In the US, to receive the CRA credential, the individual must successfully pass a written exam that evaluates knowledge in the field of research administration. A feature that is unique to most certification programmes is that certifications expire, typically within 3–5 years and require continuing education, typically in the form of Continuing Education Units (CEUs) or Contact Hours.

Certificate programmes can be offered by third parties or in-house through one's own institution, and the certificate acknowledges the completion of one or more workshops or courses in the field. In most cases, certificates do not expire and require no follow-on professional development requirements after being obtained by the individual. It should be noted that the institution's accrediting body does not typically accredit certificate programmes offered by an academic institution.

Academic programmes (most often Masters-level) must pass through the institution's accreditation process, which requires the curriculum to be reviewed by an external evaluator and that the credentials of the faculty are considered sufficient to offer the programme. These programmes fall under the purview of the Dean of Faculty (or equivalent) at the offering university.

Certification

In the early 1990s, a cohort of US RMAs (primarily within SRAI) created a certification exam that would offer the research administration equivalent of the Certified Public Accountant (CPA) credential. At the time, it was not widely agreed that research administration could (or should) be considered a profession similar to accounting, and many were doubtful that such an exam could be created. With a $5,000 grant from SRAI, the newly created RACC completed a Job Task Analysis and developed the first CRA Examination.

The RACC today is governed by a board of 15 active research administrators and offers three credentials: The CRA, the Certified Pre-Award Research Administrator (CPRA) and the Certified Financial Research Administrator (CFRA). There are approximately 4,000 people across the US who have at least one of the three certifications, although the CRA remains the most commonly received credential.

In order to sit for any of the three exams, an individual must typically have a bachelor's degree and three years of relevant professional experience. For educational levels below the Bachelor's level, RACC requires more years of experience. All three tests share a focus on the federal regulations regarding sponsored research, as opposed to best practices or procedures that might vary from institution to institution.

The CRA exam, in particular, is a broad review of all areas in research administration, from proposal development to research compliance to financial reporting. While the CRA exam does not go into great depth on any topic, the breadth of the exam is what makes it challenging. The CPRA and CFRA exams, being more narrowly focused, go into far greater detail in their respective areas. At all times, however, the focus is on US federal regulations.

Certificate Programmes

Professional certificate programmes, including those in research administration, have been offered by academic institutions and professional societies in the US since the 1980s. In most cases, the syllabi for these programmes are developed by the individual providing the training, with this individual being generally recognised as being a subject matter expert in the area. Depending on the nature of the programme, some certificates are more portable than others; certificates that focus on an institution's own internal policies and processes may not carry as much weight outside of the institution as a certificate that focuses on broader issues in research administration.

Aside from certificate programmes specific to research administration (including post-award financial and research compliance), institutions also offer broad programmes in all disciplines through the offices of Adult and Continuing Education. Where these programmes involve sponsored research, they are typically in the area of proposal development. Certificate programmes of this type provide institutions with the ability to reach a niche market of students (especially professionals in the non-profit sector) who do not require an academic degree to pursue their vocational goals. Although these programmes are not accredited, certificates offered by academic institutions are typically of high quality and reflect an acceptable degree of academic rigour.

In the UK an important study on Professionalising Research Management was commissioned and jointly funded by the Higher Education Funding Council for England (HEFCE) and the Medical Research Council (MRC). The project leaders Dr John Green and Dr David Langley first reported on the results of this project in 2009. The objectives of the study were first to investigate the demand for the development of a professional framework of training for research management and second to explore approaches to addressing any identified demand. They identified 86 universities, based in the UK that received research funding. From these, they took a sample size of 25% based on specified criteria (Total turnover, Amount of externally sponsored Research Income, Age of institution, Geographical location, and total number of students). The study identified that there was a demand for delivery of high-quality training, holistic enough to develop the skills required for research managers and administrators (Green & Langley, 2009).

The conclusions of this study proved to be an important driving force for the first professional development framework (PDF) designed by the Association of Research Managers and Administrators (ARMA, 2011). This led ARMA in partnership with Awards for Training and Higher Education (ATHE) and supported by Cancer Research UK, Association of Medical Research Charities (AMRC), Research Councils UK, and the Wellcome Trust, to develop the first certified professional training programmes in the UK in 2013. The programme consisted of two certificates. The first was the Certificate in Research Administration (now CRM: Foundation) which provided an introductory-level Certificate, for those starting their career in research administration. The second was the Certificate in Research Management (now CRM: Advanced), for those with at least two years' experience in the field, it was designed to give an insight into the technical and professional skills needed in research management today providing students a broader view of the issues from the wider organisational and sector position. On successful completion of the programme the students are awarded a vocational Qualification Credit Framework (QCF) (Level 3 (Foundation) and Level 5 (Advanced)) accredited by Awards for Training and Higher Education (ATHE) and regulated by OFQUAL.

The ARMA process was not happening in isolation, other professional associations were developing similar programmes for similar reasons. Between 2002 and 2004, EARMA, working with the Open University Graduate Studies Programme in the UK, offered a Professional Certificate in Management. That programme lapsed in 2004. In 2010, EARMA re-embarked on the process of developing a professional development programme. The 2010 approach was much more focused on a bottom up, needs driven scheme applicable to all RMAs and not just those who dealt with European Programmes. By 2013, the shape of a suite of programmes was clear. EARMA had proposed the development of three accredited professional development programmes (The Certificate of Research Administration (Europe) – CRA, The Certificate of Research Management (Europe) – CRM, and the Certificate of Research Leadership (Europe) – CRL).[1]These initiatives to develop certified training programmes gained momentum in 2013 leading to ARMA acting as an accredited centre for other associations such as the European

[1] More recently in 2020, EARMA developed an 'Early-stage Research Administrator Masterclass (ESRAM)' programme. The aim of ESRAM is to 'empower research administrators to undertake their new role with confidence, to present career pathways and give the participants an appreciation of the full research project life-cycle and related service tasks'. ESRAM is not certified but provides a starting point for engagement with the professional development programme offered by EARMA.

Association of Research Managers and Administrators (EARMA) and the Canadian Association of Research Administrators (CARA). In 2014, EARMA, working in close association with ARMA, launched the Certificate of Research Management (Europe). The programme was designed to help students consolidate the knowledge and skills required to be successful research managers. The course which continues to this day is aimed at practitioners in the field of research management and administration with at least 3–4 years RMA experience in Research Performing Organisations (RPOs), Research Funding Organisations (RFOs), Research Consultancy Companies, and other research support service providers. The certificate is taught as a combination of five face-to-face workshops for each mandatory unit, one online optional unit and self-study. On successful completion of the programme, the students are awarded a vocational QCF (Level 5) which is aligned to the European Qualifications Framework (EQF) (Level 5) accredited by ATHE and regulated by OFQUAL.

Not long after adopting the UK-initiated CRM, CARA instead developed their own through a joint venture with Mohawk College in Hamilton, Ontario. The programme, first offered in 2017 for 'foundational' research administration, was expanded in 2022 to include a certificate programme in research management. The programme requires the completion of six courses: Funding Proposal Development, Contracts and Reporting, Financial Management in Research Administration, Canadian Research Funding Environment, Research Project Management, and Research Ethics, Integrity, and Governance. Courses carry three credit hours and feature written assignments that receive evaluation from the course instructor, who is a research administration professional. Successful completion of all six courses is required in order to obtain the certificate.

On average, students in the programme require about 10 hours per week, as the programme includes a mix of lectures and reading assignments, in addition to writing papers – including the completion of an actual grant application. Both programmes are offered entirely online and are asynchronous, allowing research managers and administrators anywhere on Earth with the ability to obtain a certificate. Residents of Canada may be eligible for financial aid to complete the programme.

In contrast, Australasian Research Management Society (ARMS) developed their own suite of certificates – but they are self-accredited by the association itself. They offer a Foundation Accredited Research Manager – ARM(A) and an advanced option – ARM(F).

Starting in the late 1990s, for-profit entities began offering their own certificate programmes. In general, these entities are consulting firms that work with higher education, and their workshops either are sold as standalone products or marketed as part of the fee the institution is paying for their consulting services. As non-profit and professional organisations have increased their certificate offerings, often at higher quality and lower cost, certificates from for-profit entities have declined.

Academic Programmes

With the success of the US CRA Examination and the growth of academic-based certificate programmes, it was not an unreasonable next step to create an accredited programme in research administration. NCURA provided multiple planning and implementation grants (most notably to the University of Central Florida). As with any certificate programme, an academic degree is a confirmation that at a specific point in time, the degree holder met all the requirements of the programme. There is no expiration of the credential, and the holder is not required to pursue continuing professional development in order to retain it.

The first graduate programmes to offer A Master's in Research Administration (MRA) came from the University of Central Florida, Emerson College, and Johns Hopkins University. These programmes have an established curriculum and are accredited by the offering institution's accreditor. Programmes typically feature a number of required 'core' courses along with additional courses that can be selected by the student to reflect a concentration or area of focus (i.e. international research administration, proposal development, and post-award financial). These programmes are typically offered entirely online. The following are the required courses in the MRA Program at the University of Central Florida:

Introduction to Research Administration

- Governance and Regulatory Issues for Sponsored Programs
- Leadership and Organization Models in Research Administration
- Intellectual Property, Technology Transfer and Commercialization
- Public Program Evaluation Techniques
- Audits in Research Administration
- Financial Management in Research Administration
- Grant and Contract Management
- Strategic Planning and Management
- Human Resource Management

While there are currently no undergraduate programmes in general research administration, a handful of institutions have started offering bachelor's programmes in the more specialised area of clinical research administration (i.e. the administration of clinical trials). These programmes typically exist as an area of concentration within a traditional undergraduate degree in healthcare management.

Following the financial crisis of 2008 R&D funding dropped significantly, particularly in Southern European Countries (Rehm, 2018). As a result, some European Member States encouraged their scientists to look to the European framework programme for funding which may have led to the development of accredited qualifications sponsored by their governments. For example, the Universidad Politécnica de Madrid runs a diploma in the Promotion and Management of International Research and Development and Innovation projects and Actions (Polytechnic University of Madrid, n.d.). It is supported by the CDTI-E.P.E (Centre of Industrial Technological Development) a public entity of the Spanish Ministry of Science and Innovation. This is a prestigious diploma consisting of six modules with a total value of 15 ECTS of which the prime objective is to improve Spanish participation in the European framework programme as well as other international programmes as well as to improve best practices. It is aimed at professionals in the field who are supported by their organisations.

In Norway there have been proactive efforts to offer formal certification courses specifically designed for research managers and administrators. The University of South-Eastern Norway (USN) provided a one-year program on EU Project Management which we believe was offered from 2013 to 2016. Nord University offered a course called EU instruments for funding of research and innovation in 2017–2018.

What is the future of degree programmes in research administration? Even before the COVID-19 pandemic, institutions were moving towards a broader offering of online-only degrees as a way to increase enrolments and reach out to underserved communities. All current master's programmes and most current undergraduate degrees in clinical research administration are offered online only. As the technology matures and becomes more accepted, one can reasonably expect that an undergraduate degree

in research administration will be offered at some point in the not-too-distant future. Additionally, in Europe, there is foRMAtion (Giorgilli & Bodino, 2019), a project supported by the European Commission is developing and delivering specialised research management across four European Universities.

Relative Merits

For a research administrator seeking professional development, particularly for those with an eye to move upward in the profession, which of the three options is the best? It's an old joke among research administrators, but we all know that the answer to every question is always, 'Well, it depends'. All three options have their strengths and weaknesses, their advantages and their disadvantages. The right choice is whichever option is right for you.

One of the benefits of *certification* is that, given that there are minimum requirements for years of professional experience, one need only devote a few months of free time studying in order to successfully pass the US exam. One need not attend a series of workshops or enrol in for-credit courses. Another benefit is that the cost of certification is reasonable, certainly compared to tuition for a graduate degree and even to the cost of some of the better certificate programmes. As of 2022, the cost to sit for any of the three certification exams offered by RACC was $395. For a research administrator who is confident about passing the exam, certification can be an attractive option.

Another feature of certification has both advantages and disadvantages. Unlike certificates or academic programmes, a certification is a time-limited credential that has a specific expiration date. In order to maintain the certification, the certificant must remain professionally active in the field and must document a minimum number of contact hours, which are similar to some degree to CEUs within a prescribed period. The advantage is that the certification proves that the certification holder's knowledge is always up to date, but the disadvantage is that they must continually work to maintain their certification.

While *certificates* are also available for short one-off courses and workshops, these do not necessarily add much value to an individual's resume. The certificates that are of interest (and value) for this discussion are those that involve multiple training sessions and are offered by an organisation with a solid academic or professional reputation. For these certificates, one of the principal benefits is that they can be completed in as little as one year by completing as few as 2–4 courses or workshops. For a research administrator working full time, particularly those with other personal and family commitments, this makes a certificate programme an attractive option. Another benefit of certificate programmes is that, while costs can vary widely depending on the provider, certificate programmes will cost significantly less than a master's degree. A typical certificate programme offered by an institution of higher education in the US can cost as little as $2,500. Of course, if the programme is offered either locally or online, there won't be any travel costs associated with the certificate. For a research administrator whose institution is not reimbursing for the cost of continuing education, the comparatively lower cost of a certificate can be important.

Certificates and certifications can be of use to a jobseeker provided that the hiring official is aware of the organisation that provided the credential. The principal benefit of an *Academic Programme*, such as a Master's in Research Administration, is that the credential enjoys universal acceptance by nearly any employer, just as with any other master's degree. This credential is recognised both nationally and internationally, and is further recognised and appreciated even by persons who do not work in the field of research administration.

There are two principal barriers to receiving a MRA. The first is that the tuition and fees for an MRA are largely on par with those of any other graduate degree; while many research administrators work at institutions with tuition benefits, those benefits typically don't apply to graduate programmes and almost never apply to tuition paid to another institution. Degree candidates must often way the costs out of pocket, and the cost for an MRA averages at about $30,000.

The second barrier is the time commitment. With a regular (and admittedly intense) schedule of coursework, one could complete a master's programme in as little as two years; however, professional and personal requirements often do not allow for this, and for that reason, most institutions assume that participants will require three or more years. The University of Central Florida, for example, allows up to seven years to complete the programme. Of all the varieties of credentials, a graduate degree will require the most time.

Summary

Many are attracted to a career in research administration because of the constant evolution of the field – never doing exactly the same thing this year as last. Research administration is a lifestyle choice, but one that requires a constant commitment to keeping up with or even staying ahead of the changes.

Around the world, the universal call for 'professionalisation' requires adequate and appropriate education and training provision for RMAs. As the role of Research, Development, and Innovation gets more complicated and moves to the heart of social and economic progress, it becomes more complex and demanding of good governance. RMAs are often the interface between research and funders and RMAs being aware and fluent in these issues are increasingly important.

Simply falling into RMA must become less and less the route into the profession and be replaced by a more structured process of formation. In North America, and in particular the US, this 'professional formation' has been established for a while, in Australasia and the UK it's also developing but the lack of undergraduate and even postgraduate courses around Europe is of concern. The professional qualifications available to the community do provide a structured formation of the profession but places are limited and hence the number of accredited professionals remains low.

Recent attempts by the European Commission (2022b) through the European Research Area instrument, hint at the development of common EU standards, qualifications, and expectations developing but this is a slow burner requiring the consistent and constant attention of the professional representative associations.

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References

ARMA. (2011). *A professional development framework for research managers and administrators*. Association of Research Managers and Administrators. https://arma.ac.uk/wp-content/uploads/2018/11/PDF-Final.docx

Brozen, Y. (1961). The future of industrial research. *The Journal of Business*, *34*(4), 434–441.

Bush, V. (1945). *Science the endless Frontier*. National Science Foundation. https://www.nsf.gov/od/lpa/nsf50/vbush1945.htm.

Dutta, M., Oliveira, C. I., Fischer, M., & Kerridge, S. (2023). Routes into research management and administration. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 125–140). Emerald Publishing.

European Association of Research Managers and Administrators. (2022). *Courses & training | EARMA*. Retrieved September 22, 2022, from https://earma.org/courses-and-training/

European Commission. (2022b). *European Research Area Policy Agenda: Overview of Actions for the Period 2022–2024*. Publications Office of the European Union. https://doi.org/10.2777/52110

Giorgilli, F., & Bodino, A. (2019). *foRMAtion*. Retrieved September 15, 2022, from https://www.formation-rma.eu/

Green, J., & Langley, D. (2009). *Professionalising research management*. Retrieved September 15, 2022, from https://snowballmetrics.com/wp-content/uploads/2009-professionalising-research-management-2.pdf

Guzzetti, L. (1995). *A brief history of European Union Research Policy*. Office for Official Publications of the European Communities. https://op.europa.eu/s/wYHu

Krebs, R. E. (1992). A curriculum for professional research administrators? *SRA Journal*, *24*(1). https://www.proquest.com/docview/214811673

Poli, S., Kerridge, S., Ajai-Ajagbe, P. A., & Zornes, D. (2023). Research management as labyrinthine – How and why people become and remain research managers and administrators around the world. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 141–154). Emerald Publishing.

Polytechnic University of Madrid. (n.d.). *XIV edition. Promotion and management of international R&D&I projects and actions (15ECTS)*. Retrieved September 11, 2023, from https://www.upm.es/Investigacion/soporte/OPI/formacion/Horizon

Rehm, J. (2018, September 13). Ten years after the economic crash, R&D funding is better than ever. *Nature News*. https://www.nature.com/articles/d41586-018-06634-4

Chapter 2.8

Pathways Towards the Creation of RMA Associations

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Abstract

Curiosity is one of the main drivers in reaching out and connecting to colleagues and starting the networking – that is the foundation for establishing an association for Research Managers and Administrators (RMAs). The questions, 'Why, what, how and when', with a commitment to drive things forward, together with like-minded people, can transform curiosity into joint actions and movement of a network. While a number of success factors can be identified, alas there is no thorough literature describing how such factors interact or why. Even though all parameters are met, some associations still struggle with moving forward.

Recognising the identity as a research manager and administrator on the individual level enables reaching out to colleagues in the field, in and outside the institution, and nationally as well as abroad. Understanding the institutional environment and the structure of research support is the starting point for reaching out to colleagues.

This chapter will give an overview of the creation process of RMA associations, spanning from the rise of professional networks, as an informal organisation, to

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the establishment of legal entities, and hence a more formal association. It hopes to provide a meaningful discussion on the process of establishing professional associations despite the scarce literature on the topic (Stolle, 1998).

Keywords: Networks; professional associations; research management and administration; creation of associations; from informal to formal; recognition

Introduction

The assumption that organisations typically exist to further the common interest among groups of people is implicit in most of the literature about organisations. Even when unorganised or informal groups are discussed, such as 'pressure groups' and 'group theory' are discussed, the word 'group' is meant to refer to a number of individuals with a common interest (Olson, 1971, p. 7; Wenger, 2009).

Networks may be defined as webs of active affiliation, acting as conduits that channel the flow of ideas and information and existing only as long as a relationship endures (Powell & Oberg, 2017). In small groups, there may be some voluntary action in support of the common purpose of the individuals. As the network grows, however, some form of compulsory membership may be indispensable for its survival (Olson, 1971). That is why, after a certain period of time, RMA professional networks often evolve into formal associations, with the goal to advance research management as a profession through education and professional development programmes.

A number of success factors can be identified, and there are several consultancies and websites giving advice, for example, Coolerinsights,[1] that suggest eight parameters for success (Table 2.8.1).

Building on these, possible steps towards the creation of an informal network are shown in Fig. 2.8.1 and described in the next sections.

Professional networks can be seen as an arena in which people and/or organisations interact. The interactions enable them to create common understandings of their professional needs and to move forward, and in the case of RMAs, to the recognition of a new profession. Moreover, professional networks can act as negotiating or representative agencies, shaping, and redefining appropriate practices of interaction for their respective memberships (Greenwood et al., 2002). They are a means through which the members represent themselves to other actors and stakeholders inside and outside the field, providing information, advice, training, and pursuing strategic goals through influence. Initially, the development of collective beliefs is probably partly

Table 2.8.1. How to Build a Great Association.

Set up a sustainable framework in Governance, Talent and Operations	Position your association as a thought leader	Demonstrate value and relevance to members	Develop new initiatives and revenue streams
Constantly innovate	Extend your outreach through partnerships and alliances	Communicate	Invest in future leaders

[1] https://coolerinsights.com/2011/04/how-to-build-a-great-association/

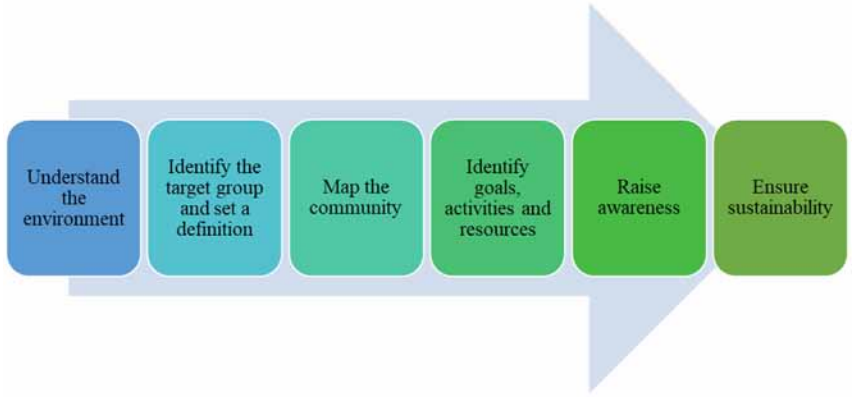

Fig. 2.8.1. The Informal Level: Understanding the Environment.

functional. Once established, these beliefs and practices can become taken for granted and reproduced through processes, such as training and education, hiring, certification, and ceremonies of celebration (Greenwood et al., 2002).

One important issue in the rise of professional networks is the analysis of the context: establishing an overall understanding of the environment within which individuals, organisations, and societies operate and interact. This includes consideration of all factors which impact upon the network to be developed, implemented, and the results to be sustained. According to UNDP (1998) guidelines it is important to build on what exists – to utilise and strengthen existing capacities, rather than to start from scratch. As there are already a large number of RMA associations today both at national and international levels, it could be useful to have a look at the existing professional networks, scrutinising their evolution in order to analyse the factors that led to the establishment of the associations. As discussed by Williamson and Dyason (2023), the movement towards the formalisation of a profession of RMA's is closely linked to the understanding of who a professional research manager and administrator is and what their skills are, highlighting and emphasising the role of soft skills. They present RMA practitioners as 'human-being' professionals and not only knowledgeable experts, and reinforce work-life integration based on what it means not only to 'know' and 'do' within a profession, but also to 'be' a professional.

Capacity development requires a comprehensive understanding of capacity at various levels:

At the individual level: is there an RMA identity among people working as research support staff at HEIs or any other institution Do RMAs feel themselves as professionals in the field?

Over the past few years, some research has looked at the development of a professional identity of RMAs within the sector, some based on surveys and interviews. Literature shows that the increased number and complexity of activities in research management and administration has led to a differentiation of staff over the years. The general trend today in the university sector is the transformation of traditional support functions, such as those of secretaries and technicians, being replaced by new professionalised administrative functions and specialists in targeted areas, for example, pre-award, post-award, and Open Science specialists (Beasley, 2006; Ryttberg & Geschwind, 2019). Individuals are interpreting their given roles more actively and are moving laterally across boundaries, creating new institutional spaces, knowledge, and relationships, particularly in a 'third space' between professional and academic domains (Whitchurch, 2008a). This can also be seen in the large number of RMA staff

with an academic background, which high proportions having doctorates and many moving from research (Oliveira, Fischer, et al., 2023, Chapter 2.2)

According to the literature, RMAs seem to be aware of their identity as professionals worldwide (Kerridge, 2021a). However, in some countries and in some institutions research support staff are still not fully aware of their role as professionals.

In the process of identity construction, the process of identifying with a community is important: professional networks can function as 'sense givers' for professional support staff in their process of making sense of their roles (Ryttberg & Geschwind, 2019). Professional identity formation is a socialisation process that involves both the acquisition of specific knowledge and capabilities required for professional practice, as well as the internalisation of attitudes, dispositions, and self-identity peculiar to the community of practitioners (Borden, 2008). In countries with no formal associations, the participation in activities promoted by international networks, such as the BESTPRAC initiative (Zsár, 2023a, Chapter 1.5) could help create a sense of professional identity.

At the level of the institution: do HEIs or other institutions recognise the role and the identity of RMAs?

The framework conditions for higher education institutions are changing: the more managerial mode of steering in research has also been associated with an increase in the number of administrative staff and a demand for new competencies. Highly educated specialists and experts in specific areas of administration are required (Ryttberg & Geschwind, 2019). However, as noted by Whitchurch (2008a), professional staff are progressively constructing their credibility on a personal basis, as the higher education environment is not supporting this progressive construction of credibility on an institutional basis. Institutions (and the sector) should and must support the identity of the third space professionals. As professional staff work across and beyond boundaries, they are re-defining the nature of their work, and it may be that those institutions are able to give recognition to more extended ways of working will be the most likely to maximise the contribution of their staff, and to achieve an effective accommodation with their current and future environments (Akerman, 2020).

At the level of the broader system or enabling environment. Policy makers should be aware of the needs of society or a group of entities: is there already an existing policy framework for the development of RMAs? Is the profession understood by policy makers and decision takers?

Inputs for the creation of RMA networks could come through a bottom-up (from the RMA community itself) or top-down approach (from policy makers, such as the government), depending on factors such as country, culture, and who takes the lead or who provides funding for the initiative. A clear policy framework is then essential for the sustainability of the initiative.

In the US, research administration was born from the need to manage an increasing amount of funds for research. In the post-war period, increased support for science by federal government agencies, universities, industrial research laboratories, and private foundations through grants brought the necessity of skilled people for research support. In order to face challenges, several research administrators started seeking solutions to common problems and issues through an open friendly discussion. To this end, the first meeting of the National Conference on the Advancement of Research (NCAR) was held in 1947 (Beasley, 2006).

In Brazil, the development of RMA is being driven by the desire of moving national science and technology initiative (STI) governance to a new level. But, although institutionalisation of science and technology policy and several initiatives to boost R&D and innovation, there is a lack of governance initiatives in favour of convergence and alignment among involved actors, policies, and strategies proposed (Oliveira & Bonacelli,

2019). In other countries, initiatives have been taken by funding agencies. The India Research Management Initiative (IRMI) – a pilot aimed at building research capacity – was supported by the India Alliance[2] to enable biomedical research. But there is a need for research management to be inclusive of all areas of science, so a wider effort would require collaboration between several funders to support this across disciplines. For maximum impact, the development of RM as a profession in India would require government commitment and participation (Ayyar & Jameel, 2019).

An example of commitment by policy makers could be seen in Norway, where the Norwegian Network for Administration and Research Management was created in 2013. In 2016, a project[3] aimed at competence development for Research Administrators was established the aim of the project is to develop a collective national Professional Development Program primarily for Norwegian Research Administrators. The program was developed by actors from The Norwegian Research Council,[4] NARMA/UHR (The Norwegian Network for Research Administration, The Norwegian Association of Higher Education Institutions)[5] (The Norwegian Research Institute's cooperative body), and Innovation Norway and followed by other initiatives (Silva & Nedberg, 2023, Chapter 5.36).

Recently the European Commission also recognised the growing need for the professionalisation of research management across Europe and a lack of training or access to it. The Research Management Initiative is proposed among the priorities of the ERA policy agenda for 2022–2024 (Action 17) (European Commission, 2022b) with four priorities: upskilling, recognition, networking to support the exchange of best practice, and capacity building The development of research management as a profession is also taken into account by many European University Alliances, with dedicated tasks.

The Informal Level: Building a Professional Network

Following the analysis of the capacity development at the three above-mentioned levels, further steps towards the creation of professional networks should be undertaken:

1. Identify the target group and set a definition of professionals working as research support staff:

There is no common definition of professionals in research support. In North America, 'research administrator' is the most common term, but in other parts of the world the equivalent roles are occupied by research managers and by research managers and administrators, often referred to as RMAs (Kerridge & Scott, 2018a). The terms 'administration' and 'management' are understood differently in Australia and the USA from the way that they are understood in the UK. In Australia, professional staff refer to themselves more openly as 'managers', rather than modulating this via the use of the term 'administration'. By contrast, in the United States, the most senior institutional managers, including presidents, are referred to as 'academic administrators'. Thus, the term 'administration' is associated with institutional policy and governance, and as something that is undertaken at a higher level than 'management', whereas in the UK 'administration' has tended to become devalued in that it is

[2] DBT/Wellcome Trust India Alliance (India Alliance) is an independent, dynamic public charity that funds research in health and biomedical sciences in India (About Wellcome Trust/DBT India Alliance (wellcomeopenresearch.org)).
[3] https://www.forskningsradet.no/prognett-horisont2020/Courses_and_help_with_proposals/1254022852485
[4] https://www.forskningsradet.no/en/Home_page/1177315753906
[5] https://www.abelia.no/bransjeforeninger/ffa-forskningsinstituttenes-fellesarena

often used to refer to procedural, and even clerical, tasks (Whitchurch, 2009). In Portugal, the term 'Professionals at Interface of Science (PIoS)' was coined to define the diverse, emergent, and rapidly changing community of professionals, the term being related to the roles these professionals fulfil within every institution that performs scientific research (Agostinho et al., 2018).

The Research Administration as a Profession (RAAAP) project (Kerridge & Scott, 2018a; Oliveira, Fischer, et al., 2023, Chapter 2.2), set out to survey RMAs from around the world utilised the acronym RMA to encompass all nomenclature – that is the most commonly term used in Europe among these professionals. RMA is defined as

> A research manager and administrator (research manager in some countries, research administrators in others – research support, and research advisors are also common terms) is defined as someone whose role (or a significant part of it) is devoted to support some part of the research lifecycle, including, but not limited to: identifying funding sources and customers, preparing proposals, costing, pricing and submitting funding proposals, drafting, negotiating and accepting contracts, dealing with project finance, employing staff on research contracts, reporting to funders, advising on research impact, knowledge exchange, technology transfer, supporting short courses, postgraduate research student administration, research strategy and policy, research assessment, ethics and governance, information systems, audit, statutory returns, and research office management. It also includes research development and researcher development professionals. (Fischer et al., 2022)

The European Commission also contributed to setting a definition. In the Horizon Europe Work Programme 'Widening participation and strengthening the European Research Area' (p. 75)

> Research management can take many shapes: research policy advisers, research managers, financial support staff, data stewards, research infrastructure operators, knowledge transfer officers, business developers, knowledge brokers, innovation managers, etc. (European Commission, 2022b)

2. Map the community:

Once the definition is stipulated, mapping the RMA community will help in understanding who the RMAs are. RMAs could work in different institutions, like ministries, HEIs, public or private institutions, hospitals, and funding agencies. Depending on the policy and structure of each institution RMAs could have different roles and skills. Surveys have been recently carried out in countries where formal RMA associations have not yet been established (Portugal, Spain, and Italy). Information about profiles, qualifications, employment conditions, roles, activities, skills, motivation, and needs have been collected. Overviews of the RMA profiles in these countries have been published.[6].

One of the main concerns in countries where no professional identity has yet emerged is how to reach the right people. Surveys are likely to be distributed through

[6] Portugal: https://sites.google.com/view/pic-pt/a-pic/organiza%C3%A7%C3%A3o?authuser=0 Spain: https://agaur.gencat.cat/web/.content/Documents/Internacionalitzacio/informe_IRMA_AGAUR_2020_final.pdf Italy: https://www.italianresearchmanagers.eu/wp-content/uploads/2022/05/caratteristiche-bisogni-formativi-RMA-italiani

personal contacts, thus leaving some professionals behind. In Portugal and Italy, where existing informal RMA networks involve mainly university central offices, financial managers in Faculties, Schools, Departments as well as RMAs working, for example, in private institutions, hospitals, or funding agencies were hardly reached.

As the RMA community grows, mapping should be repeated on a regular basis. The research environment is constantly evolving and new skills are required, therefore understanding professionals, their motivation and needs, will encourage initiatives contributing to research managers' upskilling.

Finally, community mapping could be the starting point towards the creation of professional development frameworks (PDFs). A PDF is a structure that supports, strengthens, and guides the development of a profession. It represents the point of reference for continuous education and career training for people who entered the workforce to develop new skills, stay up-to-date on current trends, and advance their career (see Romano et al., 2023, Chapter 4.4).

3. Identify goals, activities and (human) resources:

To strengthen the value for its members, the network should set its own strategy, by defining its mission, vision, and values. Objectives should be identified and a plan of activities should be drafted. It is also very important, in order to fulfil the stakeholders and members expectations, to make sure a small and motivated group will govern and drive the network formation.

4. Raising awareness:

Lewis (2012) points out that the recognition of a profession requires collective self-confidence through a professional identity, increasing visibility, and a strong and consistent voice. To raise awareness and become visible, an emerging community should actively invest in a communication strategy. Why do we exist? What do we want to achieve? A logo/brand/image and possibly a website should represent members and promote goals and activities.

Drafting a communication plan will allow the implementation of the strategy. The plan should identify: the stakeholders/target audiences, the content and objectives of the communication, the means to achieve the objectives and the indicators to measure the effectiveness. Concerning the stakeholders, it could be useful to differentiate between the primary and the secondary target audience. The primary stakeholders are those who have a robust influence on the achievement of the objectives (your colleagues, RMAs working in different institutions, and other RMA communities). The latter consists of those who can influence the primary audience (policy makers at national and international levels). The most common means of communications are: presentations at RMA-related national and international events, workshop organisation, publication in magazines or journals, networking, and best practice exchange with other professionals and associations/ platforms. Social media is nowadays the most powerful way to engage the audience. RMA communities often have dedicated groups on Facebook, LinkedIn, and actively use Twitter and Instagram to spread information. Since a key requirement for the social networks is to be active, an editorial plan should be implemented. The plan would include: communication objective, communication channels, content format, keywords, publication timing, and monitoring.

5. Sustainability:

In smaller groups, there may be voluntary action in support of the common purposes of the individuals in the group, but in most cases, this action ceases before it reaches the optimal/critical level for the members of the group. As the network grows

in terms of number of members and activities a decrease in efficiency can occur (Tuckman, 1965). In order to ensure the network sustainability some actions should be considered: assess the results, revise the goals, identify a core group of highly motivated members and analyse the market needs of new or existing professionals in the country. It should also be considered if some form of compulsory membership – from informal to formal is useful to the survival of the group.

Paying attention to these aspects will play an important role in the transformation from an informal network to a professional association.

RMA Associations: From Informal to Formal

The natural step forward from having an informal network is to formalise the network into an association (or equal type of organisation). There can be reasons that an informal network is the better option, but the movement towards formalising research management societies has gained significant power over the last few decades: on the one side, due to the complexity of the research environment, science pulls the need for highly qualified professional RMA support, on the other side RMAs now have vision, leadership, and content to create their own associations (Fig. 2.8.2).

There are benefits by keeping the network informal, and balancing of advantages and disadvantages is often the first step in the discussion on formalising the network (Table 2.8.2).

Setting Up a Formal RMA Association

There is a global trend towards recognising RMA as a profession, as the number of RMAs all over the world as well as the number of RMA associations are increasing: In the RAAAP-3 survey, with over 3,500 full responses from 66 countries, 31 of which had more than 10 replies. By 2022 INORMS has 22 member associations.[7] Some associations are multicountry associations, like SARIMA covering Southern

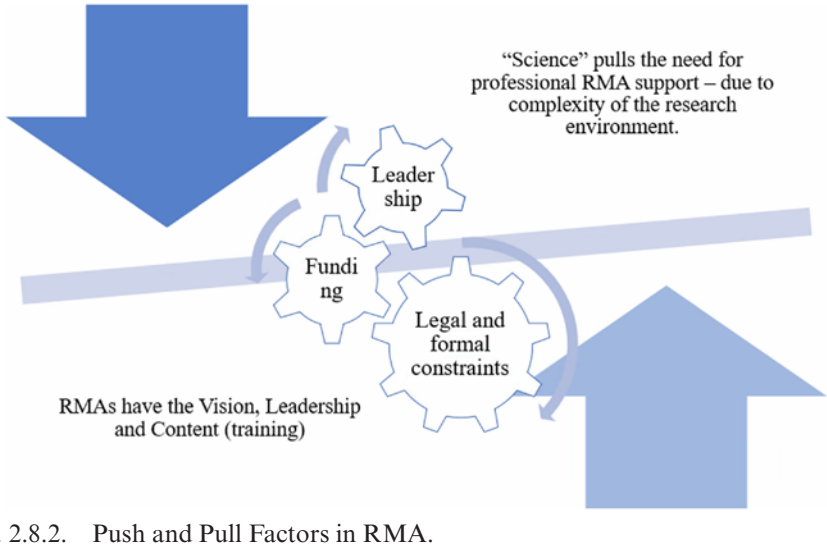

Fig. 2.8.2. Push and Pull Factors in RMA.

[7] https//www.inorms.net

Table 2.8.2. Informal Communities/Networks Versus Formal Association.

Advantages	**Disadvantages**
A. Informal Communities/Networks	
No legal and economic constraints	No funding available for the activities
Flexibility	No staff can be hired
No deadlines	No activities that require funding
No member fees	The work is done on a voluntary basis
Bottom up driven activities	Activities are extra-daily work activities
	Not all the plans are achieved (in time), and time is key for certain issues, such as policy
	Engagement
	Coordination effort rests on a small number of very motivated people
B. Formal Association	
Professionalisation of the association (sustainability, HR issues, funds)	Legal constraints
Have the decision power (statutes)	Define and monitor membership
Market and branding	Administrative procedures to be in place (opening of a bank account)
Access to stakeholders in a structured ways	Internal procedures
Financial capability to plan and develop activities	Professionalisation of the association (sustainability, HR-issues, funds)
Recognition of the profession	Bureaucratic burden
Lobbying – speaking with one voice	
Formal governance structure	

Africa, WARIMA covering Western Africa, EARMA covering Europe, and ARMS for Australasia and Singapore, but most are focused on a single country. The total number of research managers and administrators worldwide is unknown, but the collective membership of INORMS associations is around 30,000. The growth of formal RMA associations since the establishment of INORMS in 2001 shows the potential and drive towards an increased degree of formalisation.

The movement towards the formation of a formal RMA association from an informal network goes through a number of steps. Establishing an association requires support from the participants in the network, and from major stakeholders, like the management of the research institutions who are the ones enabling the research support staff to participate in such an activity. When building the association, it should consider who is represented: the institution or individuals in a society of professionals. Having institutional and/or individual membership will affect the membership structure.

In Part 2 of the book the experience presented from different countries demonstrates the huge variety in forming, timeframe, and scope of national associations and networks.

A major challenge in an environment where there is no tradition for research support or getting organised is the first mover problem (Leeson, 2010). The first mover problem says that a decision equilibrium (understood as the lack of ability to take decision) can occur in taking the decision to action because the cost or investment (risk) of the individual will only give value if all (or a majority) of the other actors join the decision. In order to remove the obstacle of the first mover problem, various strategies can be implemented, depending on the current situation. Identifying leadership, for example finding a motivated, charismatic personality in getting things started could play an important role, combined with having colleagues or hiring staff able and willing to do the operational management. Leeson (2010) also points out a roundabout for the first mover problem, to have a petition on the topic and, in this case, the petition could be a survey highlighting the size of the RMA community and main issues to be addressed (like training needs, career issues, etc.).

Setting up a leadership management is closely connected with the vision and mission of the association (Aithal, 2016). How does a new leadership make sure to deliver on the aims for the association? Bruce Tuckmann (1965) developed the notion Forming, Storming, Norming, and Performing describing the processes relating to the forming of new groups or organisations: after a period with enthusiasm and strong commitment (even conflicts), there will be a phase of normalising, often with a drop in engagement of the members of the group – this can lead to stagnation, and the leadership should be able to analyse and take appropriate steps to move the association forward. This can take several forms, like strategy development processes, member surveys, retreats, and leadership development programs or initiatives.

The leadership of the association is also responsible for succession planning (Atwood, 2020) and making sure that there is talent development in the association. Depending on the size of the association, this can be through the establishment of committees, and other groups in order to give a broader introduction to the management of the association and give members the ability to prove and develop their engagement in the association.

Draft statutes for the association, defining the purpose of the association, membership, membership fee, elections, leadership and management, budget, economy, and liability, should be put in place. In some countries, it can be difficult, due to regulations, to set up a voluntary association. Membership fee can become an issue, if stakeholders are not willing to cover membership costs, or there can be difficulties in setting up a bank account. Therefore, a thorough risk analysis and contingency plan for setting up a formal association is recommended.

Activities of the RMA association are typically:

- Upskilling, training, and career development.
- Recognition – defining skills and competencies of RMAs – policy advice.
- Networking.
- Capacity building, raising awareness, and community building.
- Networking with other associations, either on a bilateral basis or through INORMS can help the transformation process from informal to formal, be a source for exchanging best practice and learning from participating in activities.

There can also be cultural differences, making it difficult to adopt models from other countries. This can be down to details of the titles and roles in the association, for example, titles ‘President’ or ‘Chair’, ‘Board’ or ‘Board of Directors’. However, learning from the structures of other like-minded associations and determining which aspects can be translated successfully to the local context is always beneficial.

Conclusion

In this chapter, we discussed the aspects of transforming informal networks of RMA professionals into a formal association and the advantages and disadvantages in doing so. The solution to the challenges in setting up a formal RMA association is closely linked to national conditions, culture and personal commitment, and there is no 'one size fits all' model. Every community should find the right time and opportunity to act according to the options available. A thorough analysis should be the facts-based foundation, to drive the actions in realising national potentials and minimising the risk for failures, including learning from what works in other RMA associations around the world. Identifying and defining the group of RMA's is the next important step, to map the community and link it to the involved stakeholders. This will establish an understanding of the training, networking, and policies necessary for the community, and help clarify interactions with stakeholders, raising awareness about the contribution, and value of an organised RMA association.

We have presented the steps necessary to form an association, and as the country chapters will reveal, there is not a linear progression that will ensure success in achieving a successful setting up of an RMA association.

References

Agostinho, M., Alves, C. M., Aresta, S., Borrego, F., Borlido-Santos, J., Cortez, J., Lima Costa, T., Lopes, J. A., Moreira, S., Santos, J., Trindade, M., Varela, C., & Vidal, S. (2018). The interface of science: The case for a broader definition of research management. *Perspectives: Policy and Practice in Higher Education*, *24*(1), 19–27. https://doi.org/10.1080/13603108.2018.1543215

Aithal, P. S. (2016). Creating innovators through setting up organizational vision, mission and core values: A strategic model in higher education. *International Journal of Management, IT and Engineering*, *6*(1), 310–324.

Akerman, K. (2020). Invisible imposter: identity in institutions. *Perspectives: Policy and Practice in Higher Education*, *24*(4), 126–130.

Atwood, C. (2020). *Succession planning basics* (2nd ed.). American Society for Training and Development.

Ayyar, S., & Jameel, S. (2019). India Research Management Initiative (IRMI) – An initiative for building research capacity in India. *Wellcome Open Research*, *4*(18). https://doi.org/10.12688/wellcomeopenres.15073.2

Beasley, K. L. (2006). The history of research administration. In E. C. Kulakowski & L. U. Chronister (Eds.), *Research administration and management* (pp. 9–29). Jones and Bartlett.

Borden, M. H. V. (2008). The role of professional associations in the formation of professional identity. In R. Barnett & R. Di Napoli (Eds.), *Changing identities in higher education*. Bedford Way Press.

European Commission. (2022b). *European Research Area Policy Agenda – Overview of actions for the period 2022–2024*. https://doi.org/10.2777/52110

Fischer, M., Kerridge, S., Oliveira, C. I., & Dutta, M. (2022). *RAAAP-3 HIBARMA questionnaire (Version 3)*. figshare. https://doi.org/10.6084/m9.figshare.20459370.v3

Greenwood, R., Suddaby, R., & Hinings, C. R. (2002). Theorizing change: The role of professional associations in the transformation of institutionalized fields. *Academy of Management Journal*, *45*(1), 58–80.

Kerridge, S. (2021a). Research administration around the world. *Journal of Research Administration*, *52*(1), 11–14.

Kerridge, S., & Scott, S. F. (2018a). Research administration around the world. *Research Management Review*, *23*(1), 1–34.

Leeson, P. T. (2010). Rational choice, round robin, and rebellion: An institutional solution to the problems of revolution. *Journal of Economic Behavior & Organization*, *73*(3), 297–307.

Lewis, K. R. (2012). *Constructions of professional identity within UK higher education administration and management: the importance of collective self-confidence* Doctoral dissertation. Institute of Education, University of London.

Lewis, J. D., & Weigert, A. J. (2012). The social dynamics of trust: Theoretical and empirical research, 1985–2012. *Social Forces*, *91*(1), 25–31.

Oliveira, C. I., Fischer, M., Kerridge, S., & Dutta, M. (2023). The Research Administration as a Profession (RAAAP) Survey. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world*. (pp. 113–123). Emerald Publishing.

Oliveira, F. S. d., & Bonacelli, M. B. M. (2019). Institutionalization of research administration in Brazil: Some evidences. *Journal of Technology Management & Innovation*, *14*(2), 69–80. https://dx.doi.org/10.4067/S0718-27242019000200069

Olson, M. (1971). *The logic of collective action*. Harvard University Press.

Powell, W. W., Oberg, A., Korff, V., Oelberger, C., & Kloos, K. (2017). Institutional analysis in a digital era: Mechanisms and methods to understand emerging fields. In G. Krücken, C. Mazza, R. E. Meyer, & P. Walgenbach (Eds.), *New themes in institutional analysis* (pp. 305–344). Edward Elgar.

Romano, V., Del Bello, A., & Albanesi, A. (2023). Professional associations and professional development frameworks. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 355–372). Emerald Publishing.

Ryttberg, M., & Geschwind, L. (2019). Professional support staff in higher education: Networks and associations as sense givers. *Higher Education*, *78*, 1059–1074.

Silva, N. E., & Nedberg, H. (2023). The profession of research management and administration in Norway. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 723–733). Emerald Publishing.

Stolle, D. (1998). Bowling together, bowling alone: The development of Generalized Trust in Voluntary Associations. *Political Psychology*, *19*(3), 497–525. http://www.jstor.org/stable/3792175

Tuckman, B. (1965). Developmental sequence in small groups. *Psychological Bulletin*, *63*, 384–399.

UNDP. (1998, January). *In a systems and strategic management context* [Technical Advisory Paper No. 3]. Management Development and Governance Division, Bureau for Development Policy. https://www.cbd.int/doc/pa/tools/Capacity%20assessment%20and%20development.pdf

Wenger, E. (2009). Communities of practice: The key to knowledge strategy. In E. L. Lesser, M. A. Fontaine, & J. A. Slusher (Eds.), *Knowledge and communities* (pp. 3–20). Routledge.

Whitchurch, C. (2008a). Shifting identities and blurring boundaries: The emergence of Third Space professionals in UK Higher Education. *Higher Education Quarterly, 62*(4), 377– 396. https://doi.org/10.1111/j.1468-2273.2008.00387.x

Whitchurch, C. (2009). The rise of the blended professional in higher education: A comparison between the United Kingdom, Australia and the United States. *Higher Education*, *58*, 407–418.

Williamson, C., & Dyason, K. (2023). Knowing, doing and being: Transferable competencies for the research management profession. *SRA Blogpost, LIV*(1). https://www.srainternational.org/blogs/srai-jra2/2023/02/27/knowing-doing-and-being-transferable-competencies

Zsár, V. (2023a). History of RMA in Central and Eastern Europe. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 55–68). Emerald Publishing.

Section 3: Identity

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Chapter 3.1

From Conceptualisation to Action – The Quest for Understanding Attitudes of Research Managers and Administrators in the Wider World

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Abstract

This chapter examines various definitions and perceptions of Research Management and Administration (RMA) from individuals both from within and outside the profession to gain a wider understanding of this field. These definitions and perceptions are expected to trigger reflections on where the boundaries of the profession are more likely to be.

To do so, the authors utilise a mixed method that begins with a discussion of different definitions of RMA. Next, we move from conceptualisation to action and engage the reader by presenting empirical insights from an analysis of specific training programmes within RMA, shedding light on the profession's distinctive features from an insider's perspective. Lastly, we delve into the case study of the project foRMAtion, a training program that introduces RMAs as the 'Professionals at the

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Interface of Science.' This case study allows us to explore how individuals outside the RMA profession, such as teachers and students participating in its training courses, perceive and understand RMA.

Keywords: Boundary; students; definitions of RMAs; attitude; hybrid professionals; training

Introduction

Research Management and Administration (RMA) is often described as an emerging profession. It has been steadily and consistently affirming itself and its community worldwide through professional associations, qualifications, professional development frameworks, and European and international conferences and studies (Poli, 2021d, 2022a, 2022b; Poli & Toom, 2013; Romano et al., 2021; Santos et al., 2021a; Trindade & Agostinho, 2014; Williamson et al., 2020). This profession operates within the research and innovation (R&I) ecosystem, which is the space where 'the set of infrastructure and human, financial, institutional and information resources, projects and activities organised for scientific and innovation production' (Agostinho et al., 2018, p. 2). This set of infrastructure certainly includes the human capital that supports researchers to reach their ultimate goals.

RMAs support researchers in a variety of tasks. Nowadays, they are referred to as 'Higher Education (HE) professionals', 'new HE professionals', or simply 'HE managers' (Gornall, 1999; Middlehurst, 2009; Schneijderberg & Merkator, 2013). There are a number of terms associated with RMAs, and this definition is ambiguous. Nevertheless, we should strive to be consistent in its naming. An effort to define the profession will help us capture who we are and helps raise awareness among the rest of the university community and beyond.

Furthermore, RMAs have been called and defined in the literature in a variety of ways. They go from *hybrid* professionals, pointing to the blendedness of their credentials and career experiences, to 'semi academic' (Agostinho et al., 2018), highlighting their career trajectory as researchers as well as practitioners. Further definitions map RMAs' variety of skills, competences, and everyday tasks, and so they have been labelled as 'borderless' (Middlehurst, 2009), adding the comprehensiveness nature of the skills and capabilities required for this profession. Several books and theses have come up in recent years pointing to the diversity of their standpoints (Loi, 2021; Oliveira, 2020; Poli, 2018a; Veles et al., 2019). This includes the description as 'scholar-practitioners' (Streitwieser & Ogden, 2016; Whitchurch, 2018), previously theorised by Eraut (1994) with his description of professionals in practice as knowledge creators. These studies have taken several angles to explore the profession, including those of academics, students, and practitioners like us.

This profession has drawn interest to the policymakers at the regional (European) level (see, for example, the Council conclusions on the New European Research Area of December 2020[1]) as well as the national level (see, for example, the The National Recovery and Resilience Plan,[2] Italian documents referring to the 'development of a new generation of research managers' stated as a priority in the 2021–2027 Italian

[1]Council conclusions on the New European Research Area: https://data.consilium.europa.eu/doc/document/ST-13567-2020-INIT/en/pdf.
[2]https://commission.europa.eu/business-economy-euro/economic-recovery/recovery-and-resilience-facility/italys-recovery-and-resilience-plan_en

National Programme for Research). More recently, the European Commission has taken an interest in RMAs as an emerging profession with several funded projects[3] even to pave the way for students to learn RMA and the profession at large.

As such, this chapter aims to dive into this emerging profession to catch more features while attempting to define its boundaries in a less ambiguous way. Views from RMAs, students, and teachers depict a comprehensive picture of the profession and its surroundings, including the variety of stakeholders. These views add insights into the diverse nature of the tasks expected for RMAs and the skill sets as well as the overall competencies needed.

Seeking Clarity in Domains and Definitions

Definition of 'Boundary' and 'Bounded' Professionals

As a starting point, we explore what the term 'boundary' stands for. We do so by considering Whitchurch's (2008b) report 'Professional Managers in UK Higher Education: Preparing for Complex Futures' as one of the first works covering the topic. Here, Whitchurch (2008b) describes the attitude towards boundaries of

> those managers who located themselves firmly within the boundaries of a function or organisational location which they had either constructed for themselves or which they perceived as having been imposed upon them. This means that these professionals may choose to be governed by the 'rules and resources' within that space; they also often are characterised by a desire to maintain boundaries and performed their roles in ways that were relatively prescribed. (p. 11)

These professionals are the *bounded* HE managers and the boundaries described here are those purposively set by this group of professionals; they move comfortably within the boundaries of the role and their job description, which may even represent the safer working spaces these professionals have been defending from any institutional change; whereas they find it difficult to move out of these safe spaces to interact or connect with the wider world of the profession.

To explain this quest for boundaries further, we move on to follow Whitchurch's description of the so-called *cross-boundary professionals*. This group pictures those

> who actively used boundaries to build strategic advantage and institutional capacity, capitalising on their knowledge of territories on either side of these boundaries. They used their understanding of the 'rules and resources' of more than one type of space and were likely to display negotiating and political skills to perform interpretive functions and become actors in institutional decision-making. Although they were likely to have internal and external networks, they tended to see their futures within the sector. (Whitchurch, 2008b, p. 11)

[3]Such as the RM Roadmap (https://www.rmroadmap.eu/) and the CARDEA (https://www.ucc.ie/en/cardea/) projects (funded by the Horizon Europe Programme) focussing on RMA training and networking and the foRMAtion (https://www.formation-rma.eu/) project (funded by the ERASMUS+ programme).

In addition to the two groups described above, we consider *unbounded* professionals, as those who demonstrated a disregard for boundaries, or for the 'rules and resources' that they might represent.

> They have a more open-ended and exploratory approach to the broadly based projects with which they were involved. They undertook work that contributed to institutional development, tended to draw on external experience and networks, and were as likely to see their futures outwith higher education as well within the sector. In a sense, therefore, they were willing to 'let go' of structures and boundaries, tolerating a degree of risk and ambiguity, and embracing innovation and creativity. (Whitchurch, 2008b, p. 11)

These three groups of professionals in HE help identify some of the boundaries limiting the profession, which can be easily found in any context of RMA as well since these [groupings] show how individuals use boundaries for institutional and/or instrumental ends.

Definition of 'Boundary Work'

Regarding RMA, it represents an emerging forms of 'boundary work' (Schützenmeiser, 2010; Whitchurch, 2006), referring to functions at organisational boundaries for defining purposes, which may not always be in a university context. Boundary work is not meant to reflect segregations or to imply a silos effect within universities. On the contrary, it strives to promote the ongoing exchange between those belonging within and outside of organisation between research and its social environment (Schützenmeiser, 2010). Within this type of work, specialised boundary units have been established with their own identity; for example, technology transfer offices as the connectors between what lies both outside and inside the university. However, discussing regarded boundary work in research is not something new.

In conjunction with the definition of boundary type of work, we move on to dig more specifically to discuss RMAs as those *at the interface of science* (Agostinho et al., 2018; Santos et al., 2021a). This definition embraces a wide and comprehensive list of identities and functions in today's RMA. As Santos et al. (2021a) seem to suggest, this includes those RMAs working at research funding and policy agencies. But is there any other inner category missing from this extended definition? While describing these professionals at the interface of science, Agostinho et al. envisage the existence as well as a creation of a broad community that encompasses the widest range of profiles, ranging from grant writers and managers to knowledge transfer officers, and from science communicators to policy analysts. Whilst Santos et al. (2021a) focus on the extended definition of what is missing from that broad definition, they focus namely on the work of those at research funding and policy agencies that could feel excluded from some definitions but that claim their place in the profession at any cost.

Definition of 'Hybrid' Professionals

One more definition is broad and considers RMAs as *hybrid* professionals. Here, the focus sheds light on the hybridity of the profile of those with academic and professional experience. These individuals have experienced a variety of sectors and roles in careers and this may facilitate their sense of 'fitting in' any professional community

they find themselves involved. The focus is on their mixed credentials, career choices, and backgrounds. In this sense, they show career paths from a variety of sectors even within HE. They leverage these mixed credentials when performing their professional-oriented roles so to make their hybridity visible in their performance of the role; the hybridity is therefore in the self as it is in the role itself. From the points above, we see that individual use of boundaries could be the result of their hybridity, not to say of opportunistic use of their mixed, blended, or unique credentials and identities (Poli, 2013; Whitchurch, 2018).

Further definitions found in the literature capture the characteristics of those in RMA. For example, the combined definition of *hybrid* professionals as 'borderless' (Middlehurst, 2009) adds more features to the profiles and identities of its holders. This combined definition aims to highlight a way of thinking about professionals, their roles and identities. This to be regarded as *an art and practice of 'developing professionals' is a multi-layered enterprise involving a variety of contexts, many different actors, and a range of processes over time*. These further definitions have regarded RMAs as *invisible intermediaries* within the profession of RMA (Derrick & Nickson, 2014; Poli, 2018a; Romano et al., 2019; Szekeres, 2004). Others investigated these professionals in their attitude as servant leaders (Krauser, 2003) or the 'others' (Allen-Collinson, 2009; Shelley, 2009). The nomenclature has confirmed the perception of 'otherness' felt by other professionals in HE, positioning themselves outside RMA (Loi, 2021).

Exploring RMA Perceptions: Profession, Boundaries, and Educational/Training Needs

Intending to explore how individuals in this profession see themselves and how they understand and present their profession and its boundaries, we turn to the research conducted by Virágh et al. (2020) by investigating the relevance of specific education and training programmes. The research was carried out in two phases. The first aim was to identify those conditions, skills, and competencies that are necessary for the preparation and implementation of excellent European educational and research projects. The second aim was to gather empirical information on training and education needs as well as on existing opportunities to prove the relevance of specifically developed programs.

The mixed-method research consisted of an online quantitative and qualitative survey, a workshop, and online qualitative semi-structured interviews. The anonymous questionnaire dedicated to RMAs based in Europe included 35 questions, covering the topics of demographics, educational and professional background, place of work, advantages and disadvantages of the job, recruitment, skills and competencies, and RMA-related training and associations. It was primarily distributed through the mailing list of BESTPRAC COST action[4] but also on social media. 136 respondents filled in the questionnaire, and 89 of them completed it fully. Respondents came from 31 different European countries (country of work) and 73.0% of them were female. Then, a workshop was organised with the involvement of Hungarian stakeholders, including researchers, RMAs and representatives of research funding organisations to present and validate the results of the survey. Finally, interviews were carried out with selected respondents of the survey from nine different European countries to gather information with a special focus on the training, including their scope and structure,

[4]See https://bestprac.eu/home/.

the certificates received if any, and the views on the most suitable form, structure and timing of training for research managers.

How Do RMAs Across Europe Describe Their Jobs?

This question was directly raised during the interviews. All the interviewees gave a compact definition of their job and the RMA profession. Facilitation ('*…facilitate researchers to focus on what they should do'*. Interviewee, DK), providing support ('*Supporting those clever people with outstanding skills managing issues and complying with requirements'*. Interviewee, HU), as well as ensuring compliance with and translation of programme requirements ('*Supporting researchers to attract funding, ensuring the compliance of proposals with eligibility criteria, improving projects to increase the chances to get the grant through various means' … 'spicing up the proposals'*. Interviewee, PT) were the key phrases mentioned repeatedly. Various ways of cooperating with researchers were highlighted in all cases.

When RMAs were asked about why they would recommend the profession to others on the one hand, and what kind of disadvantages they perceive as professionals on the other hand, respondents provided definitions presented above as well as in other chapters of this book (Poli, Kerridge, et al., 2023, Chapter 2.4).

A number of RMAs describing the advantages and disadvantages of the job talked about working 'within boundaries', and most frequently, within self-constructed boundaries. Providing support for researchers or carrying out customer service, facilitating and managing research projects to secure excellence, organising the daily work of researchers, and arranging administrative issues to guarantee compliance with the funders' requirements were the most frequent answers in this case including RMAs from all levels, from the advisory role through the project manager till the administrator. One of them even mentioned that '*research managers feel more as an integral part of an institution, and part of something bigger and meaningful'* (respondent, PT). In short, each of the respondents, with various levels of educational degree and RMA positions, put the focus on services such as supporting, managing, organising, and administering, which, from the view of RMAs, belong clearly to research management and not to the responsibilities of the researchers.

While Whitchurch discusses about imposed boundaries, RMAs themselves hardly referred to such boundaries which were assigned to them by external colleagues or institutional regulations. On the contrary, a large majority of them complained about the lack of understanding of the RMA job referring to the unclear expectations from other colleagues towards RMAs or to the fact that RMAs are '*just perceived as part of the support services'* (respondent, IT) and it is difficult to '*defend your position in the organisation*' (respondent, NL). Closely connected to this, some also mentioned the lack of a clear career path and the lack of professional identity as well.

Moving to Whitchurch's definition of 'cross-boundary professionals' where RMAs use boundaries and build their intuitional capacity from interpretive functions to decision-making, the survey respondents mentioned several examples. They highlighted the opportunity of being involved in strategy-making, providing advice to institution leaders, and being leaders; all of them related very much to the activity described by Whitchurch as 'becoming actors in institutional decision-making'. Going further, making or contributing to '*impact'* (respondents, PT, BE, UK), '*bringing added value to the society'* (respondent, NO), '*working with different people with different backgrounds'* (respondent, AT), and the opportunity of '*interacting with'* (respondent, ES) and '*influencing internal and external stakeholders'* (respondent, BE) were also

mentioned; being in line with performing interpretive functions, building institutional capacity. The profiles of respondents in this category are rather similar: most of them have a doctoral degree and work in leading or advisory positions.

It is also possible to relate certain responses with the category of 'unbounded professionals' which Whitchurch refers to as those disregarding the boundaries. They have a more open-ended and exploratory approach and are willing to 'let go' of the structures. These respondents referred to the flexibility and dynamics of the profession, as well as to the continuous need for creativity. One of them also mentioned that '*institutional settings such as universities hinder the flow of operations and set forth way too much red tape*' (respondent, HU). Interestingly, most of the respondents were managers except for two leaders.

As described above, the definition of the 'Professionals on the Interface of Science' aims to embrace a long list of activities and identities connected to R&I in various ways. As was mentioned by an important number of respondents, working with and for science was an important part of their RMA identity; based on our understanding, this might be understood as an added value of this definition which puts the contribution to science and scientific development in the centre through multiple formats. In the survey, respondents highlighted that they '*love science'* (respondent, PT) and as an RMA they have the '*possibility to be involved in R&D projects from multiple research areas'* (respondent, PT) by being engaged '*in research while not being a researcher'* (respondent, NL). Working on the interface of science also means being '*at the forefront of the advancement of knowledge'* (respondent, CH) which provides a '*broad view on R&D&I, enhances expertise, gives an insight on the state of technology and research development*' (respondent, HU). Besides the fact that this position provides an opportunity for continuous learning and self-development, RMAs also highlighted that they '*provide the skills for successful research*' (respondent, PT) activities and '*facilitate and manage research projects*' giving the '*cornerstone for excellent, innovative and successful research projects*' (respondent, DE). It was also underlined that RMAs can have diverse positions without being specialised in one major area. In this category, respondents had either master's degree or doctoral degree and were managers or leaders.

Lastly, we arrive at the definition of 'hybrid professionals' referring to those having academic and professional experience and use their mixed credentials and career choices and backgrounds to fit in the professional community and then we combine this definition with the 'borderless' concept of Middlehurst, denoting professionals in multi-layered enterprises. One-third of the respondents hold a PhD (similarly, 35.7% and 38.7% of RAAAP-3 respondents from Europe and the UK hold PhD (total n = 973, PhD n = 347) but work as RMA on the one hand; on the other hand, they had diverse educational background coming from social sciences, economics, natural sciences, humanities, art, law, etc., just as in case of RAAAP surveys. In addition, a variety of their responses illustrated this definition too describing the profession as dynamic, challenging, necessitating '*creativity*' (respondent, BiH), multitasking, and '*transversal skills and competencies*' (respondent, FR) on the one hand; on the other hand, it was revealed that RMAs had lots of '*opportunities to learn*' (respondent, HR) and fulfil diverse positions without being '*specialised in one area*' (respondent, CH). The possibility of working with different people from different fields, networking and living in an '*international environment*' (respondent, ES) was also mentioned.

It should be noted that several respondents emphasised the importance of several skills and competencies which were only owned by RMAs within their institutions, and which were essential for successful R&I projects. The importance of these skills,

competencies and knowledge was also revealed because they could be considered as boundaries of the RMA profession as neither researchers nor other parts of the university administration use them daily.

What Skills and Competencies Are Needed by RMAs?

As a respondent in Belgium said: '*it [the RMA job] requires a set of skills that are only partially acquired as a researcher*', and one of the additional skills which is very much needed in research management is multitasking:

> I would only recommend it [RMA job] to people with a particular set of soft skills, such as the ability to switch between tasks fast and efficiently; be extremely organized; work under deadlines; be a people-person; be a leader. (Respondent, PT)

Fig. 3.1.1 presents that most of the skills listed were considered either very important or rather important by the respondents.

In terms of competencies, reliability, efficiency, flexibility, planning and strategic thinking, teambuilding, as well as motivation building were identified as the most important, as presented in Fig. 3.1.2. The last two are especially interesting considering the relatively low rate of leaders among respondents (9.6%) suggesting that these competencies were marked as important also by RMAs not in a leadership role; although mid-level respondents might also have teams in different set-ups (either within their institution or in the frame of a project).

The least important skills and competencies were IT skills, initiation, cultural and diversity skills, and creativity.

Referring to the definition of Barnet (2008) dedicating the role of RMA to females, all surveys, including this one, were completed by a significant majority of females (73.0%); in the case of RAAAP-3, from Europe 77.3% and from the UK 82.5% were female.

How and Why Research Management and Administrators Should Be Educated and Trained?

It must be highlighted that very few respondents claimed to have any kind of professional accreditation or certification related to RMA. When they were asked about how RMA as a profession could be taught and what could be the best way to educate and train students to become future professionals, the particular importance of skills and competencies necessary for RMAs was reflected again. Due to the continuously changing knowledge required in RMA, a potential educational programme was supposed to focus primarily on the development of skills and competencies (Virágh et al., 2020), as several respondents highlighted that RMAs '*learn [their] skills on the job*' (respondent, NL) as it cannot be learnt at '*the university*' (respondent, AL).

Beyond the training of newcomers, educational programs could strengthen the professional identity in RMA, clarify the boundaries, set the expectations about the job, raise awareness about the existence of the profession, enhance the talent pool, and reduce the investment needed in newcomers regarding time and energy (Virágh et al., 2020). Virágh et al. (2020) argue that problem-oriented hands-on training with case studies, examples of possible challenges and their solutions would be useful if included in educational programs. As underlined above, the main focus should be on skill and

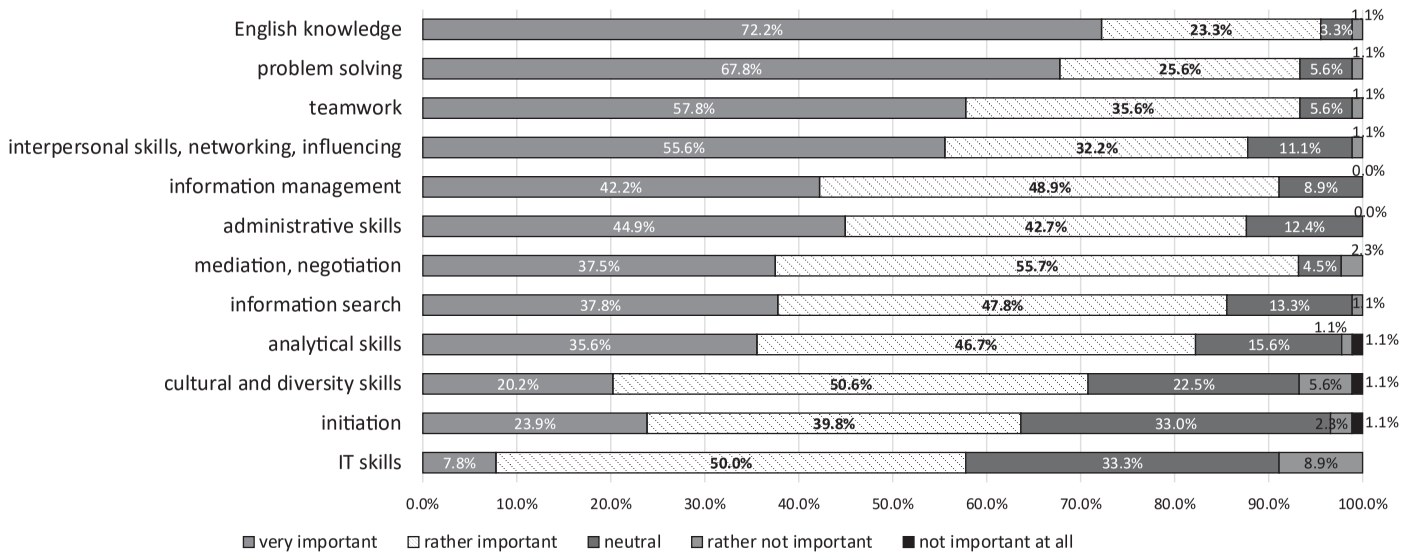

Fig. 3.1.1. Most Important Skills to Fulfil the RMA Job, by the RMA Respondents (n = 90).

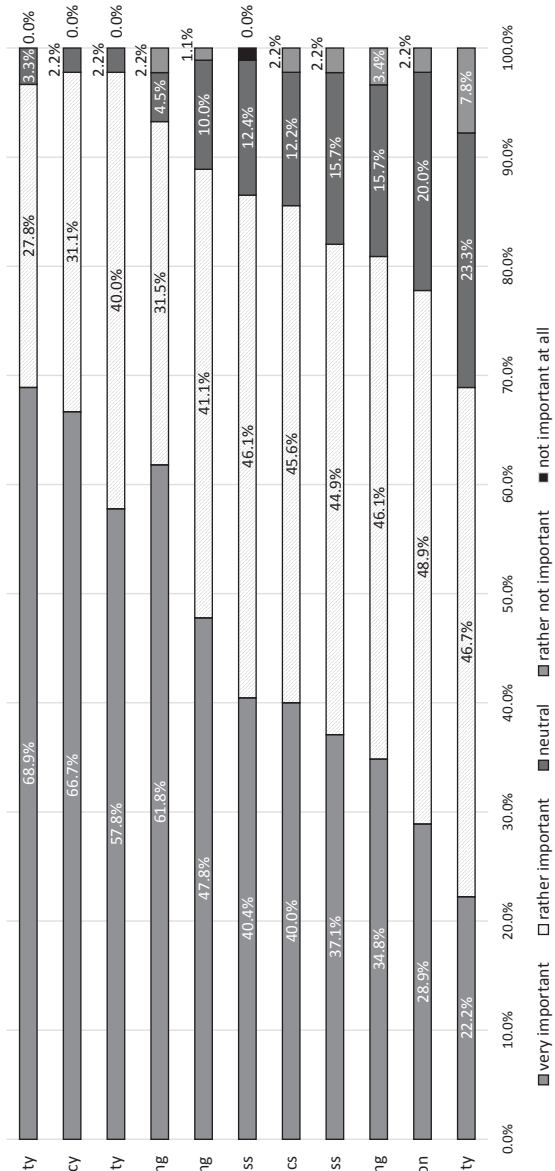

Fig. 3.1.2. Most Important Competencies to Fulfil the RMA Job, by the RMA Respondents ($n = 90$).

competence development. The elaboration of modules organised around the different fields of RMA could contribute to the flexibility of the education or training material. The educational programme should be organised hand-in-hand with a mentorship programme to close the gap between education and labour market needs (Virágh et al., 2020).

Although currently very few RMAs across Europe has a certificate, according to Virágh et al. (2020), the value of a certificate in case of a new educational or training programme would be also highly important; it would not only provide more visibility to the profession but recognition to the knowledge, skills, and competences of RMAs and contribute to the development of a possible career path. From the view of boundaries, the development of an educational or training programme could also contribute to standardising the already high requirements of the profession and make all participants (including institutions, researchers, and policy-makers) aware of what RMAs can offer and what their added value is. In short, to set and clear up the boundaries.

Identify Boundaries of the RMA Profession: An Empirical Case Study

The literature review provides us with relevant insights into the boundaries of the profession and related identity challenges, proposing new definitions for the profession. Previous studies have looked at how these boundaries are seen by RMAs and how they are reflected in their professional practices. But are these boundaries clear also to non-RMA professionals? How is the RMA profession seen by others? Do we have similar perceptions about the profession's identity, skills and boundaries? In this last section, we present the foRMAtion project as an interesting case study to collect possible answers to these questions.

The foRMAtion project[5] started in 2019 with the main goal to develop new training opportunities in RMA targetted university students. This international project gathered partners from Portugal, Italy, Hungary, Romania, and Slovenia, including three universities that developed and implemented a new training offer about RMA for their bachelor's students. Developing an international curriculum (common to the three universities), training the teachers (with different educational backgrounds and RMA experience level), and engaging the students with the profession (that were discovering the profession for the first time) lead to fruitful discussions and reflections about the boundaries of the profession, as practical evidence of the debates highlighted in the literature review.

To better understand how these students and teachers, as non-RMA professionals, perceive this profession, an anonymous questionnaire[6] was distributed and included 17 questions covering the demographics, role in the foRMAtion project, perceptions about the RMA profession, skills, and competencies of RMAs and definitions about the profession. The questionnaire was sent to all teachers and students that participated in/completed the foRMAtion course at NOVA University, Corvinus University Budapest, and the Sapientia Hungarian University of Transylvania. 28 answers were collected in total, 4 from the foRMAtion teachers and 24 from undergraduate students that attended the foRMAtion course from the different participating universities.

[5]See https://www.formation-rma.eu/.
[6]Available at https://drive.google.com/drive/u/0/folders/1U6p4EihA_a6tEW4s4mq0-o1ax4BXWkp8.

How Do Students and Teachers Define the RMA Profession?

In the survey, respondents were asked to describe the RMA profession in a short sentence. Both target groups (teachers and students) emphasise the supporting role of RMAs, as the following answers illustrate: '*As an RMA you are the organising and structuring link between all participants of the research life cycle*' (student) and '*The RMA is the right hand of the future's scientific researcher*'.

Regarding the main tasks related to the profession, both groups described a diversified list of tasks, from project proposals to management of projects. Interestingly, students provide a more holistic view of the profession while teachers focus more on the tasks related to projects. For students, the role in '*connecting us with the knowledge and the rest of the world*' or in '*the development of societies, decision making*' reflects a more integrated vision of the profession along the '*whole research lifecycle*' (students' answers). This broad vision of the profession, as 'professionals at the interface of science', is clearly stated by one student that provided the following definition '*diversified professions that all work in favour of research*'.

This understanding of the variety of tasks performed by the RMAs is also visible in other questions of the survey, with 58.0% of the respondent students and 75.0% of the respondent teachers strongly agreeing that 'RMA professionals are called to fulfil multiple tasks and roles'. Related to that, both students and teachers acknowledge that 'RMA professionals need a wide variety of different skills and competencies', with 71.0% of students and 75.0% of teachers strongly agreeing with that.

How Do Students and Teachers Understand the Profession's Boundaries?

With such a broader vision of the profession, the boundaries between what is within the role of RMA and what is beyond that is a challenge also perceived by both students and teachers. This is already visible in some of the descriptions provided by the respondents: '*A Jolly Joker who is ready to learn and is not afraid to start things from the beginning*' (teacher) or '*Everything with everyone*' (student). In particular, the intersection between developing research and managing research, as a 'hybrid professional' that included the previous role of the researcher in the current RMA practice, was noticed by both teachers and students. The answers to the statement 'RMA professionals do not perform research' varied from 'Strongly agree' (21.0%, students) to 'Strongly disagree' (13.0%, students), with 42.0% of the students selecting 'Disagree'. Also, to the teachers, this is the question with a higher diversity of answers, with half of them (50.0%) agreeing with the sentence, 25.0% disagreed and 25.0% neither agreed nor disagreed. This is also linked with the perception about the background knowledge RMA have, with 92.0% of the respondent students acknowledging that 'many RMA professionals have academic/research experience' and 100.0% in the case of the respondent teachers.

What Skills and Competencies Are Seen as Most Important?

Students emphasise the need for transferable skills, namely describing the profession as '*The perfect job to put interpersonal skills in action*' or '*A profession which requires management skills, ability to focus on more things at the same time, ability to analyse information to finish the job more efficiently*'. In addition, students and teachers were asked to select the five most important skills (Figs. 3.1.3. and 3.1.4) and the five most

important competencies (Figs. 3.1.5. and 3.1.6) for RMA. The same skills and competencies categories were as in the study of Virágh et al. (2020) about the RMA profession, previously presented, to enable comparisons.

Regarding the relevant skills (Fig. 3.1.3) students highlighted problem-solving (75.0%), teamworking (75.0%), interpersonal skills, networking, influencing (58.3%), information search (54.2%), information management (45.8%), administrative skills (45.8%), and analytical skills (45.8%).

Similarly, teachers (Fig. 3.1.4) also highlighted interpersonal skills, networking, influencing (100.0%), problem-solving (75.0%), analytical skills (75.0%), administrative skills (50.0%), mediation, and facilitation skills (50%). Comparing these results with the ones from the RMA community, also problem-solving, teamworking and interpersonal skills, networking, and influencing are among the top four most important skills.

Regarding the most relevant competencies, students' and teachers' selections are different. While students (Fig. 3.1.5) highlight the planning, strategic thinking (87.5%), the leadership, decision-making (79.2%), the flexibility (62.5%), the team building, motivation building (58.3%), and the efficiency (58.3%).

On the other hand, teachers (Fig. 3.1.6) select reliability (100.0%), flexibility (75.0%), planning, strategic thinking (75%), and assertiveness (75.0%) as the most relevant ones. Leadership and decision-making competencies (the student's first choice) were not selected by any respondent teacher. A possible explanation for that is the scarcity of leading roles in the RMA profession in the context/countries of the respondents (Hungary and Romania).

How Is the Profession Acknowledged and Recognised by Others?

Although for both students and teachers 'the majority of RMA professionals have positive feedback about their profession', with students 50.0% agreeing and 42.0% strongly agreeing with that, while 100.0% of the teachers agree, both groups acknowledge that there is still a deficit in its recognition of the profession by others. In this regard, 46.0% and 50.0% of the students agree and strongly agree that 'The RMA profession lacks recognition by others outside of the profession'. Similarly, 50% of teachers agree with that, 25.0% strongly agree and 25.0% neither agree nor disagree.

Discussing Results from the Two Surveys

As presented above, when these professionals have to describe their main role as RMAs, the provision of support is mentioned in the first place. This was the same in the case of students and teachers who filled in the questionnaire. This role could be the basis for the development of the new definition, however, it should integrate the enormous complexity which is included in this supporting role.

The understanding of RMA tasks by those working in the field differs significantly based on their position, responsibilities, tasks as well as the institutional frames in which they work. It was interesting to learn, however, that during the foRMAtion course, students gathered a more holistic understanding of the profession, whereas teachers developed a more task-based understanding.

Looking at the set of skills arising from the two surveys, we notice that, apart from English knowledge, teamworking, interpersonal skills, and problem-solving seem to be the core skills for an idealistic profile or attitude in today's RMA. Both students and teachers ranked these skills as the most important.

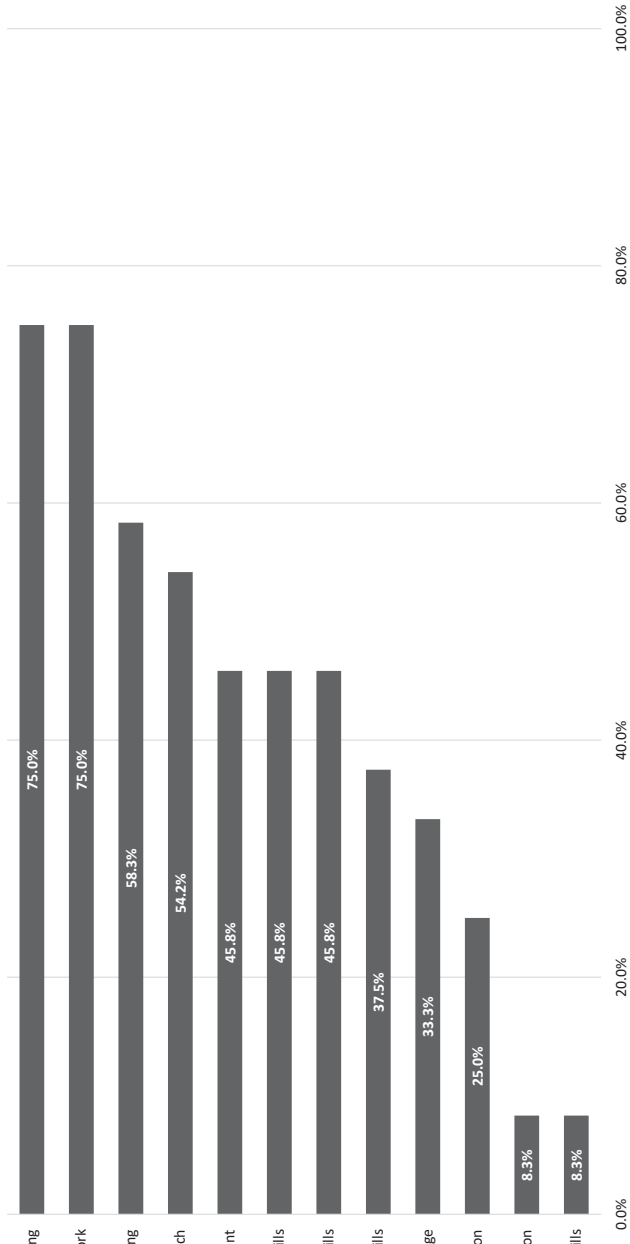

Fig. 3.1.3. Most Important Skills to Fulfil the RMA Job, by the Students.

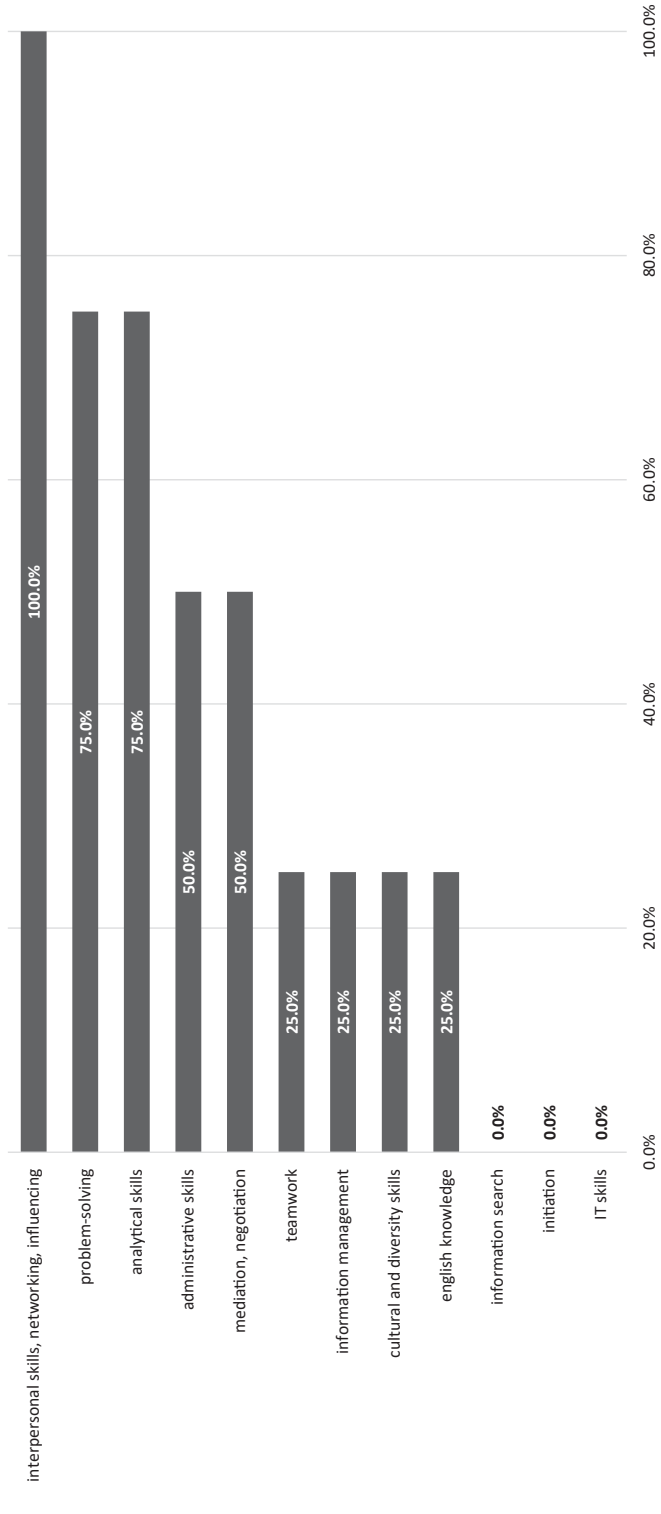

Fig. 3.1.4. Most Important Skills to Fulfil the RMA Job, by the Teachers.

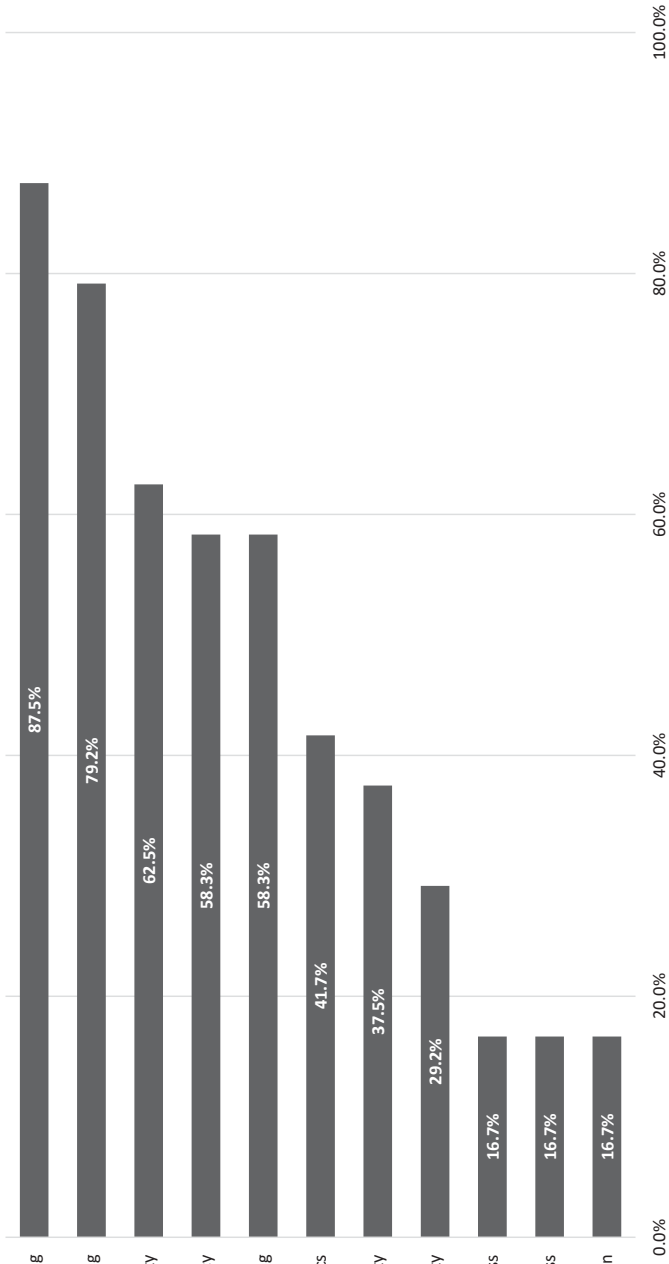

Fig. 3.1.5. Most Important Competencies to Fulfil the RMA Job, by the Students.

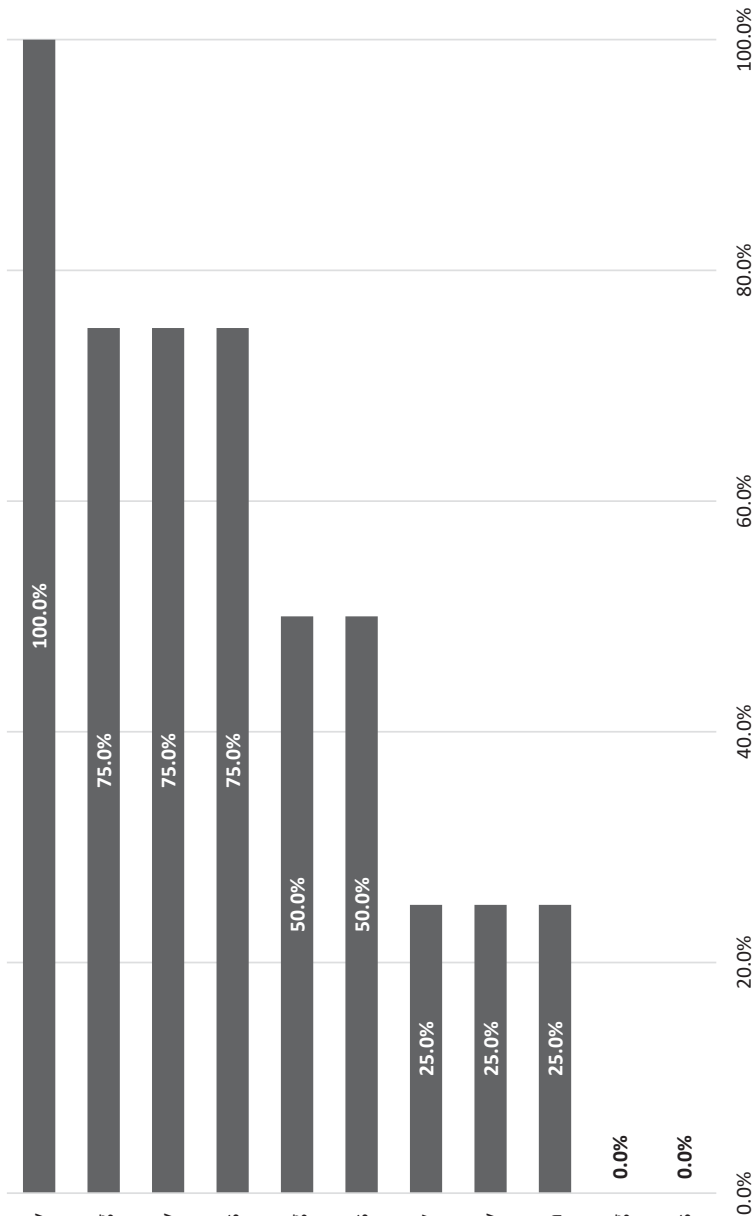

Fig. 3.1.6. Most Important Competencies to Fulfil the RMA Job, by the Teachers.

When it came to indicating the most needed competencies, flexibility was a common denominator of their views of RMAs both for professionals and teachers/students. Beyond that, professionals highlighted the importance of reliability and efficiency; and students and teachers gave higher rankings for planning, strategic thinking, leadership and decision-making, reliability, assertiveness, and planning.

As the results of the first survey prove, all these skills and competencies are of utmost importance for RMAs and we may even say that they may make the distinction clearer between RMAs and other actors within the HE sector, including researchers. It is important to note, however, that the majority of the skills above are soft skills, while the hard ones are seldom reported. This aligns with what has been investigated on different professional groups in HEIs, for example, educational support managers in their 'extended/restricted' views of professionalisation (Poli & Taccone, 2023, Chapter 4.3). In addition, we notice how the set of skills above has progressively converged with those held in other sectors, for example in start-ups, so to move RMAs closer to a wider range of professional groups (Poli, 2022a, 2022b).

Conclusions

After matching definitions in the literature with empirical results from the two surveys, we can conclude that the boundaries of the profession are not only multiple but wider than expected. Students, teachers, and RMAs position these boundaries differently, depending on their stance as insiders or outsiders they take to look at them and the overall knowledge that they have of the profession. These boundaries may even be group-specific both in their extension and core and so vary depending on factors such as the maturity of the institution, the country where the institution lies, see Chapter 3.2 (Poli, Oliveira, et al., 2023) so to be country-specific to some extent, the culture or subculture of these groups, or even their culture or gender.

For these reasons, we may infer that these boundaries are still undefinable and however that the debate on the boundaries surrounding the profession has moved forward in recent years and we hope that more can be done in the following stages of research even through the engagement of more 'scholar-practitioners' like us.

Regarding the various definitions of RMAs mentioned earlier, such as bounded and unbounded groups, we see that RMAs agree on positioning themselves within institutional boundaries. However, some of these boundaries may have been self-created. In addition, they take pride in being closely associated with research and consider themselves as operating at its interface. Lastly, their use of boundaries can be seen as a result of their hybridity, including occasional deviations from institutional rules, and opportunistic application of blended or unique credentials within the profession in RMA.

In today's RMA profession, soft skills seem to prevail and even align RMAs with other actors inside and outside today's HEIs.

The issue of professional invisibility of this professional group is no more an issue at stake in consideration of the mounting research covering this functional group and of the increasing self-recognition of professionals combined with recognition of outsiders thanks to educational programmes, as this chapter has confirmed. And indeed RMAs are still hybrid professionals for the growing number of working spaces in which they can be found at work, and they continue to serve as interface in the realm of science since their roles are still on the rise and so their number cannot precisely be fixed.

References

Agostinho, M., Alves, C. M., Aresta, S., Borrego, F., Borlido-Santos, J., Cortez, J., Lima Costa, T., Lopes, J. A., Moreira, S., Santos, J., Trindade, M., Varela, C., & Vidal, S. (2018). The interface of science: The case for a broader definition of research management. *Perspectives: Policy and Practice in Higher Education*.

Allen-Collinson, J. (2009). Negative 'marking'? University research administrators and the contestation of moral exclusion. *Studies in Higher Education*, *34*(8), 941–954.

Council of Europe. (2020). *Council conclusions on the New European Research Area* (No. 13567/20; ECOMP.3.B). Council of Europe. https://data.consilium.europa.eu/doc/document/ST-13567-2020-INIT/en/pdf

Derrick, G., & Nickson, A. (2014). Invisible intermediaries: A systematic review into the role of research management in university and institutional research processes. *Journal of Research Administration*, *45*(2), 11–45.

Eraut, M. (1994). *Developing professional knowledge and competence*. Psychology Press.

Gornall, L. (1999). 'New professionals': Change and occupational roles in higher education. *Perspectives: Policy and Practice in Higher Education*, *3*(2), 44–49. https://doi.org/10.1080/13603109981847

Krauser, P. A. (2003). The research administrator as servant-leader. *Journal of Research Administration*, *34*(1), 14–18.

Loi, W. Y. (2021). *Understanding the role of research professional staff in supporting academic researchers in a university* [Master's thesis].

Middlehurst, R. (2009). Developing higher education professionals: Challenges and possibilities. In *Academic and professional identities in higher education* (pp. 241–262). Routledge.

Oliveira, F. S. (2020). Administração e gestão de projetos de pesquisa e sua contribuição às atividades de pesquisa, desenvolvimento e inovação: estudo de caso da Embrapa. Embrapa Agroindústria Tropical-Tese/dissertação (ALICE).

Poli, S. (2018a). Who are today's research managers? Roles, professional development, and evolution of the profession. In J. Anderson, K. Toom, S. Poli, & P. F. Miller (Eds.), *Research management: Europe and beyond* (pp. 1–29). Elsevier. https://doi.org/10.1016/B978-0-12-805059-0.00001-82121

Poli, S. (2021d). *'Research management staff towards greater professionalism: Associations, training opportunities and qualifications' Session in the panel discussion titled 'Are higher education managers becoming more professional and if so, how?'* Held at the SRHE – Society for Higher Education annual conference 2021.

Poli, S. (2022a, March 1–3). *Understanding professionalism in research management in a post-pandemic age – How we can build up a professional portfolio consistently in the long run* [Conference presentation]. VICRA annual conference (SRAI) – virtual international conference for early-career research administrators.

Poli, S. (2022b, May 4–6). *Research management striving to re-invent an up-to-date idea of professionalism in a post-pandemic age* [conference presentation]. EARMA 2022 annual conference. Oslo, Norway.

Poli, S., Kerridge, S., Zornes, D., & Ajai-Ajagbe, P. (2023). Research management as labyrinthine – How and why people become and remain research managers and administrators around the world. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 141–154). Emerald Publishing.

Poli, S., & Taccone, D. (2023). Professional staff in support services in education and research – How to connect research with practice. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 341–353). Emerald Publishing. https://doi.org/10.1108/978-1-80382-701-820231028

Poli, S., & Toom, K. (2013). Exploring the theory. Research management as a newer field of investigation. *EARMA LINK Professional Magazine*, 7–8.

Santos, J. M., Varela, C., & Kerridge, S. (2021a). Professionals at the interface of science: Is there more than meets the eye? *Perspectives: Policy and Practice in Higher Education*, 1–6.

Schneijderberg, C., & Merkator, N. (2013). The new higher education professionals. In *The academic profession in Europe: New tasks and new challenges* (pp. 53–92). Springer.

Schützenmeiser, F. (2010). *University research management: An exploratory literature review*. Berkeley Institute.

Streitwieser, B., & Ogden, A. C. (Eds.). (2016, March). *International higher education's scholar-practitioners: Bridging research and practice*. Symposium Books Ltd.

Szekeres, J. (2004). The invisible workers. *Journal of Higher Education Policy and Management*, *26*(1), 7–22.

Trindade, M., & Agostinho, M. (2014). Research management in Portugal: A quest for professional identity. *Research Management Review*, *20*(1), n1.

Veles, N., Carter, M., & Boon, H. (2019). Complex collaboration champions: University third space professionals working together across borders. *Perspectives: Policy and Practice in Higher Education*, *23*(2), 73–85.

Virágh, E., Zsár, V., & Balazs, Zs. (2020). *Research management and administration: The relevance of special education and training programs* [HETFA Working Paper Series 2020]. ISSN 2062-378X.

Whitchurch, C. (2006). Who do they think they are? The changing identities of professional administrators and managers in UK higher education. *Journal of Higher Education Policy and Management*, *28*(2), 159–171.

Whitchurch, C. (2008b). *Professional managers in UK higher education: Preparing for complex futures: Final report*. Leadership Foundation for Higher Education.

Whitchurch, C. (2018). Being a higher education professional today: Working in a third space. In C. Bossu & N. Brown (Eds.), *Professional and support staff in higher education* (pp. 11–22). Springer.

Williamson, C., Dyason, K., & Jackson, J. (2020). Scaling up professionalization of research management in Southern Africa. *Journal of Research Administration*, *51*(1), 46–72.

Chapter 3.2

Exploring Forms of Knowledge and Professionalism in RMA in a Global Context

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Abstract

The chapter aims to provide an overview of organisational structures in Research Management and Administration (RMA); in doing so, the chapter moves from explaining main sources of knowledge – broadly on HE Management (HEM) and specifically on RMA – to assessing institutionalisation and maturity level of the profession.

Understanding these forms of knowledge will help readers design research support services and develop a competency/career development plan.

Additionally, the chapter aims to call for individuals and institutions to engage with the varied forms of knowledge associated with different phases of a research project life cycle (RPLC). The goal is to raise individual awareness while helping countries improve their RMA maturity.

Keywords: Research support; project management; knowledge; research project life cycle; maturity; institutionalisation

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Introduction

One of the first studies discussing different models of research support dates back to the 2006 'Issues in Research Management and Administration series' of ARMA UK (Kent, 2006) which presented three case studies of research support services in a UK context. The cases spanned from a fully centralised model to a highly devolved and principally devolved model of support.

In 2014, Starbuck conducted a survey at the ARMA conference (Starbuck, 2014) to investigate what effective research support should look like. Not surprisingly, she found it difficult to find an agreement about a common, consistent definition of these services mainly because institutional research management and administration (RMA) processes are transdisciplinary, based on several forms of knowledge, and could be organised in several ways according to size core structure, central and local culture, and also established practices within institutions.

Furthermore, the author suggested a need to consider individual roles, primarily composed of traditional (specialised) and non-traditional (generalist) roles, along with their domains of specialisation to set the agenda of any research support office. Starbuck concluded that some small research institutions are more likely to rely on the expertise and capabilities of their research support staff and not as much on a given organisational structure. Chapter 3.3 presents in more depth some of the most common types of organisational structures to provide RMA services along with case studies.

The points above highlight the importance not only of good planning but also of the breadth of knowledge surrounding Higher Education (HE) and research support. Alternatively, institutions could set an agenda of roles needed in that unit and design the sought-after services afterwards.

However, in these research support structures, individual research managers and administrators (RMAs) perform project-based and less conventional tasks and hold both specialised and generalist roles. In performing these roles, RMAs are likely to move within or even occupy blurred domains of professional, 'non-academic' spaces (Whitchurch, 2006, 2009). This sharing of spaces may therefore exacerbate the confusion between what hard and soft skills are techincally required in research support, from what is effectively being accomplished through bespoke, thoroughly organisational structures. These RMAs primarily work for universities and a wide set of research institutions.

This chapter, therefore, aims to bring insights into forms and sources of knowledge sought in these structures by engaging a wide array of professionals in the domain. Acquiring this comprehensive knowledge should increase professionalism and efficiency among RMAs.

The Breadth of Knowledge of the RMA Domain

The points above give some idea what the breadth of knowledge required of the RMA domain that goes through academic and non-academic spaces inside universities and other types of research institutions, which demands generalist and specialised roles. The boundaries should be set not only for the profession-to-be but also for the related field of study or discipline as already debated by Tight for HE studies (2020).

The width and complexity of the knowledge about RMA blur our understanding of activities and processes related to this domain. Furthermore, this lack of distinctiveness affects RMAs' self-perception inside their institutions and communities.

HE Management (HEM) is one of the purveyors of knowledge about RMA, and university context offers one of the sources of RMA theory and practice. The knowledge of HE studies and HEM is expected to inform studies from a wide range of professionals and practitioners. As suggested by Harland (2012, p. 1), 'the study of HE is an open-access discipline with the prime purpose of providing a service for higher education itself. Such an argument acknowledges the diversity of people who contribute to this research and how the discipline is developed.'

Sources of Explicit Knowledge in RMA and Throughout the Research Project Life Cycle (RPLC) – HE Studies, HEM and RMA, and Tacit Knowledge

Sources of Explicit and Tacit Knowledge

Explicit Knowledge

Regarding the sources of explicit knowledge, building further on the investigation of methodologies adopted in project management (PM) and the analysis of certifications and post-graduation courses and standards in RMA, we follow Oliveira (2020) and her identification of four main sources of explicit knowledge commonly used to manage research projects: (1) HEM, (2) PM, (3) Science, Technology, and Innovation, and (4) RMA Specifics. These forms of knowledge are not exhaustive, and more forms can be found and used in relation to RMA.

The categorisation above results from an extensive document analysis and literature review (Oliveira, 2020). This further highlights the interdisciplinarity of the research field surrounding RMAs. We are aware that this categorisation uses just one lens to understand organisational structures in research support, and therefore might be liminted in terms of its applicability.

We regard HEM as the overarching literature and one of the primary sources of knowledge for all types of individuals providing research support services not only in HE but also in any research-related domain. In addition to HEM, we consider the more specialised PM literature as the compulsory and relevant source of knowledge for professionals directly involved throughout the RPLC process. By referring to this source of knowledge, the language used applies to any individuals working in universities as well as public and private research institutions. In this domain of knowledge, the Project Management Body of Knowledge (PMBoK) is certainly the most popular guide; and the professional body's control and monitoring of the whole set of practices is regarded as the asset to have more efficiency through the post-award phase of the research life cycle. However, although the adoption of PM best practices is essential, it doesn't cover many of the Science, Technology, and Innovation (STI) specificities. To consider additional sources of knowledge, we are also expected to consider STI National Systems and RMA specifics from RMA certification bodies, and a number of professional associations that are increasingly engaged in the capacity-building of their community.

However, even within this framework, several authors have pointed to the persistence and usefulness of so-called tacit knowledge (Hockey & Allen-Collinson, 2009; Schützenmeister, 2010; Shelley, 2010), which is what we cover in the following section.

Is Tacit Knowledge Still the Main Source of Knowledge for Today's RMAs?

To understand the role that tacit knowledge may still have in today's RMA, we begin by clarifying what we mean when referring to the term. Conceptually, tacit knowledge

stands not only as the counterpart of explicit knowledge but also as 'the tacit dimension referred to the personal knowledge of a researcher while the explicit knowledge was seen as a common good' (Schützenmeister, 2010, p. 15). Tacit knowledge is, therefore, a form of knowledge of their field of study or practice; it is also a source of understanding about what are emerging from uncodified knowledge translated into the field of practice. This uncodified knowledge can refer to the workplace or its peculiar features, and it can also arise from the institutional and national context where these individuals find themselves so it is context dependent. Thus, this basic, personal knowledge is meant to be the expertise that new professionals in HEM or in RMA can really on. The new HE professionals may quote Gornall (1999) or the new research managers may cite Schützenmeister (2010); whatever the knowledge that is, it can become a common good when made available purposively to the whole community being shared through formal or informal networks or through professional qualifications.

Main Sources of Explicit Knowledge in RMA

Following the excursus above on explicit and tacit knowledge, we shall provide readers with further overviews of the explored sources of knowledge as previously categorised.

First Source of Explicit Knowledge: HEM
Seeking to gain understanding of explicit knowledge in reference to HEM, we quote one of the first handbooks setting the stage of the discipline. In short,

> HEM provides comprehensive coverage of the key functions of these 'administrators' … although the editors believe that it will be also of considerable value to academic managers, who should become more aware of the way in which their institutions are run outside of their relatively narrow domains. (Warner & Palfreyman, 1996, p. 1)

Thus, HEM refers to the overarching management of today's HEIs and so to the varied range of individuals working in its functions. HE managers or professionals (or simply professional staff or RMAs) are expected to be prepared to bring the required management professionalism inside research projects. Additionally, or complementary to them, they are HE professionals and more likely to be employed in universities. As pointed out earlier, we refer to HEM in this chapter to gain an understanding of the wide set of available forms of knowledge in HE so those may be applied conceptually to RMA; however, those forms of knowledge may help the reader become more aware of the role they play in today's profession, despite the different types of research institutions.

The points above make the case that RMA professionals are expected to know how to navigate the issues and challenges in HEM and so to lead or handle the processes in more general terms so as to meet/fulfil projects demands, for example, those regarding scholarships, contracts, budgeting, institutional rules, intellectual property, among others.

Second Source of Explicit Knowledge: PM
Regarding the second source of explicit knowledge, PM, there are many different references adopted by organisations to manage several types of projects, not specific to research projects. But when dealing specifically with research projects, we need to bear in mind that other variables, uncertainties, and complexities must be considered that require mastery of the field and its body of knowledge. One of the most known is

the PMBoK,[1] now in its 7th edition. This guide is periodically updated with the market best practices and is composed of 47 processes organised in 10 knowledge areas[2]: (1) Integration management, (2) Project Scope, (3) Time management, (4) Cost management, (5) Quality management, (6) Human Resource Management, (7) Communications Management, (8) Risk Management, (9) Procurement Management, and (10) Stakeholder Management. The Project Management Institute (PMI) is the author of the PMBoK and a certification body with more than half a million members in 185 countries (PMI, 2013).

Third Source of Explicit Knowledge: Science, Technology, and Innovation (STI) National System

The skills needed to apply the third source of explicit knowledge encompass articulation, establishment and management of partnerships and collaborative networks, and reinforce the importance of management activities throughout the research project's life cycle.

This source arises from the STI National System, which is composed of several actors from the political arena (public policies, ministries, regulations, and laws), funding arena (public and private funding agencies), STI performers arena (research institutions, universities, technology parks), and the social arena (professional associations, associations of product chain companies, trade union) (MCTIC, 2016; Oliveira, 2020; Pontikakis et al., 2005). This source of knowledge specifically clarifies how the full range of RMA activities – from contracts and partnerships management to purchasing, intellectual properties and assets management – all rely on knowledge of STI National System as the context-specific domain where all these activities demand specific skills to be carried out. These activities demand solid knowledge about the STI national system of the country where the research institution or university operates, potentially including knowledge of the countries with which they intend to collaborate. Furthermore, successful research projects funded by governmental agencies or public or private funding agencies – from the proposal submission and probably even in prior stages to monitoring, reporting, accountability phases, and so on – are likely to be directly impacted by the national STI legal framework, which represents the body of explicit knowledge that RMAs are expected to know and take into account at all times. This STI legal framework is therefore a level of contextual knowledge that should be sought and required to execute all RMA processes and manage research projects.

Fourth Source of Explicit Knowledge: RMA Specifics

Regarding the last source of explicit knowledge, we term RMA specifics the materials created by RMA certification bodies, associations and post-graduation courses

[1] https://www.pmi.org/

[2] Further project management methodologies include the following: Individual Competence Baseline (ICB) – International Project Management Association (IPMA) (IPMA, 2022), Australian Institute of Project Management (AIPM) Professional Competency Standards for Project Management (AIPM, 2022), Association for Project Management (APM) Body of Knowledge (APM) (APM, 2022), Projects In Controlled Environments (PRINCE2) (AXELOS, 2022), and PM2 Project Management Methodology (PM2, 2022). The PM2 is an open project management methodology that should be highlighted because it was created by European Commission and it is recommended for projects funded by the largest European program for financing Research, Development, and Innovation (RD&I) projects, Horizon Europe.

considering several particularities of the area and blend the sources of knowledge cited earlier, which were identified through analysis of the references found and described in the following paragraphs.

One of these sources refers to the RMA certification bodies that select the most relevant contents of the field in order to inform their certification exams and publish related materials. The Research Administration as a Profession (RAAAP) Survey executed in 2016 identified that 38% of respondents from the USA have some certification, followed by Oceania with 20.6%, Europe with 16.4%, the UK with 9.5%, Canada with 9.1%, and the Rest of the World (RoW) with 27.6% of respondents certified (Kerridge & Scott, 2018a). While the more recent RAAAP-3 data (see Chapter 2.2, Oliveira et al.) shows Canada 25.4% of 177, Europe 16.7% of 1,007, Oceania 32.6% of 380, RoW 28.7% of 400, UK 12.4% of 476, and USA 41.4% of 1,092.

One example of these certification bodies is the Research Administrators Certification Council (RACC), which is an American, private, independent and non-profit board composed of volunteers from various HEIs and research institutions with the objective of certifying and upholding expected standards for advancing the profession (RACC, n.d.). RACC was a pioneer as the organiser of the Certified Research Administration Body of Knowledge (CRABoK) and a provider of RMA certification programmes. Currently, RACC has certified more than 3,000 people in 3 categories of certification: Certified Research Administrator (CRA), Certified Pre-award Research Administrator (CPRA), and Certified Financial Research Administrator (CFRA) (see Chapter 2.7, Ritchie et al., in this book).

Other sources of this particular form of knowledge refer to Professional Development Frameworks (PDF) provided by some associations, such as the Australasian Research Management Society (ARMS), which mapped a PDF that is the knowledge base for the accreditation programme and Continuing Professional Development (CPD) programme (ARMS, 2022). Other examples are the UK ARMA's PDF created with the aim of assisting individual and organisational career planning and training (ARMA, 2011) and SARIMA's Professional Competency Framework (PCF) (Williamson et al., 2020) (see Chapter 4.1, Dyason & Pillay).

Many American, Canadian, and European universities also offer master's and specialisation courses in RMA. An example is the Master of Research Administration (MRA) programme of the University of Central Florida (UCF),[3] created in 2011 which comprises several subjects such as Legal Framework and Regulatory, Leadership and Organisational Models, Human Resources Management, Intellectual Property, Transfer of Technology and Commercialisation, and others (Smith & Torres, 2011). In Europe, the foRMAtion (Innovative and smart module for potential Research Managers and Administrators in HE) project[4] has developed several innovative educational and training methods and courses in partnership with Universidade NOVA de Lisboa (NOVA), The Sapientia Hungarian University of Transylvania, Corvinus University of Budapest, and other institutions. Other examples are the Johns Hopkins Master of Science in Research Administration,[5] the Research Administration Training

[3] Master of Research Administration (MRA) program website: https://ccie.ucf.edu/public-administration/research-administration/master-research-administration/.
[4] FoRMAtion project website: https://www.formation-rma.eu/.
[5] Johns Hopkins MS in Research Administration website: https://advanced.jhu.edu/academics/graduate/ms-research-administration/.

programme of Princeton University,[6] and the Mohawk College course of Research Administration in partnership with the Canadian association.[7]

Level of Effort Throughout RPLC

After considering the four sources in the overview above, we apply these sources to the phases of the RPLC to understand the requirements of knowledge for each phase. Fig. 3.2.1 is, therefore, a hump chart of the compared estimated level of effort spent over time in each source of knowledge during each phase of the project. This effort is directly in connection with the skills and profile of the RMAs required at that moment. The RPLC illustrated in Fig. 3.2.1 is a macro-level illustration (Andersen, 2018).

The figure shows that the pre-award phases require more effort in activities related to STI National System, HEM and RMA knowledge areas. At the beginning of the RPLC, when considering a challenging and impacting funded project with a multi-institutional team, it is required to search the applicable funding (RMA), to match the research idea with the national laws and regulations to create a consortium (STI), and also to be compliant with the research institution/university strategy and norms (HEM and RMA) to prioritise opportunities, formalise contracts, receive financial resources, manage budget and purchasing, and hire human resources. The project proposal development and submission is a step where RMA-specific knowledge is very impactful and so to be sought.

While in the post-award phase, when the project is approved and resources start to arrive, it requires more efforts related to PM, such as purchasing management, human resources management, and time and cost management. During the project execution, HEM knowledge is required to follow institutional norms and scholarship regulations. While at the end of the RPLC, what is strictly required is to formally end the project (to be done through a PM type of knowledge), but also to comply with any

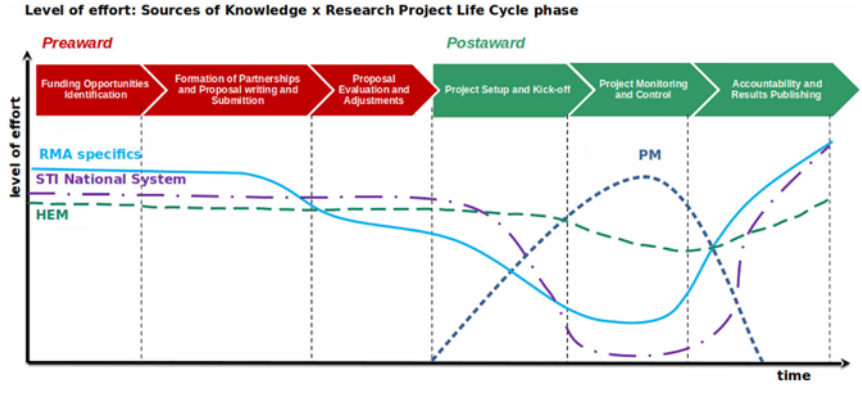

Fig. 3.2.1. Level of Effort of Sources of Explicit Knowledge × Phase of the Research Project Life Cycle. *Source*: Author adapted from Oliveira (2020).

[6] Research Administration Training Program of Princeton University website: https://orpa.princeton.edu/training/research-administration-training-program.

[7] Mohawk College Certificate in Research Administration website: https://cereg.mohawkcollege.ca/certificate?certificateCode=CP0988.

accountability requirements primarily at the institutional level (through HEM) and at the level of partnerships and sponsors (STI and RMA). Finally, the translation of project results into publications (HEM, RMA) and/or technology transfer opportunities (STI) completes the project.

First Model of Country Institutionalisation to Assess the Level of Maturity in the Profession

This varied knowledge is much needed from individuals working in HEIs not only to understand themselves and their positioning within their institutions but also to support researchers more thoroughly; this extensive, varied knowledge is available not only to those working in HEIs but also to the entire community of RMAs. These are some of the reasons why this body of knowledge should be taken into account and purposefully disseminated both by individuals and institutions.

Moving from that extensive, varied range of knowledge, we set the stage for tentatively assessing the maturity level of any country in relation to its RMA activities. In doing so, we envisage a number of parameters as shown in the grayscale boxes of Fig. 3.2.2; these parameters span from certifications programmes to associations, from professional development frameworks to generic training, and from dedicated RMA offices to postgraduate programmes, among others. Next, we assume that this level of maturity is directly related to these parameters, for example to the number of associations and/or organisations that act as knowledge providers in the field of RMA. At the top of the scale, this level of maturity may also include the recognition of the profession and the existence of dedicated professionals and departments for RMA in universities and research institutions.

Thus, Fig. 3.2.2 suggests an exemplification of some of the points set above to show how some institutional elements related to RMA in a country can be directly regarded as indicators of the maturity of the profession in that area.

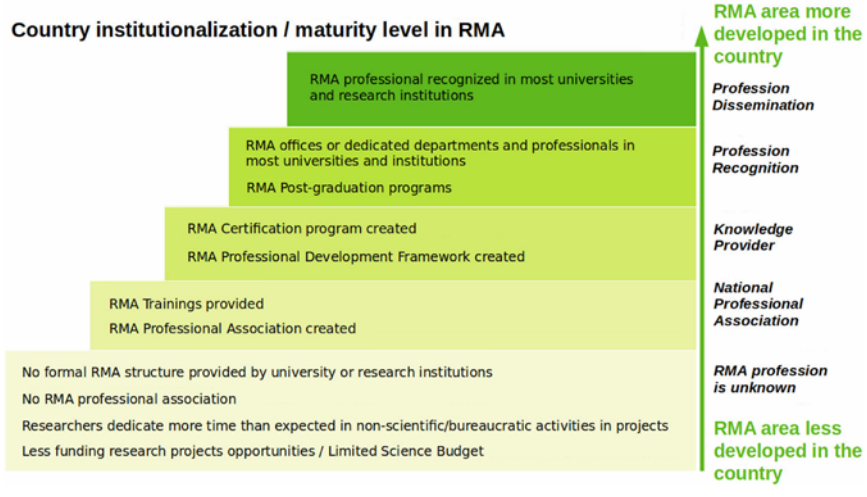

Fig. 3.2.2. Country Institutionalisation and Professional Maturity Level in RMA. *Source:* Elaborated by authors based on the professionalisation model of Curnow and McGonigle (2006) adapted by Williamson et al. (2020).

According to the table above, the US, Canada, and the UK are more likely to be found at the top level of the scale, whilst most African countries and some countries in South America are placed at the bottom of the scale. Specifically, in regards to countries covered in Chapter 3.3, Italy is more likely to fall between the first and the second stage of maturity since a formal RMAs association has not been established yet but there are actions in place and some training is provided to those in the profession (see Chapter 4.4). Whilst Brazil is, without doubt, likely to fall into the second stage, which refers to the National Professional Association stage; this means that there is still room for development regarding actions to increase the science budget and to attain the recognition of the RMA profession.

For institutions and single countries, the model identifies what they should progressively/activate to move altogether upward on this ladder of maturity in the profession. Especially for countries still on the first steps of the maturity in RMA, STI public policies could be a path to enable the creation of professional associations, enable the establishment of training programmes based on the sources of knowledge presented, raise awareness and encourage institutions to implement practices and structures of RMA. The gains for institutions that are continuously improving their RMA process involve increasing project proposal approvals and fundraising and optimising the usage of resources, which means doing more research with more efficiency at a lower cost. The cost of research is one of the main bottlenecks to many countries. More research brings more development for the country and stimulates the continuity of this positive cycle.

Conclusion

This chapter discussed different forms of knowledge related to RMA, in connection with different phases of RPLC, which are applicable to anyone working in research institutions.

The collection of knowledge source presented in this chapter serves as a framework which is useful in capacity-building of institutions and professional communities. This knowledge framework can be a source in defining a competency/career development plan for professionals or designing an RMA office.

The last part of the chapter envisaged a first attempt to assess different levels of institutional maturity in RMA in a country, which is directly related to the level of professionalisation of research administrators in that region. This model showed achievements required of a profession at different stages of maturity and is thereby meant to raise staff engagement and commitment in modern RMA. The formation of a professional community in a country is key to achieving the recognition of the profession.

References

AIPM. (2022). *Australian Institute of Project Management website*. Retrieved March 20, 2022, from https://www.aipm.com.au/home

Andersen, J. (2018). Preaward—Project preparation. In J. Andersen, K. Toom, S. Poli, & P. Miller (Eds.), *Research management: Europe and beyond* (pp. 147–171). Elsevier.

APM. (2022). *Association for Project Management website*. Retrieved March 20, 2022, from https://www.apm.org.uk/body-of-knowledge/

ARMA. (2011). *A professional development framework for research managers and administrators*. Association of Research Managers and Administrators. Retrieved November 26, 2022, from https://arma.ac.uk/wp-content/uploads/2018/11/PDF-Final.docx

ARMS. (2022). *Australasian Research Management Society website*. Retrieved April 4, 2022, from https://researchmanagement.org.au/

AXELOS. (2022). *What is Prince2 webpage?* Retrieved March 20, 2022, from https://www.axelos.com/best-practice-solutions/prince2/what-is-prince2

Curnow, C. K., & McGonigle, T. P. (2006). The effects of government initiatives on the professionalization of occupations. *Human Resource Management Review*, *16*(3), 284–293. https://doi.org/10.1016/j.hrmr.2006.06.001

Gornall, L. (1999). 'New professionals': Change and occupational roles in higher education. *Perspectives: Policy & Practice in Higher Education*, *3*(2), 44–49.

Harland, T. (2012). Higher education as an open-access discipline. *Higher Education Research & Development*, *31*(5), 703–710.

Hockey, J., & Allen-Collinson, J. (2009). Occupational knowledge and practice amongst UK university research administrators. *Higher Education Quarterly*, *63*(2), 141–159.

IPMA. (2022). *IPMA standards website*. Retrieved March 20, 2022, from https://www.ipma.world/individuals/standard/

Kent, R. (2006). Joined-up thinking? The research office in the twenty-first century. *Issues in Research Management and Administration (IRMA-UK)*.

Kerridge, S., & Scott, S. (2018a). Research administration around the world. *Research Management Review*, *23*(1), 1–34.

MCTIC. (2016). *Estratégia Nacional de Ciência, Tecnologia e Inovação 2016|2022*. MCTIC.

Oliveira, F. S. (2020). *Administração e gestão de projetos de pesquisa e sua contribuição às atividades de pesquisa, desenvolvimento e inovação: estudo de caso da Embrapa*. Embrapa Agroindústria Tropical-Tese/dissertação (ALICE).

PM2. (2022). *The OpenPM2 initiative webpage*. Retrieved March 20, 2022, from https://www.pm2alliance.eu/history-of-pm2/

PMI. (2013). *Um Guia do Conhecimento em Gerenciamento de Projetos (Guia PMBoK) - Quinta Edição* (5a. Edição ed.). Editora Saraiva.

Pontikakis, D., Mcdonnell, T., & Geoghegan, W. (2005). *Conceptualising a national innovation system: Actor roles and incentives*.

RACC Website. (n.d.). Retrieved April 3, 2022, from http://www.cra-cert.org/

Schützenmeister, F. (2010). University research management: An exploratory literature review.

Shelley, L. (2010). Research managers uncovered: Changing roles and 'shifting arenas' in the academy. *Higher Education Quarterly*, *64*(1), 41–64.

Smith, J. A., & Torres, L. (2011). The process of establishing a new master of research administration program. *Research Management Review*, *18*(1), 1–19.

Starbuck, S. (2014). Yes, I am a research manager, but I don't cost bids. In *The ARMA 2014 conference proceedings: Learning from the past; Preparing for the Future 2014*. ARMA.

Tight, M. (2020). Higher education: Discipline or field of study? *Tertiary Education and Management*, *26*(4), 415–428.

Warner, D., & Palfreyman, D. (1996). *Higher education management: The key elements*. McGraw-Hill Education (UK).

Whitchurch, C. (2006). Who do they think they are? The changing identities of professional administrators and managers in UK higher education. *Journal of Higher Education Policy and Management*, *28*(2), 159–171.

Whitchurch, C. (2009). The rise of the blended professional in higher education: A comparison between the United Kingdom, Australia and the United States. *Higher Education*, *58*(3), 407–418.

Williamson, C., Dyason, K., & Jackson, J. (2020). Scaling up professionalization of research management in Southern Africa. *Journal of Research Administration*, *51*(1), 46–72.

Chapter 3.3

Understanding Organisational Structures in RMA – An Overview of Structures and Cases in a Global Context

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Abstract

The aim of this chapter is to describe a four-type model of organisational structures and to discuss two cases, Embrapa and the Brazilian Agricultural Research Corporation, as well as additional cases at SAM-Research and the centre for shared medical support services established at the University of Bologna.

These cases should help readers understand the importance of designing distinctive, tailored-made support services while keeping these structures flexible for further adaptation under unforeseen changes.

The chapter concludes by stressing the role of institutions to steadily invest in the design of these tailored support structures and in personalised training for their support staff.

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Keywords: Research support; organisational structures; organisational centre and periphery; case studies; HE studies; professionalism

Introduction to Organisational Structures in Research Support

Research management and administration (RMA) offices or equivalent structures are workplaces designed to support research institutions to accumulate knowledge, build trust in their collaboration networks, and increase organisational learning (Linder et al., 2004). This definition shows how the organisational structure is one of the environmental factors very likely to affect the availability of resources and the way in which projects are, more or less successfully, conducted (PMI, 2013).

The organisational structures designed for RMA processes can be set up in several ways, for example, according to their size, structure, culture, and practices of the institution. However, experience shows (Hansen & Moreland, 2004; Squilla et al., 2017) that migration from one organisational model to another happens, due to a variety of reasons. This includes contextual or more strategic changes such as an increase in team size and/or the move to an upper level of maturity of the institution in RMA as depicted in Chapter 3.2. While other publications (Starbuck, 2014) describe how RMA built-in processes have been designed not only tailored to institutional needs but also to the skills of the existing workforce.

Additionally, as explored in Chapter 3.2, the knowledge regarding RMA primarily comes from Higher Education (HE) studies and so focusses on universities as the core institution; nevertheless, the issues investigated can be translated into a vast array of research-related institutions. As such, in this chapter, we refer both to universities as well as research organisations; in doing so, we gather cases of research institutions in general, for example, Embrapa in Brazil, as well universities such as the SAM-Research at Bologna University.

This chapter presents some theoretical concepts about organisational structures in universities. Thereafter, the chapter describes the most frequent models of organisational structures found in the literature so as to provide an overview of how these structures can look and work; this overview could also inspire new implementations or improvements of existing structures or may trigger a debate on how to organise more effective, people friendly, and (custom-) tailored RMA activities.

Regarding organisational structures in today's RMA, the literature has not identified an optimal model, thus, in this chapter, we refer to the following four types of organisational structure, based on the study performed by Oliveira (2020), and these are the following: (1) project management offices (PMOs), (2) research offices (ROs) and shared services centre (SSC), (3) distributed teams (DTs), and (4) third-party support.

Organisational Structures Conceptualised in Universities and Beyond

Organisational structures, particularly in universities, may be affected by the 'loose coupling theory' described by Weick (1976). The theory explains why different parts of an organisation may be designed to be loosely related to one another, while their staff are expected to play a crucial role in the overall performance of the institution even to the extent of overcoming any deficiency of organisational planning. This concept has seldom been used to study Higher Education Institutions (HEIs). Exception to this has been Becher & Kogan (1992) who recognised that some general characteristics, for example, loose coupling, can be attributed to any contemporary HE systems, more often with distinctions between these systems in different countries.

Studies on organisational structures have primarily centred around the analysis of HEIs and organisations where these structures, in research support or whatever central or peripheral function, can be found (Tight, 2003). These studies primarily refer to knowledge of the HE sector or simply to the discipline or field of HE studies with its array of issues and challenges (Altbach, 1998, 2013, 2016; Barnett, 1990, 1997; Clark, 1983, 1998, 2008; Enders, 2004; Gibbons, 1998; Marginson, 2007, 2022; Scott, 2010, 2011, 2019, 2022; Shattock, 2003, 2014; Watson, 2000, 2007a, 2007b, 2008). Tight (2020) also points out that HE studies are sometimes referred to as a discipline, though more often referred to as a field, sector, or area of study. This point should be more widely taken into account in relation to other disciplines intersecting with its domain, for example, RMA.

Overall, the studies of internal university organisations, as referred to by Clark (2008) in his account of an innovative organisation, show a great deal of diversity. These studies have covered a vast array of issues, including university as a global institution, management of successful universities, civic and community engagement in today's universities, modernising reforms in university governance, as well as global HE, globalisation, market competition, public goods, and the future of the university.

Among others, one of the leading themes in researching HE has been centred on changes within universities. For example, studies conducted on Becher and Kogan's (1992) four levels of structural changes likely to be found in any HE system (Musselin, 2005), they distinguished four levels of change as 'changes to the system as a whole', 'changes at the institutional level', 'changes affecting the basic unit', and 'Innovation and the individual'. Importantly, they argue that transformation at one level does not automatically imply transformation at another.

Furthermore, the literature has noted how these changes have led to the creation of entrepreneurial or hybrid units (Clark, 1998; Slaughter & Leslie, 1997; Sporn, 2010). Hybrid structures are those that earn a substantial quote of their incomes from the market (Mouwen, 2000). These structures cannot be confused with entrepreneurial universities, however, which actively seek to innovate on their own terms (Clark, 1998; Shattock, 2003, 2005).

Organisational Structures in Research Support Re-conceptualised in and beyond Universities

In this section, we set the stage for the basic distinctions useful to understand organisational structures. While Altbach (1998) refers to 'the University as Centre and Periphery', one of the core distinctions is the dualism of organisational 'Centre and Periphery'. This definition embraces the central administration with its divisions and varied offices on the one hand, and the local and decentralised departments and offices on the other. Furthermore, this dualism has been widely covered in HE studies in regard to distinctiveness and uniqueness in universities, silos effect and communication between the two sides, elements of effective, modern universities, and working cultures of academic and professional staff (Clark, 1983, 1998; Santos et al., 2021a; Shattock, 2003, 2014; Temple, 2012, 2014).

This dualism has been recently explored in the study of RMAs working in central and local offices (Allen-Collinson, 2006, 2009; Shelley, 2010), and specifically or broadly on what it means to find yourself in the Centre and in the Periphery of any research support structure (Crespi et al., 2019; Oliveira & Bonacelli, 2019; Poli, 2018b; Poli & Hancock, 2010; Poli et al., 2016; Salles-filho & Bonacelli, 2010; Siesling et al., 2017). This distinction is expected to shed light on differences in culture, attitude, and behaviour between professionals finding themselves in central research

support offices and those working locally in research support units in departments, centres, and campuses depending on the overall structure of their institution. This distinction between central and peripheral may help us better understand the workforce performing on one or on the other side of the organisational structure. This analytical framework may be beneficial not only in relation to tasks and who does what, but also to motivation, proximity to decisions, and clarity on the boundaries of any research support service.

The broad knowledge of where a unit or centre lies in the overall structure of any institution should be one of the core elements to take into account at times of designing their peculiar, distinctive research support structures. However, we are aware that this decision may not be easy to make and so cannot be unequivocally set in clear terms in any organisational structure.

A Four-type Model of Organisational Structure in Research Support

Research management is as complex as the research itself. It requires tailored RMA units that reflect and take into consideration the complexities of research projects and cross-cultural research partnerships. Organisational structures should therefore be considered when designing and structuring tailored RMA units or offices. There are some approaches predominantly found in literature and references consulted that, based on a study performed by Oliveira (2020), could be summarised in four types of organisational structure that are presented below.

1) Project Management Offices

The organisation model proposed by the Project Management Institute (https://www.pmi.org/) can be probably regarded as the most known because it has been adopted by several companies. The PMO is a department that defines and maintains best practices and standards for the process's governance related to the execution of projects with the objective of improving the performance of the managed projects (PMI, 2013). The PMO can also act as a control layer between the top and project management teams and so it could be a relevant knowledge broker in project-based organisations, if well established (Pemsel & Wiewiora, 2013).

Within this organisational framework, Monteiro et al. (2016) identify 12 typologies of PMO models that have been applied to organisational structures in RMA since the early 1990s; They suggest between three and five models as the ones that should be established [with the decision on the most appropriate one] depending on the position of the office in the organisational hierarchy or on the degrees of authority and autonomy given to the project management practices. For instance, many typologies propose a Project Support Office (PSO), which provides administrative support, coupled or not with an enterprise PMO, which acts in a strategic position with project prioritisation and portfolio management. According to the authors, the motivation to implement PMOs is to improve project risk control and to monitor project performance.

In addition to the choice of the PMO model, Wedekind and Philbin (2018) analysed the implementation of a university-based PMO in the European context. They showed the importance of building up a dedicated project management team in some specific circumstances, for example, to handle the compelling, challenging needs of large-scale research consortium projects. In support of this resourceful team, they highlight the continuous improvement of best practices and knowledge with their direct impact on risk mitigation and on access to complementary resources.

There are several case studies of Brazilian universities and research institutions that implemented research project offices based on the PMO model (Carvalho et al., 2011; Junqueira et al., 2015; Lima et al., 2014; Telles et al., 2007).

However, the idea described here is to show how the Project Management methodology is only a small part of RMA, the PMO models proposed by such methodology serve all kinds of organisations and do not address research specificities.

PMOs are therefore the only type of organisation that a research institution could adopt with the required tailoring for research projects. However, this type of structure could be combined with other types to meet the demands of the RMA professionals in that institution.

2) Research Office and Shared Services Center

When we refer to universities, the most common organisational structure we find is the RO, sometimes also called Research Management Office, Research Support Office, Sponsored Research Services, or Grants Office. The scope of ROs is wider than PMOs (the RO may also incorporate a PMO) because it goes beyond the project management processes and usually includes a range of high education management (HEM) activities.

According to Green and Langley (2009), the ROs carry out several functions spanning from strategic to operational ones, such as strategic foresight, benchmarking, networking with funders, portfolio management and reporting, contract negotiation, project management of large contracts and bids, knowledge transfer and intellectual property, management information and reporting. Although the size and organisation of ROs are very diverse, most of the ROs surveyed have a large volume of resources to manage, are preferably organised in large team sizes, and follow the design of devolved or centralised structures. Authors found that the most highly centralised institutions tended to have research portfolios of a lower value and that devolved structures faced issues of lack of clarity over roles and responsibilities, risks of redundancies, and a sense of isolation by staff. Campbell (2010) has also identified in a large literature review two major types of Research Administrators: Central Research Administrators and Departmental Research Administrators, which reflect the existence of central and devolved structures.

The ROs, therefore, could be alternately structured according to a SSC model to provide research support services. SSC is the combination and concentration of a subset of business functions of the company in a central department, inspired by the outsourcing concept, but applied inside the corporation. The objective is to promote efficiency, value generation, cost savings, and improved services (Bergeron, 2003). Squilla et al. (2017), following an SSC implementation in an American university, identified many benefits in the SSC model applied to RMA, such as purchasing services integration, consistent and stable project support, more transparency, and improved accountability.

From the overview above, it emerges that ROs can centralise strategic and operational functions or be organised in smaller and specialised offices performing under the control of a central unit. Alternatively, they can be structured according to the SSC model. More often, the centralised offices may face unexpected challenges such as a physical distance of the academic staff's location, as well as norms and rules including institutional hierarchy and rigidity, which prevents timely adaptation to changing circumstances.

3) Distributed Teams

Furthermore, many small institutions relying more on individual capabilities than on structures may opt to physically place research support staff within faculties or departments (Starbuck, 2014), which we can call DTs.

The Research Administration as a Profession (RAAAP) Survey executed in 2016 found that 24.4% of the RMA professionals are part-time of 2,647 respondents and the recent round of this survey found 19.7% of 4,146 respondents in 2022 (Kerridge, Dutta, et al., 2022; Kerridge & Scott, 2018a); this means that in the regions where the profession is not recognised or in small institutions, it is very common for research or administrative staff to sit in their functional department and perform RMA tasks as part of their duties with a part-time type of contract. Downsides of this model are reported to staff isolation, limited possibilities of job progression, difficulties in finding relevant training opportunities, restricted access to central budget and resources, and lack of governance (Starbuck, 2014).

The case of Embrapa described in the next section shows the adoption of part-time professionals previously allocated to administrative departments of the institution, that are trained to start to support research projects in RMA tasks. Usually, this happens at the beginning of the organisation of RMA processes inside the institutions. In some cases, when the volume of projects and the budget to be managed are significant and start to fill almost 100% of the timesheet of the professional(s), the institution starts realising the relevance of RMA tasks and may decide to formalise the structure and the group of employees with the implementation of a dedicated department.

4) Third-party Support

In small institutions or regions where the RMA is less known, they might not have professionals with the required skills to perform RMA tasks. In other cases, institutions may have projects requiring high administrative support so that they need to hire more RMA professionals. In these situations, solutions may be to hire a Third-Party consultant that provides professional RMA services. The disadvantage of this kind of structure is that outsourcing hampers the establishment of relations between researchers and RMA professionals within the institution and can make it difficult to understand research project demands. The downside of this type of structure may be the lack of any interpersonal relationship between RMAs and clients. This should be taken into account by institutions.

More Models to Consider

Furthermore, there may be more options for research support structures available in today's institutions, when referring to shared services between institutions, for example, those developed by The Guild of European Research-Intensive Universities. They foster collaboration, share best practices and enable mutual learning between research support offices, and organise workshops on topics defined by the members. They may also work on building the capacity of members in relation to European funding programs such as Horizon 2020 and Horizon Europe.[1]

Moving from Theory to Practice

After discussing forms of knowledge in RMA in Chapter 3.2, we move on to mix and match these forms with some examples arising from a globalised context; we aim at pointing out the importance of using the gained knowledge to design tailored

[1]https://www.the-guild.eu/activities/research-support-offices.html

structures, to build up more resourceful teams, and to maintain a certain level of flexibility. These aspects will be indispensable to revising organisational structures according to structural changes or unexpected circumstances.

Overall, organisational structures are expected to vary across regions. Below we will consider the broad picture of organisational research support in a Brazilian institution, Embrapa. Afterwards, we will look at a highly specialised research support division in an Italian multicampus university.

On the one hand, most of Brazil's HEIs and public bodies have not established research support offices yet. The same is likely to happen in the majority of public research institutions, which may have a Research & Development department, but this department will not necessarily provide formal administrative staff to support researchers due to a lack of resources in most cases, except in projects with a large amount of budget. Then researchers in public research institutions are often expected not only to design but also manage their projects more often without administrative support. Sometimes administrative offices support researchers on demand, even if it is neither their mission nor one of their daily tasks; often researchers cannot proactively perform administrative activities because they are dedicated to research projects on a full-time basis. Outstanding researchers and/or laboratories may hire support staff, such as secretaries or RMAs, paying their salaries from the project budget. This lack of dedicated support results from several causes. Perhaps, without considering the lack of financial resources, the main one is an overall shortage of skilled professionals able to work in research support. This lack becomes apparent when the institutional strategy is not sufficiently focussed on research resources/purchasing and research projects demand to devote resources to its development or improvement. However, in Brazil, there is a movement to institutionalise the RMA domain. Some universities and public research institutions have established a physical department and teams dedicated to supporting the management of funded research projects. This organisational structure represents an exception, and the majority of Brazilian institutions still miss this kind of dedicated, specialised department (Oliveira & Bonacelli, 2019; Oliveira, 2020).

On the other hand, we acknowledge that the situation in Italy is quite different. HEIs have established their research support offices, also those of small size, and have appointed dedicated staff to work in these offices. Training of staff is primarily provided at the institutional level. More recently, we have observed some training opportunities arising at the national level primarily run through the informal network of RMAs (see Chapter 4.4) or through other public or private bodies. Therefore, Italian universities can often count on dedicated staff and services for research support. Italian researchers can rely on these services at the pre- and post-award phases of their projects depending on the size and capacity of their institution.

The following two case studies make evident some of the concepts and forms of knowledge in RMA discussed in Chapter 3.2.

Case Study in Italy

SAM the Medical Shared Support Services at the University of Bologna (Unibo)

Within a national and university context in permanent transition (see Chapter 4.3, Poli & Taccone), a new division called Medical Shared Support Services (SAM) was established in July 2018. In the first phase, only the educational support services

were shared among the three medical departments (there are no other medical departments at Unibo with the exception of veterinary medicine which already functions with shared services).

This innovative structure was conceived to share support services in the areas of education, research, and in further related financial management of the three medical departments. Furthermore, the common support services should manage the relationship between the university and local and national health systems. SAM may therefore be regarded as an innovative structure that gathers three medical departments under the same overarching structure acting as the coordinator unit of these shared support services.

Centric Versus Peripheral Organisational Models

Regarding its positioning at the Centre or the Periphery of the university, from the description above SAM, cannot unequivocally be classified into any of the two categories.

On the one hand, SAM can be regarded as one of the central divisions within the central administration of the university; moreover, it could be associated with any of the university campuses because of its connection with the medical branches recently established in those campuses (in Ravenna and Forlì, but also in Rimini and Cesena).

On the other hand, SAM is located in the middle – between the campuses and the central administration – and can be regarded as a hybrid structure to help understand how the university may function if all managerial services were shared even across disciplinary groups. Regarding SAM as a hybrid structure, the model reflects what was earlier envisaged by Mouwen (2000). Overall, however, SAM looks more like a central division when considering its high level of disciplinary and professional specialisation. After all, we may ask where should we position SAM, in the centre or in the periphery of its multi-campus university?

Since its conception, SAM was expected to share support services with its medical community, whilst the different university divisions in the central administration of the university – from HR to education, from research to estate management – were expected to deliver specialised support services to SAM. Following the purpose of sharing support services, SAM was conceived as a highly specialised structure able to offer a global, decentralised support service to medical departments. This innovative structure is centred on the core values of subsidiarity and these are regarded as the fundamental ones to keep the pace of a university in permanent transition with a never-ending, growing complexity of the landscape within a multicampus, global university. The only reference that describes SAM can be found in the university boards' deliberations that date back to the time of its establishment (2018).

One more core feature of SAM is to serve as a point of contact with the regional and national health sectors. As such it reinforces the need to work on the implementation of a flexible, adaptable support structure expected to be highly specialised also if placed in a context of limited resources, in particular human resources.

Form of Knowledge Leading to SAM Development

The conception of the original plan, with its source of highly specialised knowledge in the field of HE management (HEM), can be dated back to 2014. At that time three leading professionals in the medical area came together to attend a master's in HEM in Milan. Their final, joint project (Chiusoli et al., 2014) was the overall design of what SAM was expected to be. The strategy included an analysis of the feasibility of the whole structure with a good number of examples of how activities could have been designed and with what expected results, and how to share processes of procurement and building up good practices.

Looking at the original planning, it turned out somewhat differently from how the current organisation is structured. It was primarily designed to provide support services to its three departments. In addition, some of the support services originally envisaged have not been designed nor provided, for example, a bespoke information management system.

The balance between the provision of highly specialised services to its departments as a decentralised structure and the necessity of proximity to the central divisions was fixed so as to keep the structure flexible enough to allow further implementation whenever needed. SAM has fully implemented some of its leading features (for example, professional personnel, shared services for procurements, research support, budgeting and reporting, and training), whilst some of its goals, for example, the integration into the SAM workforce of technical personnel supporting research in laboratories, has not yet been achieved.

SAM-Research

Since the original planning has not been fully implemented, adaptability and flexibility have become core values at SAM. In its relationship with other central divisions and particularly with the central research division, a closer collaboration has developed between SAM and ARIC divisions to avoid oversight in supervision and to cope with the surge of activities. SAM-Research is the first example of a decentralised, independent division deeply interconnected to its internal functions with central divisions, with the entire university and its campuses on board.

SAM-Research was expected to design and implement a specialised service to offer researchers in the medical field support in all the phases of projects not led by Unibo (pre-award and post-award). At the same time, SAM was expected to rely on ARIC for the pre-award work on European competitive projects where Unibo is acting as the leading partner and for further highly specialised activities. Thus, SAM-Research manages its services and provides support to academics and researchers and specialised physicians, with a deep knowledge of mechanisms and specificities of the medical area.

SAM-Research is currently divided into four offices: third mission, medical trials for profit, as well as non-profit/institutional projects, and donations. A fourth office manages the competitive projects. In 2022, between 100 and 150 proposals were submitted and more than 50 projects were funded accounting for an additional funding of up to €4.5M. Overall SAM has an active portfolio consisting of approximately 170 funded grants and approximately 20 staff members. Only the HE professionals and a legal advisor are members of this staff but no technicians or other staff working in medical laboratories.

Even in SAM-Research, the dichotomy between the Centre and Periphery within a multi-campus university cannot be neglected. SAM could be regarded as a medical school RO as part of a larger administrative structure or a discipline-based central administration in itself (like the University Medical Centre in Groningen or the University Medical Centre in Utrecht, both in The Netherlands). SAM certainly covers educational, research, staff, and more support services.

Regarding the forms of knowledge more likely to be used, for Unibo-led and non-led projects, we may distinguish between these forms along the project life cycle. For example, on issues of accounting, ARIC as the central research division of the university can only provide more general advice and be focussed on PM and RMA specifics forms of knowledge since its professionals are not familiar with the particular accounts and the set of requirements of the medical field as much as the staff at SAM.

whilst SAM-Research is expected to rely on HEM and RMA specifics altogether. The latter aspect also stresses the importance for staff at SAM-Research to be equipped with general as well as specific bodies of knowledge.

In the current configuration, SAM-Research may ensure the provision of a wide set of services to researchers. However, its support has limitations, and SAM cannot cover all tasks throughout the research project lifecycle for its community. And we know that this problem could not be solved simply by increasing the number of personnel since this is only one of the several issues at stake; in fact, the variety of funding schemes handled in the medical area may make the recruitment of new, specialised staff very difficult, whilst the necessity to assure training for this new staff may be a burden for SAM not easy to overcome.

The Professionalisation of the Workforce

Regarding staff at SAM-Research, the awareness of the professional profile is a topic to be explained and discussed further.

One more essential aspect refers to the high variability within its staff. While on the one hand, SAM-Research can count on its highly specialised workforce, on the other hand, part of this workforce works for and within the three medical departments, for example as coordinators in their respective laboratories to facilitate the use of these premises and their equipment …. This latter workforce is still controlled by the department heads and, unlike administrative and accounting support, and is faced with uncodified and often unclear mechanisms of coordination.

Another aspect is that these technical assistants working in its laboratories struggle to find unambiguous professional recognition nationally and they hardly find their place or community in professional associations, for example in those gathering RMAs. These points should be further investigated regarding the professional workforce at SAM-Research.

In conclusion, SAM-Research is a hybrid support structure connected with its centre that depends on it for the provision of resources, including personnel, training, and professional development. At the same time, they work with other RMAs in different university departments.

Case Study in Brazil

The Brazilian Agricultural Research Corporation (Embrapa)

Brazilian Agricultural Research Corporation (Embrapa) is one of the largest public research institutions in Brazil. It was established in 1973 by the Brazilian Ministry of Agriculture, Livestock and Food Supply (MAPA) to develop technologies, products, and services for tropical agriculture and animal farming. The main goals of the institution are to achieve food security and a leading position in the international market for food, fibre and energy.[2] This section presents some relevant achievements of Embrapa during its capacity-building journey to engage professionals and implement processes and structures related to RMA. Embrapa has participated in a pioneering training program provided by a state public funding agency to help set up research support offices in RMA. This program was important to drive the start of the implementation

[2]https://www.embrapa.br/en/sobre-a-embrapa

of RMA offices in some units of Embrapa located in São Paulo state, and also other research institutions and universities in the region.

The São Paulo Research Foundation (FAPESP[3]) is one of the main public funding agencies in Brazil and, in 2020, it provided R$978.3 million (approx US$188.3 million) for 21,233 research projects and related scholarships (FAPESP, 2020). FAPESP supports only research institutions located in São Paulo state with tax resources collected and distributed within the state. In order to increase the efficiency in the management of project submission, accountability and other pre-award and post-award processes, FAPESP created the 'Training Program for Implementation of an Institutional Support Office for Researchers (EAIP)' (FAPESP, 2022).

The Professionalisation of the Workforce

This training program was created in 2010, with 27 hours of duration in four days with about six participants in each class to learn and implement processes or adjust them in their institutions according to the best practices learned in the course. After about one year, FAPESP visits each trained institution to get feedback and provide additional support (FAPESP, 2022; Oliveira, 2020). From 2010 to 2017, FAPESP trained 538 fellows allocated in 160 departments of 43 research institutions. An average of 67 people were trained per year and a total of 89 classes and 2,403 hours of training were provided. According to Oliveira and Bonacelli (2019, p. 75),

> the content of the EAIP program course consists of institutional information about the organisation structure and main processes of the funding agency; detailed information about the types of grants, agency standards and regulations; detailed information about administrative, finance, audit and importation processes; detailed information about scientific management and research projects evaluation process; and main procedures related to the information systems used to submit proposals and monitor expenses and accountability. These subjects are directly related to operational pre- and post-award processes.

In 2017, more than 1,500 institutions were eligible and still not trained, thus there is potential for expansion within the state and space to create similar initiatives in other Brazilian states. In 2023, the program is still active and there are about 155 offices implemented by training participants.[4]

One of the institutions that participated in the EAIP training is Embrapa. It has about 8,000 employees (approx 2,000 researchers) allocated in 43 research and services units distributed among several states of the country (Embrapa, 2022). Each decentralised unit has a dedicated local Research and Development (R&D) department, a Technology Transfer (TT) department, an Administrative department, and an Organisational Development (OD) department. Embrapa has organised its R&D projects in programs and portfolios (34 portfolios in 2019) that are managed according to a group of defined and institutionalised processes and rules denominated 'Embrapa Management System'. Embrapa launches periodic calls to select and fund the most impacting project proposals in line with the strategic themes proposed according to national demands (Crespi et al., 2019).

[3]https://fapesp.br/en

[4]http://fapesp.br/relacao-das-instituicoes-que-ja-receberam-o-treinamento

Embrapa presents an intriguing case for RMA practices. The insitution is well-known in the country and has units of different sizes in several regions and states reflecting a high level of diversity of organisational profiles. In 2019, Oliveira (2020) surveyed all decentralised units with the purpose of performing an internal benchmarking to identify the most frequent RMA practices and organisational structures existing in the institution (Ajelabi & Tang, 2010). The survey was sent to 42 units. Among 24 respondents, Oliveira identified units with formalised RMA offices (nine units) running some of the main RMA pre-award or post-award processes in small teams (one to six people allocated) and eight units with non-formal RMA structures with (approx one to ten people allocated), which means that they had adopted the organisational model of DTs. The last seven units that participated in the survey informed that they do not have professionals allocated or organisational structure implemented to support researchers in RMA activities, which means that RMA activities are primarily performed by researchers or delegated to non-trained administrative staff at their request.

Results from the survey suggested that the main bottleneck to implementing RMA offices is the availability of human resources, certainly exacerbated by the restrictions and rigid rules imposed upon public institutions in hiring their personnel. Results also show that the RMA as a profession is hardly known by most of the units. Only one respondent was a member of a RMA association and only two ever attended EAIP training. Although Embrapa has a very mature and strategic Management System which monitors and control portfolios and research projects, it does not include RMA processes nor the way how knowledge is shared among RMAs. Each unit has a department called Internal Technical Committee that ensures that project submissions and monitoring are compliant with the Management System. Each unit, however, is autonomous to decide the kind of support they provide (or not provide) for researchers to the elaboration of proposals and the execution of projects at the operational level (Oliveira, 2020).

Model of Organisational Structure

Another study run with the Embrapa Agricultural Informatics (Oliveira, 2020) focussed on a decentralised unit located in São Paulo state. This unit participated in the benchmarking survey and also in the EAIP training program from FAPESP in 2016. It implemented a Research PSO in 2017 based on PMBoK practices and its PMO model (PMI, 2013) consisting of a DT with two part-time employees and two interns supporting pilot projects. In 2019, the organisational structure of this unit was formalised with one full-time employee managing a DT with several responsibilities, such as external fundraising, assistance to principal investigators in financial management, purchasing and relationship with funding agencies, sponsors and supporting foundations, management of external resources, and preparation of monitoring reports to decision making and accountability. In 2018, this unit was instrumental in increasing external funding by 54%. This result led to the establishment of a dedicated RMA structure.

The above-described case presents discrepancies in the implementation of RMA practices within a large public research institution and illustrates the stage of the institutionalisation of RMA in Brazil. Although there are some initiatives such as the EAIP program, these activities are very nascent, and the path to gaining recognition for the RMA profession in the country is going to be an extended journey.

The Embrapa case is a practical example of the loose coupling theory (Weick, 1976). Each devolved unit follows the official management system and, at the same time, has the autonomy to organise its operation and research activities according to its profile and culture. Looking at Embrapa we can reflect on the dichotomy between centre and periphery in its operation, because knowledge generation is, or used to be, its core business. Lately, however, the scarce public resources are pressuring for external funding raising, alternative sources of revenue and more efficiency. Thus, some of the devolved units (Periphery) are trying to reorganise their RMA processes, and this can only be done under the managerial control of the headquarters.

Conclusion

This chapter highlighted the distinctiveness of today's organisational structures in research support, which represents one of the most impactful factors in any institution. They also point to the importance of tailoring a research support structure to the local needs so it will continue adapt in this emerging changes as shown in the example of SAM-Research.

Thus, this chapter reminds us how these structures should be kept flexible for the staff as well as for the overall effectiveness of their profession so it can embrace challenges in further institutional self-studies, as suggested by Watson and Maddison (2005).

One more conclusion highlights the importance of acknowledging the role of centre and periphery in organisational context. For decentralised units, the range and variety of support services matter as for SAM-Research, for example that heavily depends on central resources. Often, there is some ambiguity surrounding what the centre does or is expected to do for or with its periphery, and this can undermine the overall performance not only of the unit but of the whole institution. The dichotomy between centre and periphery also reminds us of the added value of subsidiarity in relation to research support services, as shown for SAM-Research in a multicampus university. While the discussion on the organisational centre and its periphery strengthens the interdependence between different sets of knowledge structures could be used to raise awareness towards the professional development within a structure.

Training that embeds the most appropriate forms of knowledge as well as the adequate level of professionalism of staff in research support are evident both at Embrapa and at SAM-Research. They may be aimed at lifting the institution's capacity to scale up and elevate the level of maturity in the long run, but this is not necessarily guaranteed.

Overall, we suggest that investing in staff professionalism could promote institution's RMA maturity; by doing so, institutions can showcase how much they care about people in today's organisations and how important they are, or should be, in the whole process as the field of RMA grows as a profession around the globe.

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References

Ajelabi, I., & Tang, Y. (2010). The adoption of benchmarking principles for project management performance improvement. *International Journal of Managing Public Sector Information and Communication Technologies (IJMPICT)*, *1*(2), 1–8.

Allen-Collinson, J. (2006). Just 'non-academics'? Research administrators and contested occupational identity. *Work, Employment & Society*, *20*(2), 267–288. http://dx.doi.org/10.1177/0950017006064114

Allen-Collinson, J. (2009). Negative 'marking'? University research administrators and the contestation of moral exclusion. *Studies in Higher Education*, *34*(8), 941–954.

Altbach, P. G. (1998). *Comparative higher education: Knowledge, the university, and development*. Greenwood Publishing Group.

Altbach, P. G. (Ed.). (2013). *The international imperative in higher education*. Springer Science & Business Media.

Altbach, P. G. (2016). *Global perspectives on higher education* (p. 303). Johns Hopkins University Press.

Barnett, R. (1990). *The idea of higher education*. McGraw-Hill Education (UK).

Barnett, R. (1997). *Higher education: A critical business*. McGraw-Hill Education (UK).

Becher, T., & Kogan, M. (1992). *Process and structure in higher education* (2nd ed.). Routledge.

Bergeron, B. P. (2003). *Essentials of shared services*. John Wiley & Sons, Inc.

Campbell, D. R. L. (2010). *The role and development of the research administration profession in higher education* [Doctoral dissertation]. Washington State University.

Carvalho, V. D., Rodrigues, W. R., & Freitas, O. G., Jr. (2011). *Um Modelo de Escritório de Gerenciamento de Projetos para as Organizações Públicas: o caso da UFAL*. In Anais do 10° Congresso Brasileiro de Gestão do Conhecimento, São Paulo, SP.

Chiusoli, E., Samoggia, S., & Trentini, A. (2014). *"I servizi amministrativi e gestionali nell'Area medica: una proposta" (Management and administration support services in the medical field: a proposal)*. Final project work of the Master in HE and Research Management from Milan Polytechnic 2012/2014. Olimpio Brivio and Giuseppe Colpani.

Clark, B. R. (Ed.) (1983). *The higher education system*. University of California Press.

Clark, B. R. (1998). *Creating entrepreneurial universities: Organizational pathways of transformation. Issues in Higher Education*. Elsevier. ISBN-0-08-0433545.

Clark, B. R. (2008). *On higher education. Selected writings, 1956–2006*. Johns Hopkins University Press.

Crespi, T. B., Rezende da Costa, P., Preusler, T. S., & Porto, G. S. (2019). The alignment of organizational structure and R&D management in internationalized public company: The EMBRAPA case. *Innovation & Management Review*, *16*(2), 193–216. https://doi.org/10.1108/INMR-07-2018-0046

Embrapa. (2022). *Embrapa em Números*. Retrieved March 27, 2022, from https://www.embrapa.br/en/embrapa-em-numeros

Enders, J. (2004). Higher education, internationalisation, and the nation-state: Recent developments and challenges to governance theory. *Higher Education*, *47*(3), 361–382.

FAPESP. (2020). *Relatório de Atividades 2020*. https://fapesp.br/relatorio2020

FAPESP. (2022). *Escritório de Apoio Institucional ao Pesquisador (EAIP)*. Retrieved March 27, 2022, from http://www.fapesp.br/eaip

Gibbons, M. (1998). Higher education relevance in the 21st century.

Green, J., & Langley, D. (2009). *Professionalising research management*. HEFCE and MRC.

Hansen, S., & Moreland, K. (2004). The Janus Face of research administration. *Research Management Review*, *14*(1), 43–53.

Junqueira, M. A. D. R., da Rocha Bezerra, R. C., & Passador, C. S. (2015). O escritório de gestão de projetos de pesquisa como uma inovação organizacional nas universidades. *Revista Geintec-Gestao Inovacao e Tecnologias*, *5*(1), 1835–1849.

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Kerridge, S., & Scott, S. (2018a). Research administration around the world. *Research Management Review*, *23*(1), 1–34.

Lima, E. F., Almeida, V. L. L. D., & Maia, G. A. D. S. (2014). A Implantação do Escritório de Projetos (PMO) da Universidade Estadual de Mato Grosso do Sul (UEMS): uma iniciativa inovadora na gestão pública sul-mato-grossense.

Linder, J. C., Jarvenpaa, S., & Davenport, T. H. (2004). Toward an innovation sourcing strategy. *MIT Sloan Management Review*, *45*(2), 26–32.

Marginson, S. (2007). *Prospects of higher education: Globalization, market competition, public goods and the future of the university*. BRILL.

Marginson, S. (2022). What is global higher education? *Oxford Review of Education*, *48*(12), 1–26.

Monteiro, A., Santos, V., & Varajão, J. (2016). Project management office models – A review. *Procedia Computer Science*, *100*, 1085–1094.

Mouwen, K. (2000). Strategy, structure and culture of the hybrid university: Towards the university of the 21st century. *Tertiary Education and Management*, *6*(1), 47–56.

Musselin, C. (2005). Change or continuity in higher education governance? In I. Bleiklie & M. Henkel (Eds.), *Governing knowledge. higher education dynamics* (Vol. 9, pp. 65–79). Springer. https://doi.org/10.1007/1-4020-3504-7_5

Oliveira, F. S. (2020). Administração e gestão de projetos de pesquisa e sua contribuição às atividades de pesquisa, desenvolvimento e inovação: estudo de caso da Embrapa. *Embrapa Agroindústria Tropical-Tese|dissertação (ALICE)*.

Oliveira, F. S. D., & Bonacelli, M. B. M. (2019). Institutionalization of research administration in Brazil: Some evidences. *Journal of Technology Management & Innovation*, *14*(2), 69–80.

Pemsel, S., & Wiewiora, A. (2013). Project management office a knowledge broker in project-based organisations. *International Journal of Project Management*, *31*(1), 31–42.

PMI. (2013). *Um Guia do Conhecimento em Gerenciamento de Projetos (Guia PMBoK) - Quinta Edição* (5a. Edição ed.). Editora Saraiva.

Poli, S., & Hancock, E. (2010). *Centralised versus decentralised. Issues of professionalism in research support services* [Conference presentation]. European Association of Research Managers and Administrators EARMA conference.

Poli, S., Kurt-Dickson, A., & Siesling, M. (2016). *Being blended (as) research managers in different context of higher education*. Association of Research Managers and Administrators ARMA conference.

Poli, S. (2018b). Organizational structures. In J. Andersen, K. Toom, S. Poli, & P. F. Miller (Eds.), *Research management: Europe and beyond* (pp. 89–107). Elsevier Inc.

Salles-filho, S., & Bonacelli, M. B. M. (2010). Science and Public Policy Trends in the organization of public research organizations: Lessons from the Brazilian case. *Science and Public Policy*, *37*(3), 193–204.

Santos, J. M., Varela, C., & Kerridge, S. (2021a). Professionals at the interface of science: Is there more than meets the eye? *Perspectives: Policy and Practice in Higher Education*, *25*(3), 100–105.

Scott, P. (2010). Burton Clark's half century: Selected writings 1956–2006. *London Review of Education*, *8*(3), 273–280.

Scott, P. (2011). The university as a global institution. In R. King, S. Marginson, & R. Naidoo (Eds.), *Handbook on globalization and higher education*. Edward Elgar Publishing.

Scott, P. (2019). Martin Trow's elite-mass-universal triptych: Conceptualising higher education development. *Higher Education Quarterly*, *73*(4), 496–506.

Scott, P. (2022). Sagas of contemporary higher education: Foreground and hinterland.

Shattock, M. (2003). *Managing successful universities* (pp. 67–108). Open University Press.

Shattock, M. (2005). European universities for entrepreneurship: Their role in the Europe of knowledge the theoretical context. *Higher Education Management and Policy*, *17*(3), 13.

Shattock, M. (2014). The context of 'modernising' reforms in university governance. In M. Shattock (Ed.), *International trends in university governance* (pp. 15–28). Routledge.

Shelley, L. (2010). Research managers uncovered: Changing roles and 'shifting arenas' in the academy. *Higher Education Quarterly*, *64*(1), 41–64.

Siesling, M., Kurt-Dickson, A., & Poli, S. (2017). The blended professional in Academia – Bringing them further. *European Association of Research Managers and Administrators EARMA conference*.

Slaughter, S., & Leslie, L. L. (1997). *Academic capitalism: Politics, policies, and the entrepreneurial university*. The Johns Hopkins University Press.

Sporn, B. (2010). *Management of and in higher education institutions*. International Encyclopedia of Education.

Squilla, B., Lee, J., & Steil, A. (2017). Research shared services: A case study in implementation. *Journal of Research Administration, Thomas Jefferson University; Huron Consulting Group; Thomas Jefferson University*, *48*(1), 86–99.

Starbuck, S. (2014). Yes, I am a research manager, but I don't cost bids. In *The ARMA 2014 conference proceedings: Learning from the past; preparing for the future 2014*. ARMA.

Telles, M. H. D. C., Costa, S. R. R. D., & Santos, J. A. N. D. (2007). Modelo de escritório de projetos de pesquisa financiados por órgãos de fomento.

Temple, P. (2012). Effective universities: Some considerations of funding, governance and management. In M. Kwiek & A. Kurkiewicz (Eds.), *The modernisation of European universities Cross-national academic perspectives.* Higher Education Research and Policy Series (pp. 199–214). Peter Lang.

Temple, P. (2014). Handbook on the entrepreneurial university. *London Review of Education*, *12*(2), 239–240. https//doi.org./10.18546/LRE.12.2.10

Tight, M. (2003). *Researching higher education*. The Society for Research into Higher Education.

Tight, M. (2020). Higher education: Discipline or field of study? *Tertiary Education and Management*, *26*(4), 415–428.

Watson, D. (2000). Managing in higher education: The 'wicked issues'. *Higher Education Quarterly*, *54*(1), 5–21.

Watson, D. (2007a). *Managing civic and community engagement*. McGraw-Hill Education (UK).

Watson, D. (2007b). Does higher education need a hippocratic oath? *Higher Education Quarterly*, *61*(3), 362–374.

Watson, D. (2008). The university in the modern world: Ten lessons of civic and community engagement. *Education, Citizenship and Social Justice*, *3*(1), 43–55.

Watson, D., & Maddison, E. (2005). *Managing institutional self study*. McGraw-Hill Education (UK).

Wedekind, G. K., & Philbin, S. P. (2018). Research and grant management: The role of the Project Management Office (PMO) in a European Research Consortium Context. *Journal of Research Administration*, *49*(1), 43–62.

Weick, K. E. (1976). Educational organizations as loosely coupled systems. *Administrative Science Quarterly*, *21*(1), 1–19.

Chapter 3.4

Research-related Information Management: Reflections from Southern African Practitioners

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Abstract

This chapter discusses the growing importance of research-related information in the face of increased complexities and competitiveness within higher education environments globally. It provides some reflections on the importance of institutional research cultures to effectively address these challenges, focussing on the African context, and the role of effective research support through institutional structures such as a dedicated research office. The increasingly strategic role of research management has led to the need for a more active and visionary role in the positioning of institutions by supporting decision-making and contributing to the development and visibility of institutional research portfolios. The authors provide their insights into the scope of research-related information, the need for research offices to perform this strategic function,

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how these information sets can be applied in reports, evidence-based decisions, institutional showcasing, and enhanced research support. The chapter includes aspects to consider when establishing a research-related information management function within institutions.

Keywords: Africa; higher education; research-related information; research management; research information systems; research office; decision-making; institutional research portfolio; institutional positioning; curatorship; research culture; reporting; showcasing

Introduction

The higher education landscape is a dynamic environment to work in. However, it has also become an increasingly complex and competitive space which places enormous pressure on institutions to perform, distinguish themselves from the rest, showcase the impact, relevance and applicability of research activities and to develop a competitive edge. This cannot be done without effective support through institutional structures such as a dedicated research office or a collective structure that can play an active and visionary role in the positioning of their institutions by supporting decision-making and contributing to the development and visibility of the institutional research portfolio.

In their study of institutional positioning in higher education, Fumasoli and Huisman (2013) explain that the institutional positioning of universities reflects their strategic intent, or their capability to locate themselves in a favourable niche. This positioning includes the active way in which institutions need to create a competitive advantage through the creation and development of a research profile that distinguishes themselves from competitors, including the identification of unique core competencies, areas of expertise and their contribution to local and international development agendas.

Loi (2021) also alludes to the changing dynamics of research, which needs to adhere to new demands placed by changing funding requirements, competitive bids, complex requirements, due diligence, legislation and governance. This has led to a focus, for example, on multi-disciplinary, interdisciplinary, collaborative research, with an increased need to showcase impact and societal benefit. Furthermore, Tijssen and Kraemer-Mbula (2017) argue that science performance and knowledge production in Africa in particular are affected by economic conditions and the availability of human resources and there has been an increasing interest to pursue excellence – through the creation of an enabling environment to groom and attract high-quality researchers that can perform and produce and attract funding. Similarly, there has been an increasing demand on researchers to produce research that has positive socio-economic impacts and benefits.

Ultimately, these changing dynamics have also impacted on the way research is supported and managed. According to Agostinho et al. (2018, p. 1), 'the importance that activities of management, valorisation and communication of science and innovation assume in the R&I ecosystem in general has been widely recognised'. However, as Bossu and Brown (2018) affirm, these new demands and pressures have led to changes in the way universities are managed, with a move to more corporate organisational principles. The role of research managers in Higher Education Institutions (HEIs) has shifted from primarily providing administrative support towards a more active, visionary and increasingly multi-dimensional role in the positioning and prestige of their universities (Loi, 2021; Shelley, 2010).

Agostino et al. (2020) propose that although professionals working in what they call the 'interface of science' might perform a diverse set of activities, they are performing 'differentiated responsibilities that goes far beyond general administrative roles' (p. 2).

These responsibilities have led to more specialised functions within research offices, including the provision of decision-support, analysis of institutional knowledge production in especially research-intensive institutions and the creation and facilitation of directed initiatives that promote and give visibility to the institutional research portfolio.

These specialised functions create what Behari-Leak and Le Roux (2018, p. 30) call an 'in-between space between mainstream academic support work, leadership and advocacy and other roles at the periphery'. They also refer to Whitchurch's (2007a) concept of a 'third space' in which research management practitioners need to find their place and set up 'new structures of authority, practice and discourses' (Behari-Leak & Le Roux, 2018, p. 30).

One such space where involvement from research management professionals is increasingly needed, is in activities which require effective research and research-related information in current research management practices. Activities include being co-responsible with executive management to set research strategy, to develop research-related policies and to decide on research themes at institutional, faculty and individual levels; research environment scanning, trends analysis and the gathering, analysis and dissemination of intelligence; benchmarking and the calculation and analysis of research metrics; development of partnerships; use and promotion and showcasing of research outputs, including formal and informal reports; and monitor compliance and risk areas and to develop and maintain corporate systems and administrative mechanisms for the support and automation of processes, and the capture and provision of information which underpins all of the other areas (Carter & Langley, 2009; Langley & Ofosu, 2007; Schützenmeiser, 2010, as highlighted in Botha & Hunter-Hüsselmann, 2016).

This chapter will provide a reflection on the important role that the research office plays in the development and enhancement of institutional and individual research portfolios through the provision and application of research and research-related information. It will be based on a study of a selection of research-intensive HEIs in South Africa done by Botha and Hunter-Hüsselmann (2016), and on the experiences gained through the authors' engagement in an EU-funded project: *Strengthening of Collaboration, Leadership and Professionalisation in Research Management in the SADC and EU Higher Education Institutions* (StoRM)[1] which was completed in 2021. The authors' own insights and reflections will also be shared – from working in the field of research information management within a research-intensive HEI in South Africa and in Botswana respectively, and through their active interactions and collaborations with other higher-education institutions in Southern Africa over many years. This will equip readers with some insight into the importance of effective use and management of research-related information and highlight aspects to consider when establishing such a function within their own institutions.

Institutional Research Cultures in Africa – Some Thoughts

The need for effective management, analysis and application of research-related information that is collected through the various functions within the research office has become an essential function within the research management profession – especially within institutions with a strong, established research portfolio. Although many of these activities are expected and to a great extent already prevalent in research-intensive institutions in South Africa, it is not necessarily the case for the rest of Africa. In some

[1]https://sites.google.com/view/projectstorm/home

institutions where there is a slow emergence of institutional investment in professional support structures, research administrators and managers are still grappling with the establishment of the basic research support function in their institutions (Botha & Hunter-Hüsselmann, 2016).

Tijssen and Kraemer-Mbula (2017) argue that the difficulties might stem from the fact that in Africa, universities vary according to their size, their abilities to produce impactful scientific research outputs and the country's economic and political conditions. Scientific research has become a powerful characteristic in the mission and vision statement of most, if not all, African universities. The so-called teaching universities are now aspiring to become research-intensive universities (Benmousa et al., 2018; The Association of Commonwealth Universities, 2015), and are working collaboratively with other universities, since mutual benefit is becoming yet another priority for African universities.

Such observations suggest that some universities have either no evolving institutional research culture, a weak research culture or no research culture at all. Yet, expectations from HEI regulatory bodies and society are that universities must attain research excellence and contribute to the national transformation of their countries through the creation, application and transfer of knowledge. These expectations have had a direct impact on how university research is funded by government and other funding bodies and ultimately shape the size and scope of research management in universities. According to Naureen and Adeeb (2014), an institution with a research culture 'is the type of environment which leads academics to research productivity in higher education institutions' (p. 3010). Similarly, Evans (2012, as cited in Olvido, 2021), defines it as 'shared values, assumptions, beliefs, rituals and other forms of behaviour geared towards the acknowledgement of the value and significance of research practice and its outputs' (p. 6). Furthermore, Casci and Adams (2020) allude that a research culture is defined by 'the way we evaluate, support and reward quality in research, how we recognise varied contributions to a research activity, and the way we support different career paths' (p. 1), which should include mentoring and capacity building (Mirasol & Inovejas, 2017). These indicators define the variations that we see in African universities in terms of their research management structures, research intensity and their research development, performance and excellence and institutional research strategies.

These indicators also include the presence of an institutional research policy and agenda, departmental research programmes, and strategies designed to develop and encourage research productivity, research management structure, a research committee or research monitoring body, a clear budget for research, sufficient institutional infrastructure for research, collaboration with and access to research professionals in other institutions, incentive schemes to encourage research productivity, and the presence of sustained research publications and other research-related outputs (Salazar-Clemeña & Almonte-Acosta, 2007, p. 4).

An institution with a strong research culture is ultimately one where both research and researchers are valued. The question is: how do we ensure research excellence and effective knowledge production in African HEIs in the face of numerous demands and contextual influences? This, from our perspective, is only attainable if there is a strong institutional research culture, influenced by an external environment (such as the national government) that is supportive and individual researchers that are well-equipped. These are the building blocks to attaining research excellence through knowledge production. There is a need to have government structures that put policies

in place that foster the right behaviour. Targets and standards need to be set that are relevant but also achievable. Funding for research and research-related activities are essential and funding agencies need to prioritise and direct their investment in areas where the need is the greatest. Partnerships with industry and other national and international agencies have also become extremely important.

A supportive and enabling institutional environment is also key to building a research culture. The institutional vision, mission and strategies related to research need to reflect the development of research and innovation. Institutional leadership needs to understand the importance of research-focused endeavours to build reputation and credibility. There must be investment in the quality of researchers, the provision of necessary infrastructure and resources for researchers to do their work, incentive schemes for performance, and continuous research capacity development through directed efforts. On an individual researcher level, there is a need for a prepared researcher to contribute to the institutional research culture. They have to be qualified, motivated, committed and focussed, with a will to learn and to achieve excellence through their work.

The Need for Research-related Information on Various Levels

If you work in a research office in any HEI in the world, you would probably have seen that the need for research-related information for statutory or more formal purposes has increased exponentially, not only within the institution but also through national government structures.

National policies on the governance of research and administration play a pivotal role in how research-related information support structures and the information itself is organised. For instance, in some HEIs, there are research excellence frameworks (REFs) that are meant to be policy-relevant concepts that define research funding and assessment (The Association of Commonwealth Universities, 2015). There has been a growing trend to pursue these REFs in order to create an enabling environment to grow and attract high-quality researchers and produce impactful research outputs in high-impact research dissemination outlets. One way in which these high-quality and productive researchers are attracted is through their applications for research grant funding calls. The process then enables funding organisations and public sector agencies to strategically award funds to deserving researchers.

Another significant development in the Southern African research landscape is that limited research resources has driven governments to selectively allocate resources, employing a transparent decision-making process based on evidence that speaks to the performance of universities. This therefore means that there are defined requirements from university regulators and funding agencies charting research excellence and university involvement in research. The importance of research-related information can therefore be seen at different levels:

Nationally, research-related information is important for benchmarking, for landscape analyses and to prioritise funding opportunities according to national strengths and weaknesses, also in terms of developmental needs and priority areas – you need to know who is contributing, where your strengths as a nation lie and where you need to invest more.

Institutionally, it is important to have information available in terms of institutional indicators of successes and weaknesses, strategic research priority areas, to benchmark the institution according to set criteria of excellence – how does it fair in terms of rankings, successes in terms of obtaining funding, its collaboration with

national and international research institutions, or its standing standing in terms of research? Faculties and departments need research-related information to measure performance, for institutional management reports, etc. You need to know your own business landscape – where your researchers are active, who publishes where, where your core competencies lie, etc.

On a researcher level, it is important to measure individual research performance based on specific indicators of success. Individual records related to outputs, grants, awards/prizes, supervision record, postgraduate success rate, collaborators/networks, success in obtaining funding, contract research, etc. are needed in order to profile yourself as a researcher. This information is often needed in performance management, when funding applications, looking for collaborations, attracting postgraduate students, and showcasing your standing in your research field.

The need for effective management, analysis, and application of research-related information that is collected through the various functions within the research office has therefore become an essential function within the research management profession and can have huge value – nationally, institutionally, and on an individual researcher level.

The Scope of Research-related Information

Botha and Hunter-Hüsselmann (2016) argue that research-related information should be understood to include information sets related to the research activities within an institution and the functions typically found in the research office (also see Carter & Langley, 2009; Langley & Ofosu, 2007; Schützenmeiser, 2010). It not only includes information on research outputs such as publications, grants, etc. but also other research-related information that is available from the broad range of responsibilities and functions that research managers undertake. These information sets can fulfil a more strategic function when applied effectively in decision-making processes. 'It can also include knowledge on where the institutions' core competencies lie or their weaknesses, for that matter, and it informs the research performance of individual researchers' (Botha & Hunter-Hüsselmann, 2016, p. 303).

The authors have identified different categories of research-related information, linked to the typical functions of research administrators and managers. These include information related to the researchers themselves (Human Resources type data), publication outputs (journal articles, conference proceedings, books, chapters in books), masters and doctoral students (enrolments, graduations), grants and funding (internal institutional, national, international), postdoctoral research fellows, research contracts, facilities and equipment, ethics, intellectual property and technology transfer, etc. On a more strategic level, it also includes information around researcher and institutional partnerships and collaborations, strategic management indicators related to research, benchmarking information such as niche research focus areas, centres of excellence, research chairs and their focus areas, information related to rankings, and information and stories used for science communication purposes, such as popular articles, news clippings, etc., that raise the visibility of the research portfolio and its relevance and impact to a broader audience.

We would also argue that research-related information includes not only data related to the spectrum of functions and responsibilities of research managers and other research-related support divisions, as highlighted above, but also the underlying information about institutional processes, strategies and policies, even basic

information such as who to contact, for example, if you need to know how to apply for funding, how to apply for a research contract, how to complete an ethics clearance form, to name a few. Moreover, we also view information that can be used to raise the visibility of the institutional and individual research portfolios would typically be applied to communicate science to a broader audience in our description of research-related information. What is important to note is that although the information related to these categories mainly resides within research offices, other custodians of data such as the HR office, the Library and Information Services, the Postgraduate office and Intellectual Property (IP) and Technology Transfer office (if these are all separate entities within the institution), the Institutional Research and Governance office (or similar entity), the Information, Communications and Technology (ICT) division also keep records of data that needs to feed into the research-related information, depending on the type of required reporting and/or the use and application of the information. Wenger and Snyder (2000) also allude to the importance of cooperation with a range of role players within the institution, who need to form a community of practice and work together to create a holistic approach to address matters that require the effective application of research-related information.

Furthermore, the various players within institutions also often use different ways of capturing information. To illustrate the complexity of managing research-related information, we have included a selection of categories of information that exist within different data sources, curated by different divisions within six South African institutions in Table 3.4.1. Note also that there is often a difference between the curator of information (responsible for definitions, processes to capture and update information, data quality and reporting) and the curator of the information system/database in use (responsible to develop and maintain the database and technical system, software, information architecture, interoperability and integration). What can be deduced from Table 3.4.1 is that the various research-related information sets reside in different divisions and that the research office is by no means the only stakeholder involved. The responsibility to curate the different categories of information therefore is also varied within the institution, so is the management of the specific system(s) or tool(s) for capturing and recordkeeping. Coordination of these different elements (specific categories of information, where it resides, who is responsible and the type of recordkeeping in place) can become quite complex and standard operating procedures (SOPs) should be put in place to ensure effective management of the information.

Research-related Information Management

In South Africa, HEIs are required to report regularly on a number of research and research-related activities. In some cases, there is a direct link between reporting these activities and funding allocated by the government (Styger et al., 2015; Woodiwiss, 2012). Subsidy allocation to South African HEIs, for example, is directly influenced by the number of publications as determined by the South African Department of Higher Education and Training (DHET) Research Output Policy (2015) as well as postgraduate student output. This information has to be audited and reported on annually to the government.

HEIs therefore need to comply with good practices in order to ensure that research information is correctly recorded, managed and protected.

Table 3.4.1. A Selection of Categories and Custodianship of Research-Related Information in Six South African Universities.

Type of RRI	Curator of Information	Curator of Information System	Name of system
Information on researchers (HR information)	HR department supported by ICT department, some collaboration with Research Office	ICT department in partnership with HR	Mostly enterprise systems, e.g. *Oracle-HR*, *SAP-HR*, also homegrown systems (e.g. *Protea*)
Publication outputs (journal articles, book chapters, conference proceedings)	Research Office	ICT department or Research Support Office in partnership with an external service provider	Research Administrator, IRMA Publications, Thomson Rogers *Converis*, *Protea*, *Info-Ed*
Masters and doctoral student information (enrolments, graduations)	Registrar's Office (in cooperation with Faculty/College Offices)	ICT department in partnership with Registrar's Office	*Oracle-Peoplesoft Campus Solutions* or *Protea* or IRMA or a homegrown system
Post-doctoral fellows	Research Office or Faculty/College Offices & Registrar's Office, or HR department	ICT department in partnership with RSO or Registrar's Office	Excel spreadsheets, *Oracle-Peoplesoft Campus Solutions*
Funding and grants: Internal university grants	Research Office or Faculty/College Offices	ICT department in partnership with Research Support Office and the Finance Department	*Oracle-Peoplesoft Campus Solutions* or a homegrown finance system (migrating to *Kuali Finanance System*), InfoEd
Research Contracts (number, source of funding, partners, duration, agreement details, conditions, outputs, legal clearance)	Research Office	ICT department (in terms of the enterprise system) or Research Contracts & Intellectual Property Services (RCIPS) Department or Legal Services	IRMA Contracts & Grants (migrating to Thomson Reuters *Converis*) or *ImageNow*, or homegrown contract management system based on *Excel* spreadsheets
Ethics approvals / Information related to research integrity	Research Support Office	ICT dept (in some cases in partnership with NRF RIMS team)	*Info-Ed* or RIMS or various systems including *MS Access* IRMA or Excel spreadsheets
Partnerships, research collaborators	Various custodians, including Research Office and International Academic Programmes Office (IAPO)	ICT department in cooperation with various different offices, including the Research Support Office	Various, including Research Office and International Academic Programmes Office (IAPO) or *ImageNow*

Source: Extract from Botha and Hunter-Hüsselmann (2016).

This is important on various levels, namely:

- There is a **legal** obligation to comply with standard practices, both nationally for POPIA (Protection of Personal Information Act)[2] and internationally.
- HEIs have an **ethical** responsibility to protect research subjects and ensure that information has validity and integrity.
- There are **contractual** requirements in terms of external funder requirements, as well as requirements for, for example, intellectual property rights and data retention.
- There are **institutional requirements** to comply with as dictated by policies and regulations.

It is therefore clear that the risks involved if research-related information is not managed properly can be dire and can influence the institution on multiple levels. It can have direct financial implications since failure to report information can lead to loss of income, whether its subsidy income or any form of income from grants, contracts, etc. There is also the issue of reputational damage to the institution if information is reported incorrectly, incomplete or not complying with the requirements specified.

In order to manage research-related information effectively, technology and information systems are essential in accomplishing this. As indicated elsewhere in this chapter, an institution might have various databases that contain research-related information and a significant number of them contain information that typically resides in the research office. Examples of such databases include information systems for capturing and reporting on research publication outputs, ethical clearance & compliance, managing research contracts, showcasing research expertise, managing research grants, postdoctoral fellowship as well as postgraduate students & funding. The format of these databases varies quite significantly and can range from Excel spreadsheets to homegrown systems as well as software systems bought and customised according to specific functional requirements. Some of the information contained in these databases will overlap with other institutional systems, such as Finance, Human Resources (HR), Student Information and Institutional Research. Integration of these systems provides the possibility of high-level reporting across the research landscape of the institution. Based on our experience with implementing electronic research information management systems, the cost involved in the integration of various systems and the level of sophistication of integration possibilities can become quite extensive and this should be kept in mind when investigating possible service providers to serve the particular institutional needs for an electronic research management or related systems.

Integration of systems on a national level in South Africa was already addressed in 2004 with the Institutional Research Information Systems (IRIS) project. Discussions between stakeholders that formed part of the project including SARIMA/DSI/NRF/USAID) highlighted the value of developing and standardising electronic research management information systems at HEIs. The following advantages of such system(s) were discussed and presented in an internal report (Mulder, 2004, p. 163):

- it provides a valuable planning tool for research development and support at institutional and national levels;
- it enables the facilitation of internal monitoring of research output and impact;
- it enables the rapid response to national government and statutory bodies' information requirements;
- it provides reliable and comparable data for national surveys as well as routine information required by different bodies;

[2]https://popia.co.za/

- it enables comparative studies and inter-institutional and international benchmarking;
- it leads to improved impact studies and measurements;
- it facilitates the generation of knowledge on the research process at a systemic level;
- it ensures good practices in terms of management of data and information; and
- it assists in collecting information with less effort and greater accuracy.

Although considerable investment was made at the beginning of 2006 in a project to customise and implement a national electronic research information management system, the attempt did not provide the envisioned outcomes and only a few HEIs still use some of the modules available in the system (Kerridge et al., 2012). The challenges posed by a project of this nature were experienced both on national and institutional levels. In the former, the level of configuration at multi-institutional level as well relative lack of flexibility of the preferred system proved to be more of a challenge than initially envisioned. At an institutional level, factors that contributed to the challenge were inadequate personnel allocated to the project, lack of buy-in from end-users as well as the project being perceived as technology-driven rather than needs-driven.

Similarly, Botswana also commenced the implementation phase of a project on the establishment of the National Research Management System in June 2021 (Letsholathebe, 2022). Subsequently, efforts were being made to roll out the system to universities and to encourage them to upload their research outputs, activities, funded projects and research equipment. The driving force for the establishment of this national system is to be able to measure the magnitude of inputs to R&D (personnel and expenditures) and the value it brings to national socio-economic development. Most importantly, it is meant to assist the government to make informed decisions about research and development and to understand the national research landscape.

We have already alluded to the fact that there is an increased need for reporting, and more specifically, integrated, holistic reporting. An important lesson that we have learned through the IRIS project in South Africa, is that integrated reporting can be achieved without having a fully comprehensive electronic research information management system that covers almost all aspects of research management functions typically present in a research office. It is more viable to rather optimise existing systems to such an extent that data can be integrated and viewed on a platform such as a business warehouse. Some considerations for optimisation are:

- Include **unique identifiers** such as personnel or student numbers in your data (for integration with HR and student systems).
- Make sure that the **organisational structure of your information system** is in line with the official organisational structure of your institution.
- Make provision for the **identification of researchers and the entities that they are linked to**, to a cost centre in order to enhance financial reporting (integration with the financial system).
- Keep in touch with colleagues in other divisions that also deal with research-related information in order to ensure that you **stay in touch and up to date with requirements** that may eventually influence your function.

However, if you are in a position to acquire a new electronic information management system, there are some basic steps that you can follow in order to ensure the best

possible solution. These steps are based on the authors' own experience during many years of custodianship of electronic research information management systems:

- **Re-evaluate the current systems** that are in place.
- Decide where the **shortfalls** are in terms of systems that do not meet the basic **criteria for reporting and managing information**.
- Determine if there is an **overlap in terms of functionalities and requirements** of research data/information with other environments. Costs can be shared and it's easier to motivate for funding if a system can be optimally utilised by more than one environment.
- Find out about **institutional repositories** and if/how that can be linked to information in the research office.
- Spend some time setting out in detail your **functional requirements** in order to ensure that potential vendors are fully informed of your needs.
- After completion of this thorough process, **go out on tender** & select (a) solution(s) that can be integrated where possible with other existing information systems in order to optimise reporting.

Current Applications of Research-Related Information

The study done by Botha and Hunter-Hüsselmann (2016) on the management and use of research-related information by a selection of research-intensive universities in South Africa identified the importance of research-related information to do *innovative reporting* on research performance, to support *evidence-based decision-making*, to raise the *visibility and showcasing* of research impact and relevance, and to enhance directed research support.

Innovative Reporting

We have already highlighted the dynamics of the HE landscape in Africa and the pressures institutions have to distinguish themselves and to show impact. There is increased recognition for the value of research-related information through its use and application in innovative ways to report on research performance. Different audiences or stakeholders require different types of reporting. A formal report to the government, for example, would look different from a report to individual departments and faculties or a report for internal use by the office. There is a move away from reports with only tables, graphs and figures, to reports with a strong interpretative element, including recommendations with regards to the implementation of future interventions and strategies to ensure research development. The use of data visualisations and information graphics has become an important element of holistic interpretations of research-related information.

One example of a data visualisation tool is Microsoft's Power Business Intelligence (BI).[3] Power BI contains various default data visualisation components that include simple bar charts to pie charts to maps, and also complex models such as waterfalls, funnels, gauges and many other components.

For illustration: Fig. 3.4.1 (a ribbon chart extracted from Stellenbosch University's Power BI application) shows master's degrees awarded by faculty and gender. Female students are represented by the darker ribbon and male students by the lighter ribbon.

[3]https://powerbi.microsoft.com/en-us/data-visualization/

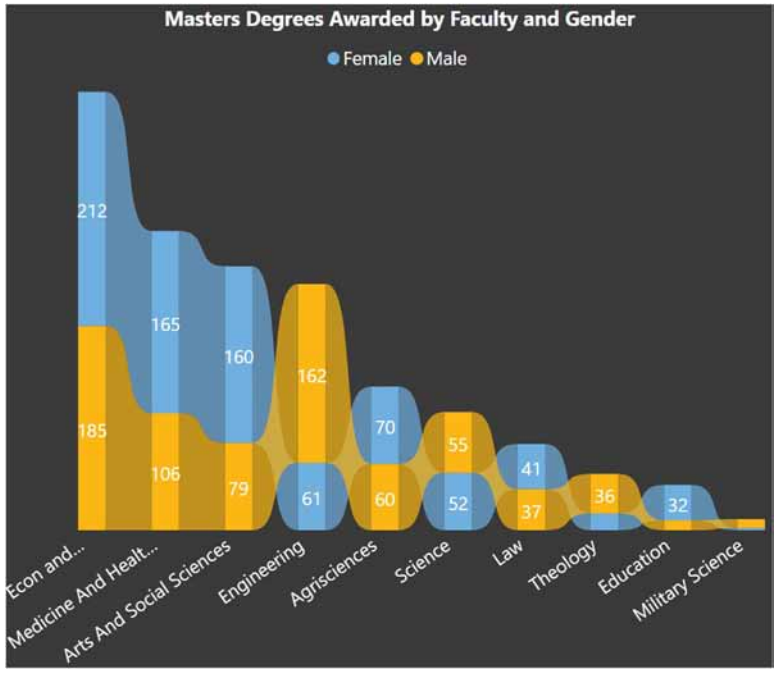

Fig. 3.4.1. Example of a Ribbon Chart Extracted from Microsoft BI – Master's Degrees Awarded by Faculty and Gender at Stellenbosch University (2021 Data). *Source:* Stellenbosch University Division for Institutional Information.

To illustrate an infographic, we include Fig. 3.4.2 on Stellenbosch University's research performance in a few key areas. These types of infographics are useful in institutional reports, but also in presentations and on platforms such as institutional websites.

Evidence-based Decision-making

Institutional strategies and policies related to research such as the institutional research policy and strategy, policies on research integrity, intellectual property, and full costing or strategies around specific initiatives such as research focus areas, targets set for monitoring, and evaluation purposes, as well as institutional processes around, for example, research funding, outputs, postgraduate student development, etc. should all be informed by institutional research-related information. If you know where your emerging competencies lie, for example, you can channel your resources into strategically important areas.

Visibility and Showcasing

Research for impact and the visibility of the institutional and individual research portfolios have become extremely important, as previously mentioned. Research-related information can be applied to showcase the impact of specific research activities in the media. It creates the ability to differentiate the institution from others and make it visible through science communication initiatives.

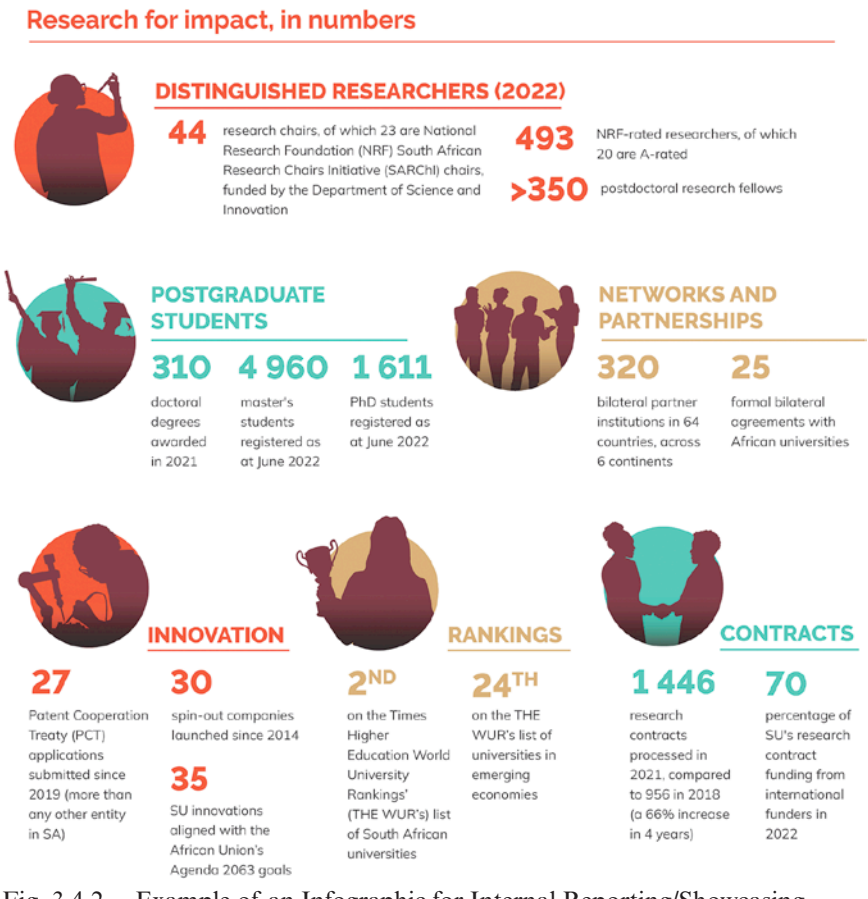

Fig. 3.4.2. Example of an Infographic for Internal Reporting/Showcasing – Research Successes at Stellenbosch University (2022 Data).
Source: Stellenbosch University Division for Research Development (DRD).

Enhancing Research Support

Research offices are responsible to provide information on the research-related support activities provided by the office to researchers. Information on funding opportunities, for example, information on specific interventions to promote the institutional research portfolio and to build the capacity of the researchers in the institution should be available and visible. Focussed interventions on a specific area for development can also be backed up by a particular set of data and information. An example could be a focus on providing specific support to early career researchers that can be formulated and directed by using information related to this cohort.

The study also identified enabling factors for the generation of value-added research-related information. These included *institutional collaboration* (referring to the collaboration between institutional entities that record research-related information), *inter-institutional collaboration* (referring to the importance of research offices across institutions to work together, benchmark against each other, and share best practices) and the *development of relevant skills and competencies* of research managers (referring to the increasing importance of analytical skills, skills in bibliometrics, report writing, data visualisation, science communication, to name a few).

Tips of the Trade

We have reflected on a few aspects to consider if you are in the process of establishing a research culture or if you want to create more visibility for your institutional research profile:

- Is this where you want to go as an institution? Is research part of your strategic focus?
- Do an institutional review of your current landscape: Do you have structures in place, i.e. policies/strategies related to research; committee structures to identify, support initiatives, support of top management?
- Know your current research strengths and weaknesses.
- Know your researchers – build relationships.
- Know your research-related sister support divisions.
- Start small – don't be over-ambitious – look for opportunities where quick wins can be reached in order to gain trust and show value.
- Try to establish a dedicated research management function at your institution.
- Surround yourself with people who know more than you and create learning opportunities for those that don't.
- Create visibility – for what you do and for your institution (website, information sessions, sessions to facilitate networks and institutional collaborations).
- Communication is key!
- Build relationships with journalists/the media/government.
- Build the capacity of your researchers and raise awareness about the importance of communication.
- Get involved in capacity-building opportunities provided by your institution or by professional research and innovation management associations.

In the following section, we highlight some guidelines on custodianship when capturing and reporting on research-related information:

When you are responsible for a specific dataset:

- Know and understand your data. This is key when it comes to reporting on data since you also need to know the limitations of your data.
- Correctness is key in order to ensure the integrity of the data.
- What information is required? Spend some time on the research fields that you want to include beforehand, because it is always difficult to go back and add additional fields once you have started capturing data.
- Know the reporting dates and requirements.
- Ensure sufficient institutional storage space.
- Make back-ups!
- Stewardship of data is important since you need to ensure that your data is trusted and, in the case of sensitive data, also protected.
- Standardisation in the way you capture data is non-negotiable, not only for integrity of the data but also to ensure effective reporting.

When you are the custodian of a range of datasets and responsible for various integrated institutional reporting:

- Know your institutional research environment.
- Know the types of data that you have to report on and where to find it.

- Set clear deadlines, depending on the timelines for the different reports and information requirements.
- Know your data sensitivity classification/POPIA (Protection of Personal Information Act).
- Draw your data from your institutional source systems.
- Use a secure platform.
- Systems custodianship is important! (It is quite challenging when it comes to older systems since historic data can date back many years and the standardisation of data is difficult, if not impossible from a practical perspective, to accomplish retrospectively).
- Set up a SOP document which outlines the requirements for recording and reporting to different stakeholders.

Conclusion

This chapter highlights the significance of research-related information within research management, emphasising its role in the strategic development of research enterprises and the positioning of HEIs in Southern Africa and beyond. Specifically, it highlighted the strategic need for research-related information in integrated reporting to inform decision-support, create visibility and showcase the institutional research portfolio, and enhance directed research support. Furthermore, it provided insight into the factors that institutions should consider when managing research-related information effectively. The insights from this chapter should enhance the efficiency of institutional research portfolios, and support capacity-building for research management professionals in addressing more strategic roles and responsibilities. Although the chapter focused on reflections from Southern Africa, its relevance extends to the global higher education landscape.

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References

Agostinho, M., Moniz Alves, C., Aresta, S., Borrego, F., Borlido-Santos, J., Cortez, J., Lima Costa, T., António Lopes, J., Moreira, S., Santos, J., Trindade, M., Varela, C., & Vidal, S. (2018). The interface of science: The case for a broader definition of research management. *Perspectives: Policy and Practice in Higher Education*, *24*(1), 19–27. https://doi.org/10.1080/13603108.2018.1543215

Behari-Leak, K., & Le Roux, M. N. (2018). Between a rock and a hard place, third space practitioners exercise agency. *Perspectives in Education*, *36*(1). https://doi.org/10.18820/2519593X/pie.v36i1.3

Benmousa, K., Laaziri, M., Khoulji, S., & Larbi, K. M. (2018). Web information system for the Governance of University Research Engineering. *Technology & Applied Science Research*, *8*(4), 3287–3293.

Bossu, C., & Brown, N. (Eds.). (2018). *Professional and support staff in higher education: An introduction*. Springer. https://doi.org/10.1007/978-981-10-1607-3_29-2

Botha, J., & Hunter-Hüsselmann, M. (2016). The management and use of research-related information by a selection of research-intensive universities in South Africa. In J. Botha & N. Muller (Eds.), *Institutional research in South African Higher Education – Intersecting contexts and practices* (pp. 99–318). SunMeDIA.

Boulton, G., & Lucas, C. (2008). *What are universities for?* [Position paper]. League of European Research Universities (LERU). https://doi.org/10.1007/s11434-011-4608-7

Carter, I., & Langley, D. (2009). Overview of research management and administration. *Perspectives: Policy and Practice in Higher Education*, *13*(2), 31–32.

Casci, T., & Adams, E. (2020). Research culture: Setting the right tone. *eLIFE*, *9*, e55543. https://doi.org/10.7554/eLife.55543

Connell, R. (2019). *The good university: What universities actually do and why it's time for radical change*. Bloomsbury Publishing.

Evans, L. (2012). Developing research cultures and researchers in HE: The role of leadership. Paper presented at the annual conference of the society for research into higher Education (SRHE), December 11, 2007. School of Education, University of Leeds. http://leeds.ac.uk/educol/documents/175679.pdf

Fumasoli, T., & Huisman, J. (2013). Strategic agency and system diversity: Conceptualizing institutional positioning in higher education. *Minerva*, *51*, 155–169.

Kerridge, S., Pieterse, D., & Asserson, A. (2012). *Models of National Electronic Research Administration: A comparison of approaches in the UK, South Africa and Norway* [Conference presentation]. INORMS, Copenhagen.

Langley, D., & Ofosu, M. H. (2007). Celebrating a profession: The global perspective. *The Journal of Research Administration*, *38*(1), 39–43.

Letsholathebe, D. (2022). *United Nation's Commission on Science and Technology for Development (CSTD), twenty-fifth session, Geneva, March 28–April 1*. Presentation of reports on Science, Technology and Innovation Policy Review, Botswana Government.

Loi, W. Y. (2021). *Understanding the role of research professional staff in supporting academic researchers in a university* [Master's thesis].

Mirasol, J. M., & Inovejas, C. J. (2017). Bringing a culture of research in a higher education institution. *Journal of Higher Education Research Disciplines*. ISSN: 2546-0579, 72–82 (Online).

Mulder, S. (2004). *The SARIMA/DST/NRF/USAID Institutional Research Information Systems Project*. Internal report based on meetings between the stakeholders involved.

Naureen, B., & Adeeb, M. A. (2014). Investigating academic research culture in public sector Universities of Pakistan. 5th World Conference on Educational Sciences – WCES 2013. *Procedia – Social and Behavioural Sciences*, *16*(2014), 3010–3015.

Olvido, M. M. J. (2021). Developing research culture: An outcomes perspective. *The Journal of Research Administration (SRA International)*, *52*(1), 15–36.

Republic of South Africa. Department of Higher Education and Training. (2015). *Research outputs policy* [Government Gazette No. 38552:188].

Salazar-Clemeña, R. M., & Almonte-Acosta, S. A. (2007). Developing research culture in Philippine Higher Education Institutions: Perspectives of university faculty [Paper presentation]. The Regional Seminar "Competition, Cooperation, and Change in the Academic Profession: Shaping Higher Education's Contribution to Knowledge and Research". Hangzhou. http://unesdoc.unesco.org/images/0015/001578/157869e.pdf

Schützenmeiser, F. (2010). *University research management: An exploratory literature review*. Institute of European Studies, University of California. http://escholarship.org/uc/item/77p3j2hr

Shelley, L. (2010). Research managers uncovered: Changing roles and 'shifting arenas' in the academy. *Higher Education Quarterly*, *64*(1), 41–64.

Styger, A., Van Vuuren, G. W., & Heymans, A. (2015). Government funding framework for South African higher education institutions. *South African Journal of Higher Education*, *29*(2), 260–278.

The Association of Commonwealth Universities. (2015). *Managing research-related information in African Universities*. https://www.acu.ac.uk/publication/download?id=541

Tijssen, R., & Kraemer-Mbula, E. (2017). Research excellence in Africa: Policies, perceptions and performance. *Science and Public Policy*, *45*(3), 392–403. https://doi.org/10.1093/scipol/scx074

Wenger, E. C., & Snyder, W. M. (2000). Communities of practice. The organizational frontier. *Harvard Business Review*, *Jan–Feb*, 39–45.

Whitchurch, C. (2007a). Beyond administration and management: Changing professional identities in UK higher education. In R. Barnett & R. Di Napoli (Eds.), *Changing identities in higher education* (pp. 83–102). Routledge.

Whitmer, A., Ogden, L., Lawton, J., Sturner, P., Groffman, P.M., Schneider, L., Hart, D., Halpern, B., Schlesinger, W., Raciti, S., Bettez, M., Ortega, S., Rustad, L., Pickett, S. T. A., & Killelea, M. (2010). The engaged university: Providing a platform for research that transforms society. *Frontiers in Ecology and the Environment*, *8*(6), 314–321.

Woodiwiss, A. J. (2012). Publication subsidies: Challenges and dilemmas facing South African researchers. *Cardiovascular Journal of Africa*, *23*(8), 421–427.

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Chapter 3.5

Empirical and Empathetic Approaches Taken by Science, Technology and Innovation Coordinators in Southeast Asia

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Abstract

This chapter explores the empirical and empathetic approaches employed by a group of fieldworkers from Japan who collaborated with individuals from different parts of Southeast Asia. Their objective was to address shared societal challenges and mentor the next generation of future talents. Additionally, research administrators at Kyoto University conducted an online survey and organized study group meetings focused on Science, Technology and Innovation (STI) coordination, engaging approximately 700 partners in ASEAN. While formal job guidelines for hiring full-time research administrators are rare in the region, many researchers and government officials in ASEAN recognised the importance of these coordination skills and values in advancing STI projects. Coordinating ASEAN-Japan projects has demonstrated that practical experiences with skilled professionals and strong interpersonal skills aligned with Asian cultural values that prioritize conscience and altruism. As a next step, the region will require appropriate human resource training and assessment programs tailored to local STI needs.

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Keywords: Profession; skill standards; empirical research; quantitative analysis; collaborative work environments; research managers and administrators; performance; Japan

Introduction

The integration of academic researchers and non-academic participants across disciplines to conceive new practices and theories to achieve a mutually shared goal (Swiss Academies of Arts and Sciences, 2022) has led to an establishment of the transdisciplinary (TDR) centres and departments at academic research institutions around the world (OECD, 2020). Since the late 1990s, Kyoto University in Japan has built several TDR departments and centres (ASAFAS, 2022; CSEAS, 2017; GSES, n.d.; GSHES, n.d.; Saito, 2021) where specialists in humanities as well as science and technology disciplines collaborate to solve shared regional or societal issues that are emerging in the Association of South East Asian Nations (ASEAN) countries. To pursue these international projects, stakeholders from the authors representing academia, government, and local communities are often brought together to promote mutual understanding. To bridge the gap between their knowledge and expertise, a representative from each group has often filled in to explain scientific terms and facilitate understandings and help build consensus among the groups. These professionals have played an important role in the development of ASEAN region, serving as the STI Coordinators.

This chapter introduces the role played by the STI Coordinators, and highlights their efforts to manage multiple large-scale international and TDR projects supported by the public fund. We focus on the case of Kyoto University, which led nine projects under Science and Technology Research Partnership for Sustainable Development (SATREPS[1]), an initiative funded by Japan Science Technology Agency (JST[2]) and Japan International Cooperation Agency (JICA[3]). This initiative succeeded in building 16 core research and education hubs in Asia and Africa as part of the Core to Core Program, which were funded by Japan Science Promotion Society (JSPS[4]) (Kyoto University, n.d.; Saito, 2021). What characterized these TDR projects was their empirical and empathetic approach to partnerships, which will be elaborated in the following sections.

Empirical and Empathetic Approach: Southeast Asian Area Studies at Kyoto University

As a pioneering example of TDR, this chapter begins by discussing the salient characteristics of the Southeast Asian Area Studies led by the Kyoto University faculty. The focus is on the empirical methodology and empathetic approach employed to address societal issues. The authors then introduce initiatives aimed at advancing STI coordination in ASEAN, led by University Research Administrators (URA) at Kyoto University. The regional studies and STI coordination in ASEAN share commonalities in methodology and characteristics, as shown below (Fig. 3.5.1).

[1] SATREPS: https://www.jst.go.jp/global/english/index.html.
[2] JST: https://www.jst.go.jp/EN/index.html.
[3] JICA: https://www.jica.go.jp/english/index.html.
[4] JSPS: https://www.jsps.go.jp/english/.

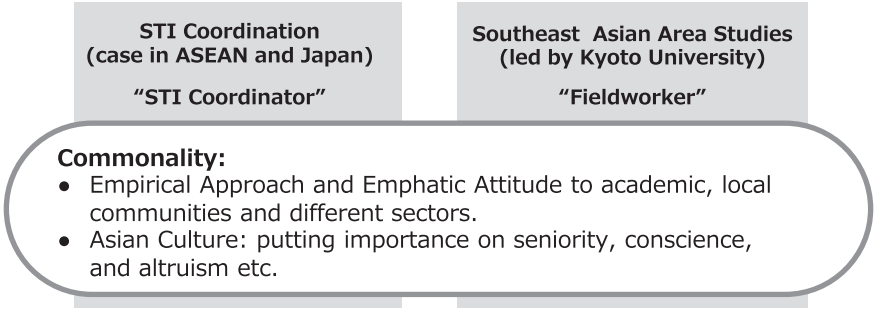


Fig. 3.5.1. Arguments in This Chapter.

Southeast Asian Area Studies at Kyoto University

Over the past 60 years, a dedicated group of researchers at Kyoto University have been developing a multidisciplinary, field-based approach to investigate the state of the Southeast Asia. Their focus on the region's societal challenges and environmental issues precedes the official founding of the Center for Southeast Asian Studies (CSEAS) in 1963 (Chua, 2019; CSEAS, 2017; Lopez & Fujieda, 2021; Yasuyuki et al., 2019). CSEAS's founding philosophy as well as its commitment to the region has roots in the approach taken by the researchers who collectively developed an empirical approach with a goal to gain a deep understanding of the local community. This approach requires long-term fieldwork commitment, an adaptable research agenda rooted in the evolving local context, and building of the collaboration with Southeast Asian researchers (Lopez & Fujieda, 2021; Yasuyuki et al., 2019).

Experience as the Best Teacher

Over the last six decades, the empirically based approach to regional studies has played a significant role in shaping the inter- and multidisciplinary scientific research in Southeast Asia (Kono et al., 2019). Scholars, students, and administrators from different academic disciplines at Kyoto University have dedicated themselves to learning local languages and cultures as part of long-term fieldwork in the Southeast Asian countries. They collaboratied closely with local counterparts gaining comprehensive insights into neighbouring villages and regions.

During extended fieldwork, typically spanning several months, these researchers immersed themselves in the customs and traditions of Southeast Asia. They acquire firsthand knowledge of regional values and wisdom, some of which have been passed down through generations to sustain and enrich local communities. What are the signs of a good harvest or a natural disaster? How do we cultivate medical herbs? While this indigenous knowledge may not always align with scientific proof, it has long contributed to the well-being of local residents even in the absence of scientific evidence.

Sharing this indigenous knowledge is typically reserved for individuals deemed trustworthy to the community. Therefore, the fieldworkers from Kyoto University prioritized building a strong personal relationships with local researchers and villagers, fostering a sense of trust. This human-centric and relational approach aligns with Asian values, emphasizing respect for elders and altruistic contributions to society, as articulated by the renowned Japanese philosopher, Tetsuro Watsuji (1934).

Age and Experience Teach Wisdom

The fieldworkers from Kyoto University have been building dynamic personal relationships with local researchers representing different generations and disciplines through large-scale TDR group projects that took place in Southeast Asia. As Lopez and Fujieda visualised, some active senior professors initiated projects as Principal Investigator (PI) and successfully fostered a generation of young researchers by inviting them to serve as Co-Investigators (Lopez & Fujieda, 2021). This enabled the transition of valuable hands-on experience and wisdom gained in the field of research over generations and across regions.

As seen so far, Kyoto University and ASEAN partners have conducted regional studies through an empirical and empathetic approach. This approach has proven highly effective in understanding local situations and gathering both academic and indigenous knowledge to address common issues. Researchers, students, and administrators have attentively observed and listened to the local challenges and conditions during fieldwork. The experience of generations of coordinating personnel in the fieldwork team has facilitated TDR research discussion and enhanced the project's success and sustainability.

Empirical and Empathetic Approaches Taken by URAs at Kyoto University

Research administrators in charge of international affairs at Kyoto University have received training in the empirical and empathetic style under the guidance of Professor Koji Tanaka (the first director of Kyoto University Research Administration Office, serving from 2011 to 2015) and Professor Mamoru Shibayama (the first director of ASEAN Center, serving from 2014 to 2019), who were both experienced fieldworkers in the Southeast Asia. In 2014, the university established its ASEAN Center (the Center, hereinafter) in Bangkok, Thailand (Kyoto University, n.d.) to enhance academic collaborations in the region. Competent university research administrators (URAs) spend several months every year at the Center to facilitate and coordinate activities. They accompany field surveys, seminars, and workshops, working closely with professors and collaborators from various disciplines. This experience equips them with the empirical approach and helps build strong relationships.

The mentorship from diverse field experts has led to the success of projects at Kyoto University. One of the projects, Japan-ASEAN Science, Technology, and Innovation Platform (JASTIP, n.d.), is a large-scale TDR project set under the international strategy of the Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan. Under JASTIP, many fieldwork-oriented professors from various departments at Kyoto University continue to promote ASEAN-Japan science and technology cooperation in areas such as 'energy and environment', 'biodiversity and bioresources', and 'disaster prevention and risk reduction', working towards the UN Sustainable Development Goals (SDGs) from 2015 to 2025.

As part of JASTIP, URAs at the Center organised a roundtable discussion in 2018, involving executives from top research institutes in ASEAN and Kyoto. The discussion emphasized the importance of region-based research collaboration and human resource training to maximize STI contributions to the SDGs (Kyoto University, 2018).

At that time, research administration and coordination were not fully recognised in the ASEAN region. Only a few countries employed full-time university research administrators (for more details, see Fig. 3.5.3). URAs at Kyoto University took the initiative to raise awareness and understanding of research administration in Japan and ASEAN, leveraging the university's empirical and empathetic approaches that have been cultivated over the years to build trust and consensus among diverse groups.

Case Study of STI Coordination to Bridge ASEAN and Japan

INORMS Promotion, Survey and Discussion in ASEAN

URAs from Japan initially worked on increasing participation from the ASEAN region at the 2022 International Network of Research Management Societies Congress (INORMS, 2020), which was scheduled to take place in Hiroshima, Japan. It was the first time that the INORMS Congress was going to be hosted in Asia since the inaugural 2006 event. As representatives of the host country, the URAs at Kyoto University leveraged its network in ASEAN (where INORMS organisers had never been able to reach effectively before) to encourage members from the region to attend. This effort resulted in 33 participants from 10 ASEAN member states out of a total of 509 attendees.

The URAs actively promoted and prepared for the Congress. They attended more than 10 onsite conferences and symposiums related to STI in ASEAN and Japan between 2018 and 2019 (Table 3.5.1). They conducted online self-assessments to assess the status and future direction of research management and administration in ASEAN. After the face-to-face interactions, the URAs sent out an online questionnaire in 2019 to coordinators in ASEAN partner organisations including universities, research institutes, and ASEAN University Network (AUN). It should be noted that this questionnaire was carefully designed with ASEAN's regional characteristics in mind to facilitate self-evaluation of knowledge and skills required for research management and administration in their region (Sonobe & Saito, 2021a).

Table 3.5.1. Initial Activities by URAs at Kyoto University.

Period	Activities
2018	INORMS 2020 Promotion in ASEAN started
2019	Online self-assessment on the status of research management and administration in ASEAN
2020.8	1st round of ASEAN - Japan Joint Project on STI coordination between ASEAN and Japan toward Grand Challenge (online study group meeting) started
2020.9	Invited talk at the monthly seminar of Royal University of Phnom Penh (RUPP), Cambodia
2020.12	Invited talk at ASEAN Symposium on ASEAN Socio-Cultural community Blue Print 2025
2021.3	1st round of ASEAN – Japan Joint Project on STI coordination between ASEAN and Japan toward Grand Challenge (online study group meeting) ended (6 times)
2021.5	INORMS 2021 – Hiroshima, Japan

The survey, which received around 60 responses from 50 institutions across 10 ASEAN member states in March 2020, indicated that some organisations have developed competent researchers with coordination skills to some extent. However, the full-fledged development of professional coordinators with a comprehensive skill set was still a work in progress in most cases. Furthermore, job titles for these specialised professionals varied from place to place making it difficult to get a full grasp of this emerging profession. They can be scholars leading international or public-private collaborations, or full-time coordinators with titles like research administrators or research managers (Fig. 3.5.2).

These emerging professionals have been collectively named STI coordinators by the relevant communities within the ASEAN and at Kyoto University. This designation is more of a conceptual label than a specific job title, encompassing a wide range of professionals. The survey revealed that knowledge and skills required for these coordinators vary widely based on their country and organization. This includes proficiency in foreign languages, understanding research ethics and compliance, familiarity with accounting and procurement rules, equipment management, impact assessment, proposals and funding application review, STI policies, academic-industry collaboration, public relations, team management, risk assessment, and the ability to understand cutting-edge scientific results, among other things (Fig. 3.5.3) (Sonobe & Saito, 2021a). The survey also highlighted a strong desire for a shared understanding of the STI scheme and the formation of a collaborative network among these professionals to exchange knowledge and experiences.

Based on the survey results and the requests from the ASEAN community, and with the advice and support from the ASEAN Foundation and the Science and Technology Division of the ASEAN Secretariat, URAs at Kyoto University initiated a collaborative project. Since August 2020, they have held online study group meetings aimed at raising awareness towards STI coordinators as an emerging profession in ASEAN and Japan. Rather than a 'one size fits all' program, this collaboration acknowledges the diversity within the ASEAN region and places special emphasis on underrepresented cultures. It encourages capacity building within these groups to address their unique challenges and priorities (Sonobe & Saito, 2021b). Through a series of study group meetings (Sonobe & Saito, 2021b; STI Coordinator, 2022), the participants have identified essential roles and skills for STI coordinators, managing

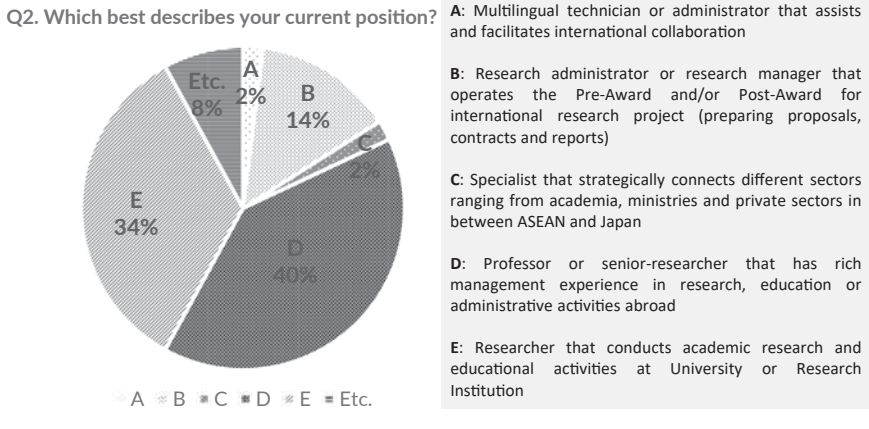
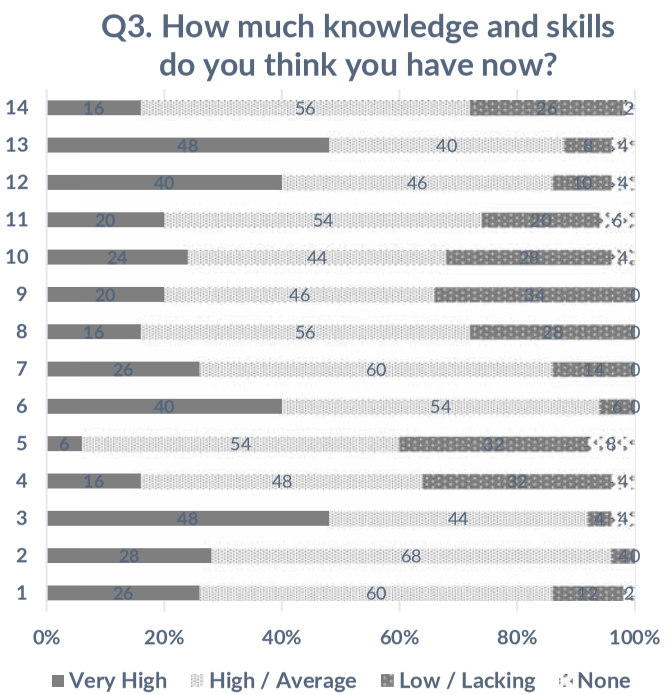


Fig. 3.5.2. Responses to 'Which Best Describes Your Current Positions?'



[1. Command of foreign languages and understanding of different cultures]
[2. Interpersonal and negotiation skills to work closely with central and academic departments]
[3. Research ethics / compliance]
[4. Handling of various rules in accounting and procurement]
[5. Management of equipment, poisonous & deleterious substances, and knowledge of material transfer agreement]
[6. Practical skills of reviewing and submitting application forms and reports for research funding on time]
[7. Knowledge of funding systems and programs]
[8. Knowledge of STI policies]
[9. Facilitation skill of society-academia collaboration, intersectoral awareness, and handling of patents and IP]
[10. Promotion of public relations and outreach activities]
[11. Information retrieval, data literacy and analysis]
[12. Initiative to start a new research project]
[13. Organization and management skills of a research project and team]
[14. Risk / security management to solve unexpected challenges]

Fig. 3.5.3. Responses to 'How Much Knowledge And Skills Do You Think You Have Now?'

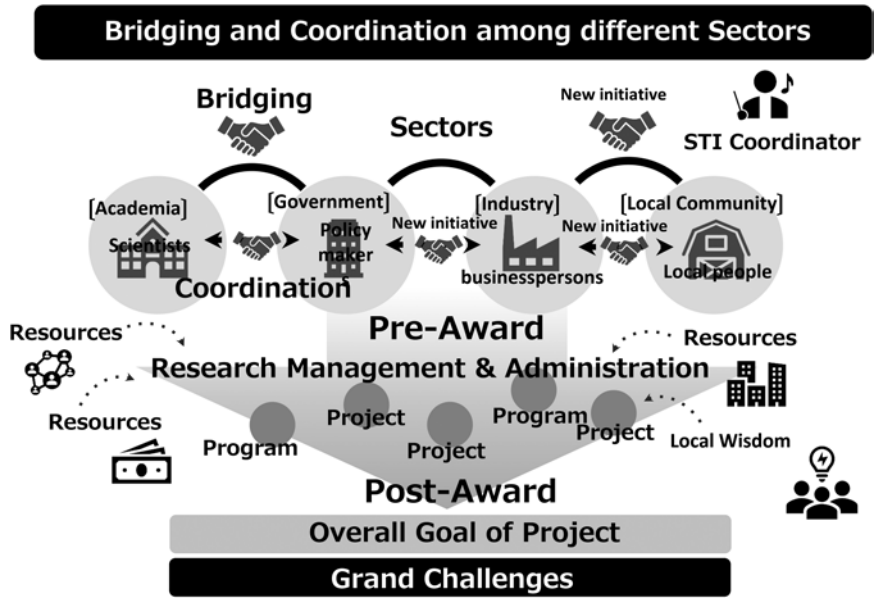


Fig. 3.5.4. Visualisation of STI Coordinating Roles.

pre-awards and post-awards, and contributing to the overall goal of research project, as drawn in Fig. 3.5.4.

Empirical and Empathetic Approaches

The online meetings invited a wide range of speakers from Japan and ASEAN, who shared their hands-on experiences in coordinating STI projects. Most notably, Dr. Mie Mie Kyaw (University of Mandalay, Myanmar), Dr. Puvadol Doydee (Kasetsart University, Thailand), and Dr. Keophousone Phonhalath (National University of Laos, Lao PDR) shared their own fieldwork spent in mud and water and stressed that working alongside with local indigenous people is very important to understand the real problem on the targeted site. The researchers and students regularly visit the rivers, inspect the water quality and aquaculture, and discuss together with the fishermen, villagers, local authorities, and people working for related ministries. To unite people from different sectors under the shared vision and work with the same priorities, their empirical approaches turned out to be very effective for STI coordination. One of the essential techniques and skills of STI coordinators is to explain the problem in an accessible manner, while using cutting-edge scientific findings to communicate with others from diverse backgrounds. Their task is to propose evidence-based solutions for the well-being of all stakeholders in ASEAN and Japan (Sonobe & Saito, 2021b; STI Coordinator, 2022).

Drs. Nguyen Thi Hoang Lien from Vietnam National University (Hanoi, Vietnam) and Mohd Amran Mohd Radzi from University Putra Malaysia (Malaysia) talked about continuous mentorships they received from the supervisors and peers. They have joined a common international academic network of Sustainable Energy and Environment Forum (SEE Forum) since 2010 and obtained coordination skills in project development through mentorship from domestic and internationally experienced

professors. The early-career researchers formed a friendly and inspiring network with other researchers from the Asian region, called 'SEE Forum Young Researchers', and coordinated both bilateral and multilateral international projects for the community of SEE Forum (ASEAN, 2022; Sonobe & Saito, 2021b).

After sharing the case studies at the interim wrap-up meeting in March 2021, about 30 representatives from ASEAN and Kyoto University, mostly middle-career level, have drawn a conclusion that STI coordinators should be aware of the fundamental morals and ethics that are found commonly in the Asian region. For example, in many Asian cultures, it is important to teach younger generations to pay respect to the expertise of the experienced seniors or learn from the lessons from the past. Coordinators are sometimes recognised for acting altruistically for the community or family, rather than pursuing individual interests. The Japan-ASEAN members named this kind of STI coordination 'Conscience-driven STI', in opposition to the 'Economic growth-driven STI', which puts greater emphasis on seeking financial profits from their collaboration. The URAs at Kyoto University placed special emphasis on including fundamental research based on researchers' curiosity or humanities and social sciences based on long-term fieldwork with locals, as oppose to academic results or economic gain achievable in the short term.

The discussion members have identified the following as important elements to balance STI activities: (1) STI-Driven Grand Challenge, (2) Grand Challenge-Driven STI, (3) Economic Growth-Driven STI and (4) Conscience-Driven STI.

STI-Driven Grand Challenges: The coordinators consider how STIs can contribute to improving our diverse society and solve common challenges. This is often led by governmental or organisational 'top-down' approaches on priority issues, aiming to promote innovation.

Grand Challenge-Driven STI: The coordinators promote and enrich the diversity of STI, based on researchers' academic interests and original, liberal ideas in multi-disciplinary fields including humanities. This is to facilitate 'bottom-up research' or 'curiosity-driven research'.

Economic Growth-Driven STI: The coordinations are primarily driven by an incentive for economic growth or profits derived from STI activities. This can be called 'utilitarian' and is often seen in industrial, business sectors rather than public academic sectors.

Conscience-Driven STI: The coordination of STI activities is mainly driven by a moral sense of right and wrong, focusing on public interest and social responsibility rather than personal profits and self-interest.

The discussion and conclusion are in line with the official STI objectives in ASEAN and Japan. As stated under Thrust 1 of ASEAN Plan of Action for Science, Technology and Innovation (ASEAN Secretariat, 2022) 2016–2025, ASEAN Member States are expected to strengthen strategic collaboration among academia, research institutions, networks of centre of excellence, and the private sector to create an effective ecosystem for capability development, technology transfer and commercialisation (ASEAN Secretariat, 2022). Concurrently, Japan began to formulate new regional policies in ASEAN for the strategic promotion of the international deployment of science and technology under Japan's 6th Science, Technology and Innovation Basic Plan (2021–2025). In this regard, the human resource development of specialised professionals to coordinate an international collaborative framework aligns with one of the priorities of the future direction of STI policy, both in ASEAN and Japan.

As clarified by the authors' survey and online talks with ASEAN partners, coordination in STI activities is in high demand in ASEAN countries. Many cultures in

this region, despite its diversity, put importance on seniority, conscience and altruism. Those values and role played by such coordinating personnels appear very similar to those of fieldworkers in area studies from Kyoto University. Kyoto University's empirical and empathetic approach is quite successful in promoting many collaborative projects and activities in ASEAN and Japan.

Results and Future Perspectives

The online study group meetings (up to 11 times) to develop STI coordinators in ASEAN were conducted from August 2020 until June 2022 with a goal to equip the region for grand challenges. In total, about 700 people have joined from all 10 ASEAN countries including Japan, South Korea, India, Australia, Belgium and the UK. A larger proportion of participants from the ASEAN region are women than men (Sonobe & Saito, 2021a; STI Coordinator, 2022). The lively group discussion confirmed that professional talents are in high demand in the science and technology community in ASEAN and Japan to solve complex contemporary issues. It is worth noting that the activities are 'bottom-up' and 'human-centric', involving both early-career, mid-career researchers and top executives in the region.

Awareness of STI coordinators has increased through the study group meetings, seminars, workshops and symposiums within ASEAN countries (Table 3.5.2). From 2020 to 2022, URAs from Kyoto University were invited to meetings in the ASEAN region and gave several presentations on the topic of their initiatives to cultivate STI coordinators. In particular, their progress was reported at the 79th ASEAN Committee of Science, Technology, and Innovation (COSTI) undersecretary-level meeting in June 2021 and the official joint media statement of the 11th informal ASEAN Ministerial Meeting on Science, Technology and Innovation (IAMMSTI) explicitly said that 'ASEAN COSTI further welcomed the efforts to improve the research ecosystem in ASEAN by completing the study on research administration, research management system and the need for professional STI coordinators in ASEAN' (IAMMSTI, 2021). This accelerated these joint activities to develop STI coordinators and to develop well-cultivated STI ecosystems region-wide.

As such, ASEAN COSTI officially continues to support STI coordination events led by Kyoto University. Endorsed by ASEAN COSTI, URAs at Kyoto University organised the JASTIP Symposium 2021 entitled 'Co-creative mechanism in STI coordination between Japan and ASEAN-Spice up our scientific projects with STI coordinators' in December 2021 (JASTIP, 2021).

Throughout the symposium, all speakers from ASEAN and Japan reaffirmed that the role of STI coordinators is essential for a well-balanced STI community to promote the ASEAN-Japan cooperation in addressing common grand challenges and societal issues such as climate changes, natural disasters and pandemics. Most importantly, STI coordinators are expected to have strong communication skills to build person-to-person trust as well as to publicise academic results under international collaborative research projects. The coordinating function the speakers expect in each organisation is still very widely defined and not yet explicitly written in the official job descriptions.

What We Learned So Far

During the JASTIP symposium, many participants from executive, mid-career and young researchers and governmental officers argued that a human-centric approach based on mutual trust and respect is at the heart of STI coordination.

Table 3.5.2. Development of Activities by URAs at Kyoto University.

Period	Activities
2021.6	79th ASEAN COSTI
2021.12	JASTIP Symposium : "Co-creative Mechanism in STI coordination between Japan and ASEAN" – Spice-up our scientific projects with STI coordinators
2022.1	2nd round of ASEAN – Japan Joint Project on STI coordination between ASEAN and Japan toward Grand Challenge (online study group meeting) started
2022.3	Invited talk at Webinar: Research Management - International Perspectives - by MyRMA (Malaysia Association of Research Managers and Administrators)
2022.6	2nd round of ASEAN – Japan Joint Project on STI coordination between ASEAN and Japan toward Grand Challenge (online study group meeting) ended (5 times)
2022.8	Invited talk at Seminar on "Successful Application of Japan Sponsored Grant: TIPs and Challenges", Malaysia Alumni of AUN/SEED-Net (ASEAN University Network/ Southeast Asia Engineering Education Development Network)
2022.9	Cambodia – Japan Co-creative Corridor Workshop

Empathetic attitudes of STI coordinators will attract peers standing on equal partnership, as opposed to one-way mentorship. In order to sustainably develop this community that preceded the STI coordinators' community, mentorship and coaching of the next generation are top priorities. Young scientists and talents are often keen to share new ideas and seeds with their friends/colleagues, governmental officers and senior mentors. In return, senior mentors should give the juniors advice, experience and confidence to cultivate a mutual relationship. This type of coaching, based on mentoring relationships and derived from the Asian morals and ethics, will develop a more altruistic approach, where an improvement of the overall society is considered more important than individual gains emphasised in a market-oriented approach.

As we have observed before (Figs. 3.5.3 and 3.5.4), even though many researchers or staff serve as a coordinator in ministries, universities and research institutes in ASEAN, their job titles are not 'STI coordinators' nor their main duties and responsibility are solely research administration. Sometimes research administration and coordination are voluntary and unpaid; however, they are necessary elements in conducting a collaborative project in harmony.

Difference Between RMAs and STI Coordinators

Research managers and administrators (RMAs) have traditionally been used as the professional job title at the universities and research institutions in most European countries and North America. For the past few decades, RMA responsibilities have become more specialised and divided into pre-award, post-award, research ethics and compliance, among others (Yamano, 2016). In contrast, our definition of STI coordinators in the ASEAN region does not refer to a specific job title, but rather to a generic

term covering a range of professional talents. As shown in Fig. 3.5.3, some 'STI coordinators' are researchers with teaching obligations, coordination and other duties part-time, while others are governmental officers, and a few are full-time administrators in an institution in ASEAN (Sonobe & Saito, 2021a). Also, it is important to note that in many ASEAN countries, personal exchange between academia and ministries is now relatively active and researchers and governmental officers promptly push forward STI agenda and pilot projects, as a whole.

Kyoto University's activities to raise awareness of STI coordinators are not aiming to define or establish these roles as new independent positions in ASEAN, because STI coordinators' responsibilities and duties can be distinct from those of RMAs in the Western context. In the context of the UK, Whitchurch has categorised research administrators into three: bounded professionals, cross-boundary professionals and unbounded professionals, but the interviewees were basically employees at higher education organisations (Whitchurch, 2007a). What we mean by STI coordinator in ASEAN is not a pre-defined job position, but one naturally merges in the collaborative team, which is often cross-sectoral by nature. Over the 60-year history of the international projects between Kyoto University and the ASEAN organisations, there have been numerous researchers, students or administrators, who dedicated themselves to STI coordination on a voluntary basis, regardless of their job titles being that of an administrator, researcher or governmental officer. Coordinating duties, although not explicitly written into job descriptions or contracts, were entrusted by the team members and stakeholders to ensure smooth operations of the organisation or project as a whole.

The series of activities led by research administrators of Kyoto University to raise awareness of STI coordination in ASEAN and Japan (Tables 3.5.1 and 3.5.2) focuses on the actual 'function and significance' of coordination in the STI community in the region. The URAs' questionnaire and online study group meetings have contributed to shape common skill sets in fieldwork, communication and trust building, whose methodology and approach are similar to those of area studies. The URAs and their collaborators in ASEAN went on to propose four elements to balance STI coordination; top-down, bottom-up, conscience-driven or economic growth-driven motives listed in the previous section.

Concluding Remarks

The combination of top-down and bottom-up approaches to promote STI coordination turned out to be characteristics of Kyoto University in working in the ASEAN region. As for a 'top-down approach', the URAs at Kyoto University ASEAN Center reached out to high-ranking executives in the region and organised a roundtable discussion, symposiums and attended official COSTI meetings, gaining consensus in developing coordination skills. This led both early-career researchers and governmental officers to relate individual projects and activities to national or regional agenda, such as the Bio Circular Green (BCG) economy initiated by Thailand and Cambodia Innovation Roadmap.

Concurrently, The URAs found out that a 'bottom-up approach' to extend STI coordination skills turned out to be also beneficial and effective. The second round of online meetings from January to June 2022 (Table 3.5.2) related to STI coordinators involved various early-career and mid-career researchers and staff. The URAs prepared some homework and assignments for the participants and exposed them for practical exercise in mentorship, flash talk, consensus building and polity making in a probable situation. Sometimes they are asked to write up a sample proposal, attend

mock interviews, and practice 'pitching-talk' for 90 seconds to convince a possible funder of a project. They then received feedback from senior experienced coordinators from Japan and ASEAN (STI Coordinator, 2022). In September 2022, the URAs held an onsite workshop in Phnom Penh, Cambodia (see the following Column about a workshop). These grass-root activities and discussions have extended a person-to-person network among those who are interested in STI coordination.

Due to the rapid expansion of globalisation and economic growth-driven motives in the past few decades, altruism or filial piety (Low & Aug, 2012), once embedded in various Asian cultures, might be fading away. Voluntary coordination, which is often time and energy consuming, can be underestimated in a performance-driven evaluation. Even though the importance and benefit of coordination are gradually being recognised by STI communities in ASEAN, it is still difficult to assess one's coordination performance quantitatively, because its methodology and index remain specific to each workplace. The career development of STI coordinators should be considered further. Is it appropriate for a researcher or governmental officials to hold a coordinating position or should we develop full-time professional STI coordinators in ASEAN?

As a next step, the ASEAN-Japan STI community should materialise human resource development programmes for STI coordinators that would suit local needs in each institution and context. What kind of program or curriculum is effective in systematically and strategically training STI coordinators? What role should each sector play in ASEAN and Japan? The answers to those questions remain unsolved. Ideally, whenever a coordinator balances national agenda, academic interests and other factors under the common goals among the stakeholders, the coordinator's individual contribution to the team should be duly evaluated for her/his personal career development. This personal development will ultimately lead to the further development of the institution, nation and region based on 'human-centric' and relational approach.

For further extension of coordination skills, the URAs at Kyoto University and partners in ASEAN will continue a mutual learning of different coordination styles and priorities among ASEAN and Japan, which they believe to be utmost importance in adapting to the unforeseeable future.

Cambodia-Japan Co-creative Corridor Workshop

This column presents the first on-site training opportunity for the STI coordinators' community in ASEAN and Japan, after the series of online study group meetings. On 8th and 9th of September 2022, Ministry of Industry, Science, Technology & Innovation (MISTI) in Cambodia and URAs at Kyoto University Research Administration Office/ASEAN Center co-organised 'Cambodia-Japan Co-creative Corridor Workshop' in Phnom Penh, to brush up STI coordination skills for the next generation. About 30 participants from different sectors (university, ministry and private company) in Cambodia came to join the onsite workshop.

After an opening speech by H.E. Dr. Heng Sokung (Secretary of State), there were presentations on Cambodia's national policy roadmap to be achieved by 2030, and the introduction of research funds and programs in Japan. Dr. Taro Sonobe explained a logic model to propose and assess a project, using a metaphor of four spices (sugar, vinegar, chilli powder and fish sauce) to season Asian soup noodles for your own plate. Some like it 'sweet', others like it 'spicy and hot', so every coordinator should find out an original combination of each spice that suits to the individual taste in the local

context (Photo 1). On the second day, the participants were divided into several groups and invited to plan a concrete project in line with the Cambodian roadmap (Photo 2). Professor Hideaki Ohgaki (Institute of Advanced Energy, Kyoto University), who is an experienced coordinator in ASEAN himself, reviewed the group presentations and gave an award to the best project proposal.

Photo 1. (left): Dr. Taro Sonobe, Representing a Chef to Mix Different Spices for a Project.

Photo 2. (right): Group Discussion.

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References

ASAFAS. (2022). *Graduate School of Asian and African Area Studies*. Kyoto University. Retrieved November 26, 2022, from https://www.asafas.kyoto-u.ac.jp/en/

ASEAN. (2022, July). *STI coordinator: Co-creative mechanism in STI coordination between Japan and ASEAN*. Retrieved November 26, 2022, from https://sites.google.com/kyoto-u.ac.jp/sti-coordinator

ASEAN Secretariat. (2022). *ASEAN Plan of Action on Science, Technology, and Innovation (APASTI) 2016 – 2025*. Retrieved November 26, 2022, from https://asean.org/book/asean-plan-of-action-on-science-technology-and-innovation-apasti-2016-2025/

Center for Southeast Asian Studies (CSEAS). (2017). *Kyoto University: 50 years of history at CSEAS*. Center for Southeast Asia Studies, Kyoto University. https://history.cseas.kyoto-u.ac.jp/

GSES. (n.d.). *Graduate School of Energy Science*. Kyoto University. Retrieved November 26, 2022, from https://www.energy.kyoto-u.ac.jp/en/

GSGES. (2022, May). *Graduate School of Global Environmental Studies*. Kyoto University. Retrieved November 26, 2022, from https://www.ges.kyoto-u.ac.jp/en/

GSHES. (n.d.). *Graduate School of Human and Environmental Studies*, Kyoto University. Retrieved November 26, 2022, from https://www.h.kyoto-u.ac.jp/en/gr/

Huat, C. B., Dean, K., Engseng, H., Ho, K. C., Rigg, J., & Yeoh, B. (2019). Area studies and the crisis of legitimacy: A view from Southeast Asia. *Southeast Asia Research*, *27*(1), 31–48.

IAMMSTI. (2021, June 17). *Joint Media Statement of the Informal ASEAN Ministerial Meeting on Science, Technology and Innovation (IAMMSTI)*. Retrieved November 27, 2022, from https://astnet.asean.org/test-news/

JASTIP. (n.d.). *Japan-ASEAN Science, Technology, and Innovation Platform (JASTIP)*. Retrieved November 26, 2022, from http://jastip.org/en/

JASTIP. (2021). *JASTIP online symposium 2021*. Retrieved November 26, 2022, from http://jastip.org/en/eventinfo/jastipsymposium2021/?lang=en

Kyoto University. (2018, February). *Brief report: Diverse approaches to contributing to SDGs through STI Cooperation*. https://www.kyoto-u.ac.jp/en/news/2018-02-28

Kyoto University ASEAN Center, Research Project. (2022, August). https://www.oc.kyoto-u.ac.jp/overseas-centers/asean/en/

Low, P, K. C. & Aug, S.-L. (2012). *Filial piety and good leadership*. E-Leader Berlin Conference Paper.

Lopez, M., & Fujieda, A. (2021). Evolving historical trends in collaborative interdisciplinary research at the Center for Southeast Asian Studies (CSEAS). *CSEAS Newsletter*, No. 78.

OECD. (2020). *Addressing societal challenges using transdisciplinary research*. OECD Policy Paper. Retrieved November 26, 2022, from https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/STP/GSF(2020)4/FINAL&docLanguage=En

Saito, C., & Sonobe, T. (2021). *Self-study on Kyoto University's academic activities in ASEAN – sustainable fieldwork with partners*. http://hdl.handle.net/2433/264731

Sonobe, T., & Saito, C. (2021a). *Progress report on new initiatives for an online platform to boost human resource capacity of science, technology, and innovation coordinators in Japan and ASEAN toward grand challenges*. Compendium of Analytical Views for the Ascc Blueprint 2025, 49–55.

Sonobe, T., & Saito, C. (2021b). *Science, Technology and Innovation (STI) Coordinators in Japan and ASEAN towards grand challenges (2020 – 2021): Summary report*. http://hdl.handle.net/2433/263214

Swiss Academies of Arts and Sciences. (2022, June). *td-net network for transdisciplinary research* http://www.transdisciplinarity.ch/en/td-net/Transdisziplinarit-t/Definitionen.html

Watsuji Tetsuro 和辻哲郎. (1934). Jinkan no Gaku to shiteno Rinrigaku 人間の学としての倫理学, Iwanami.

Whitchurch, C. (2007a). Beyond administration and management: Changing professional identities in UK higher education. *Journal of Higher Education Policy & Management*, *30*(4), 375–386.

Yamano, M. (2016). 大学のリサーチ・アドミニストレーターの導入と変遷に関する日米比較, 大学経営政策研究, 第 6 号 (2016年3 月発行): 67–68.

Yasuyuki, K., Badenoch, N., & Lopez, M. I. (2019). *Bridging the disciplinary divide: 50 years of Research at the Center for Southeast Asian Studies* [Working Paper Series, No. 8]. Japan-ASEAN Transdisciplinary Studies.

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Chapter 3.6

The Influence of RMA Associations on Identity and Policymaking Internationally

Virág Zsár

Abstract

Professional associations mark an important step in the development of any profession. Research Management and Administration (RMA) as a profession is still emerging across Europe, thus the relevance of RMA associations is pertinent. These associations operate either specifically at the transnational or international levels or have certain activities linked to both levels. The theory of social constructivism from the field of international relations will be applied in this analysis with a goal to add additional insights on the topic. The results confirm that RMA associations have an outstanding role in enforcing the internationalised culture of their members, however, members in return can also exert influence on their association. Members are also aware that the association is providing a platform for collective actions in policymaking at national, transnational, and international levels. However, time plays a crucial role in social learning for identity and interest formation, as well as in recognizing the role of RMA associations in corporate agency.

Keywords: Identity; policymaking; influence; association; professional development; constructivism

Introduction

Associations for Research Managers and Administrators (RMAs) aim to promote self-awareness among these professionals and facilitate knowledge exchange and capacity building. Following the path taken in the United States, Europe and other parts of

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the globe have seen the establishement of RMA associations at national levels since the 1990s. This has happened primarily in Western and Northern European countries (Saad & Zawdie, 2011), including, but not limited to ARMA[1] and PraxisAuril[2] in the UK, AGAUR[3] in Catalonia province of Spain, DARMA[4] in Denmark, Finn-ARMA[5] in Finland, NARMA[6] in Norway, ICEARMA[7] in Iceland, FORTRAMA[8] in Germany, ARMA-NL[9] in the Netherlands, and PIC[10] in Portugal. As EU-funded research and innovation (R&I) programmes set the same requirements at EU level, associations and networks of RMAs have been also launched at EU level, i.e. EARMA or the COST action BESTPRAC. However, only a handful associations are found in Central and Eastern European and in Western Balkan countries and, of which have been launched only recently. They include CZ-ARMA in Czechia[11] and SARMA in Serbia.

Services provided by these associations cover a wide range of activities, such as networking, knowledge exchange, involvement in the preparation of national positions on EU-funded R&I programmes, agenda setting, study visits, job profiling, mentorship, and support for the recognition of the profession. Since these activities are not limited at the national levels but are realised at international level, this chapter aims to examine the influence of existing associations if similar initiatives could contribute to reinforcing RMAs' identity, raise awareness on the importance of the RMA profession, and shape policies in favour of RMA in countries where it lags behind, such as Central and Eastern Europe and the Western Balkans.

Literature Review

As it is presented below, professional associations, in general, are considered an important asset of professionalisation, even if explanatory models vary with regard to the steps of professionalisation.[12] Opposed to these previous studies, Moore (1970) argues against the perfect classification scheme and puts the mechanisms of becoming a 'professional' actor in the focus of these associations. Atkinson et al. (2007) integrate identity formation in the process of professionalisation which can be reinforced by professional associations gathering regularly and discussing challenges faced in the field. Putnam (2001) suggests that work-related associations develop trust between members and represent a mechanism for mutual assistance as well as expertise sharing. Such associations are regarded as one type of social networks, reinforcing the norms of reciprocity and trustworthiness. As such, these associations represent social capital.

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[1] See: https://arma.ac.uk/.
[2] See: https://www.praxisauril.org.uk/.
[3] See: https://agaur.gencat.cat/en/lagaur/qui-som/.
[4] See: https://darma.dk/.
[5] See: https://finn-arma.fi/.
[6] See: https://narma.no/om-narma/english-about-narma-and-contact/.
[7] See: https://icearma.is/.
[8] See: https://fortrama.net/.
[9] See: https://armanl.eu/.
[10] See: https://sites.google.com/view/PIC-pt?pli=1.
[11] See: https://www.czarma.cz/en.
[12] In Flexner's (1915) attribute model, for example, the existence of the association is required for the recognition of the profession. The process model of professionalisation goes further: first, it implies the identification of the full-time occupation, and second, the provision of training and this leads to the establishment of the associations. It is followed by the definition of code of ethics and the recognition of the profession by law (Curnow & McGonigle, 2006).

The aspects outlined above are all applicable to associations of RMAs. As discussed below, research conducted either by professionals or academics on this topic focus primarily on the main services offered by these associations and their added values. Only few studies investigate the influence that the associations might have on these professionals' identity or policy-making surrounding RMAs.

Among the main sources chosen for this scope, Williamson et al. (2020, p. 49) present the importance of the Southern African Research and Innovation Management Association (SARIMA)[13] by contributing to

> research management and innovation through encouraging practice and knowledge bases through advocacy, leadership, policy and knowledge platforms, working within respective national and regional systems of innovation, facilitating inception and development activities of other RMAs, capacity development programmes, study exchanges, mentorship, and so on.

Romano and Albanesi (2021) mapped associations worldwide in light of their activities, professional development framework, trainings/accreditations/recognition provided.

Other authors covering the issue of professional associations highlight the added value of RMA associations in the provision of trainings (Nembaware et al., 2022), opportunities for professional development (Kirkland, 2005c; Kirkland & Stackhouse, 2011; Nembaware et al., 2022), peer learning (Poli, 2018a; Kirkland & Ajai-Ajagbe, 2013) and networking (Kirkland & Ajai-Ajagbe, 2013). In addition, Langley and Ofosu (2007) underline the opportunity for sharing best practices and offering support to each other as the key values of such associations, referring to the examined associations as 'sustainable self-help organisations that disseminate good practice across the regions.' Liao and Ma (2019, p. 1828) present the importance of RMA associations in the 'transmission of information cues from the changing social context' to their members. Identity and policymaking related issues are absent in these works so it is important to expand the scope of investigation.

Ryttberg and Geschwind (2019) aim to understand the role of support staff's networks as sense givers. They found that associations providing trainings, courses, or even certificates can contribute in the long run to 'creating common understanding of specific roles, supporting the delineation of the specificities or scripts of the role of the professional staff' (Ryttberg & Geschwind, 2019, p. 14). Thus, they confirm the importance of networks or associations of research support staff in the professionalisation process.

Following Putnam's social capital theory centred on trust and reciprocity, Hockey and Allen-Collinson (2009) corroborate the added value of belonging to social networks for RMAs. From their view, professional associations provide important advantages in equipping RMAs with the necessary know-how of their everyday task in an efficient manner. They underline the importance of informal knowledge gathered through these networks. In such relationships, general trust becomes important as members share not just practical topics but sometimes confidential issues. The inspiration of members to be collectively engaged, coupled with the opportunity of sharing and solving issues related to everyday work, and self-determination, even if not directly useful for career's purposes, are factors highlighted by Poli (2018a).

[13] https://www.sarima.co.za/

The possibility of shaping funding programmes, setting their requirements, or potentially influencing policies are rarely mentioned in the existing scholarship. When examining research management at five African universities, Kirkland and Ajai-Ajagbe (2013, p. 9) underline that the 'wider research management community was an important factor … to gather support for the revision of funders' requirements or national government requirements'.

Identity related questions of research support staff have been touched upon in the last decades (Henkel, 2010; Szekeres, 2011; Whitchurch, 2006, 2007b, 2012) and discussed by Poli, Oliveira, et al. (2023, Chapter 3.1). Allen-Collinson (2009) concludes her study suggesting that RMA associations could reinforce the identity of their members. The role of professional associations triggering and reinforcing their members' identity of RMAs is underlined by Poli (2018a) who argues that the formation and strengthening of identity can be regarded as key factors in light of recognizing RMA as a profession. She builds on the arguments of Lewis (2014) on professional communities, professionalism, and identities. Whereas professionalism is an 'artificial construct, with ever contested criteria and definitions', identity is 'our understanding of similarities and differences' and 'a socially constructed entity which is constantly being reconfigured and reformed' (Lewis, 2014, p. 46). Professionals, however, have various identities (Lewis, 2014) who can be a member of an association, a profession, but also of their institute (Moore, 1970). Among others, professional identity is a 'conscious embodiment of the way a professional defines who they are and the way they choose to act and represent themselves' (Sonday, 2021).

Furthermore, identity related questions are frequently coupled with definitional discussions so as to broaden the focus of the research on RMA and it is worthwhile to note that the majority of the concepts developed in the literature are coming from practitioners themselves. Poli (2018a) maps the variety of these definitions, often referring to the broad literature on higher education to gain concepts that can be applied to RMAs. However, if RMAs were asked to describe their job, the explanations used would be even more varied. According to Kerridge (2016), RMAs are often thought of as the 'jack of all trades but master of none', whereas Spencer and Scott (2017) present them as the 'men in the middle'.

The maturity level of RMA associations vary according to the organization, and are constantly emerging. The recognition of the profession relies on the maturity of the professional associations, and thus, the influence of RMA associations on the identity of practitioners, as well as on policymaking, needs further investigation. Therefore, this chapter aims to showcase the influence of associations to see whether similar initiatives could contribute to increase awareness toward the RMA profession in countries such as Central and Eastern Europe and the Western Balkans where this profession is still in a formidable stage. The lens of the social constructivism theory in International Relations (IR) will provide an analytical framework.

Social Constructivism in International Relations

Social constructivism can shed light on the influence of professional associations so as to advance the understanding of their role in the global environment. Social constructivism puts an important focus on the fact that the structures of human associations are determined by shared ideas rather than by material forces (Wendt, 1999). Social constructivism in IR was among the first theories which gave an important role to substate actors, such as civil society organisations (Chandler, 2005, pp. 25–27). Their role

in shaping state policies and forming identities either at a state or an individual level provides a useful basis for an analysis.

Social constructivism in IR was extensively explained by Alexander Wendt (1999) with a special regard to the relations among states aiming to understand how they fulfil their needs, how they form and represent their interests. His theory has been widely applied in the field of International Relations, explaining culture, socialisation, corporate agency, identity, and structural change. While the theory provides an important starting point, Wendt (1999) did not regard non-state actors as decisive players when applied in the context of IR (p. 353).

Chandler (2005) went beyond and used social constructivism to understand the role of transnational and international network activities in forming and internalising norms. On the same track, Risse (2009) and Risse-Kappen et al. (2013) analysed the power of Human Rights through the work of transnationally operating non-governmental organisations (NGOs), principle-issued NGOs, and transnational advocacy networks.[14]

As the investigation focusses on the influence on EU policies, one stream of Europeanisation theory should also be mentioned as it applies social constructivism and focusses on the role of legal systems and roles. Accordingly, EU law, rules, policies, procedures, unwritten administrative procedures, inter-institutional agreements, and common understandings can influence actors' identities (Checkel, 1999). As a result, non-state actors and policy networks promote norms and mobilise/coerce policymakers to change local policies; policy- and decision-making elites internalise norms and reproduce them through subsequent behaviour. However, in these cases, the main focus is on the formulation of identity specifically in the EU context.

Conceptual Framework

Social constructivism in IR suggests that RMA associations have a role in establishing, internalising, and even internationalising new norms, approaches, and guidance for RMAs regarding the R&I ecosystem and reinforcing a specific culture understood as socially shared knowledge. Funding policies and requirements shape RMAs' common identities and reinforce their transnational community: due to the common requirements of internationally funded projects as well as the blendedness of their profession, RMAs working in these projects create a common professional culture, which includes shared norms, rules, and organisations.[15]

Becoming a member of an RMA association initiates the socialisation[16] with these norms and rules at transnational levels due to the common requirements of EU and transnationally funded projects as well as the blended feature of the job. But such socialisation includes mutual and social learning processes as the requirements change continuously; their common understanding becomes the focus of the associations' activities. In this regard, RMA associations can be viewed as corporate agents, as they represent a structure of shared knowledge or discourse at national, transnational,

[14] The boomerang effect and then the spiral model explain how citizens joining transnational networks can give them a voice to alter state policies (Florini, 2001). However, they limit their explanation to cases when human rights were successfully taken over as a result of transnational network activism.

[15] This professional culture could be regarded similar to those of academic communities and academic ideas analysed in-depth by Becher and Trowler (2001).

[16] Socialisation is the process of taking to the formation of identity and to the definition of interests for members (Wendt, 1999).

or international levels. They also provide a platform for institutionalised collective actions to shape funding requirements, rules, and policies at these levels.

In the case of RMA associations, identity[17] is developed both by members (collective, role) and RMA associations (corporate, role, collective) which can be mutually formed. Interests[18] represent the motivational force of identities: not only the members, but RMA associations shall have and represent interest at the transnational level.

Associations as corporate agents are able to channel knowledge, ideas, interests, and needs to national and EU policy-making. Members of RMA associations active in national and transnational associations can have a voice through these associations to alter their state policies. However, RMA associations have a limited power in shaping policymaking, the question is to what extent is it limited and to what topics?

Research Questions

There are two questions guiding the investigation. First, can RMA associations reinforce a common and collective identity of people working in the profession? Second, can these associations shape or influence policymaking at the EU level?

Methodology

This exploratory study relies on a questionnaire that ran for 4 weeks between 27 June and 21 July 2022. Four groups of questions were designed: the first investigating the associations or platforms or networks gathering RMAs to which respondents belong to (either national and/or transnational/international); the second focussing on the influence of associations on the professional life and development of respondents; the third assessing the policy related influence of associations; and the fourth collecting brief demographic data on respondents (see Zsár, 2022). The questionnaire was elaborated in a way to enable quick completion.[19]

The questionnaire was circulated primarily through social media posts. Some members of certain associations[20] were directly contacted who either reshared the social media post or circulated the questionnaire within the e-mail list of the associations. In total, 116 responses were collected, following the data cleaning 115 were analysed (see Zsár, 2022).

Figs. 3.6.1 and 3.6.2 provide a glimpse on the demography of respondents, which demonstrates a fairly balanced distribution of respondents across different positions (cf. Kerridge & Scott, 2018a, for Europe (n = 844): 35.7% operational, 45.0% manager, 15.2% leader; Kerridge, Dutta, et al. (2022) for Europe (n = 1,471): 33.9% operational, 40.4% manager, 19.9% leader, 4.1% assisting). In this case, administrators were less

[17] Identities in social constructivism can be many-folded, including (1) personal or corporate identities, (2) type identities, (3) role identity, and (4) collective identity (Wendt, 1999).
[18] Identities and interests are formed through social interaction: becoming a member of an association can enforce professional identity, role, need, and interests to the members – but also active members can shape the associations' goals, interests, and needs (Wendt, 1999).
[19] The second and third group of questions used Likert-type scales, the first and fourth group of questions included short answers or selection from lists. Except for two long answers following the second and third sections, all responses were compulsory, therefore all the gathered responses are complete.
[20] Members of the following associations or networks were reached out directly: PIC, ARMA-NL, DARMA, NARMA, AGAUR, BESTPRAC, as Western and Northern European countries were primarily in the scope of the investigation.

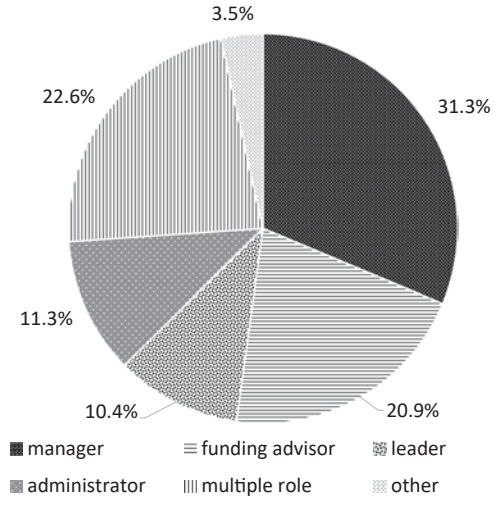

Fig. 3.6.1. The Position of the Survey Respondents (n = 115).

represented (11.3%) based on which it can be assumed that they are more rarely members of associations or the associations have less influence on them. However, an important proportion of respondents indicated their position as funding advisors (20.9%) or having multiple roles (22.6%). Half of the respondents spent more than 10 years as RMAs (Fig. 3.6.2) which corresponds with RAAAP-3 findings [see Kerridge et al., 2022, for Europe (n = 1,482): <5 years: 25.8%, 5–9 years: 29.5%, >10 years: 44.7%].

The proportion of female respondents is close (69%) to their proportion in other surveys [Kerridge & Scott, 2018a, for Europe (n = 844): 73.0% are female; Kerridge et al., 2022, for Europe (n = 1,479): 78.9% female]. The majority (73.9%) of respondents are between 31 and 50 years old, similarly to previous surveys [such as Kerridge & Scott, 2018a: RMAs between 35 and 54 amount to 63.2% of respondents, Kerridge et al., 2022,

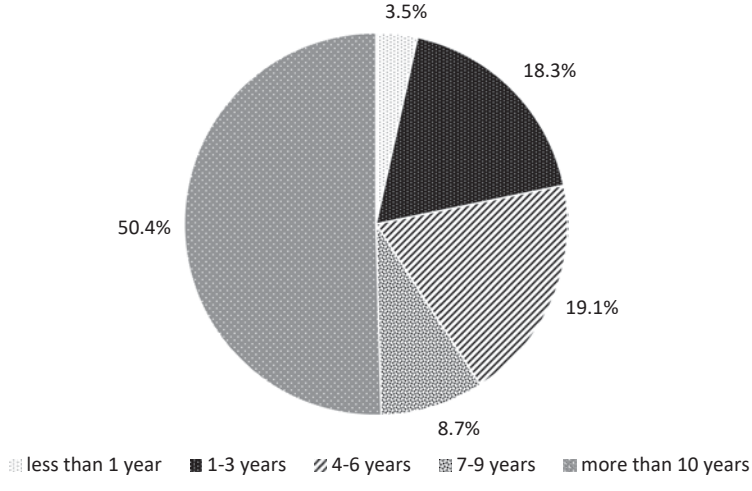

Fig. 3.6.2. Number of Years Spent as RMA (n = 115).

for Europe (n = 1,465): 73.9%]. Around 17.4% of respondents are between 51 and 60, whereas 4.3% of them are either between 21 and 30 or above 60.

The top four countries of respondents are Portugal (21.0%), the Netherlands (18.0%), Norway (9.0%), and the UK (9.0%), followed by South Africa (6.1%), Ireland (5.2%), Denmark (3.5%), Italy (3.5%), Spain (3.5%), and Poland (2.6%).

Despite the diverse but reasonable coverage of responses, certain limitations have to be acknowledged regarding the running of the questionnaire. First, it was circulated during summertime of the Northern hemisphere; so many people were already out of office which limited the number of responses. Second, official channels were rarely used to reach out associations, so the distribution depended on the outreach of the persons contacted. Regarding the structure of the questions, to ease the completion, questions were not multiplied if a person indicated membership both in national and transnational/international associations but respondents had to answer each question only once, even if they were a member of more than one association. Answers might have been slightly different if the same set of questions were repeated to assess each membership.

Analysis

Collected data through the responses had to be cleaned first. Then the results were analysed in-depth for the overall response set and then through selected variables such as (1) geographical coverage of RMA associations (national vs transnational/international association), (2) length of membership in transnational/international RMA association, (3) length of the existence of national RMA association, (4) position of respondents, and (5) number of years spent as RMAs. The correlation analysis carried out did not show considerable outcomes for each variable, nevertheless, it proved to be important to see certain differences.

Influence on the Common and Collective Identity

Influence of RMA association on identity was investigated through multiple angles: that of the members, the associations, and their interrelations. Fig. 3.6.3 presents the results for all respondents.

Two questions aim to discover whether professional identity can be formed thanks to the membership ['*I became aware of what I am doing and that it is a profession on its own*', '*I can more easily define what I am doing and explain it to other colleagues (researchers, administration staff, leadership, and so on*)']. Based on the responses, the most important influence of RMA associations on their members is that they become aware of what they are doing and that research management and administration (RMA) is a profession on its own (34.8% strongly agree, 44.3% agree). Similarly, respondents confirm that thanks to the membership they can more easily define what they are doing and explain it to other colleagues (28.7% strongly agree, 40.9% agree). This rate is even higher in case of respondents having membership in international RMA associations: 38.9% strongly agree and 50.0% agree.

Besides identity formation, the question '*It has changed my life and gave me motivation to move forward my professional career*' aims to reveal whether interests of RMAs can be formed thanks to the membership. 51.7% of RMAs working for more than 10 years in the profession (n = 58) confirm this influence on their professional life. These results suggest that the associations may affect its members' interests and motivations only after a certain amount of time and attainment to higher positions.

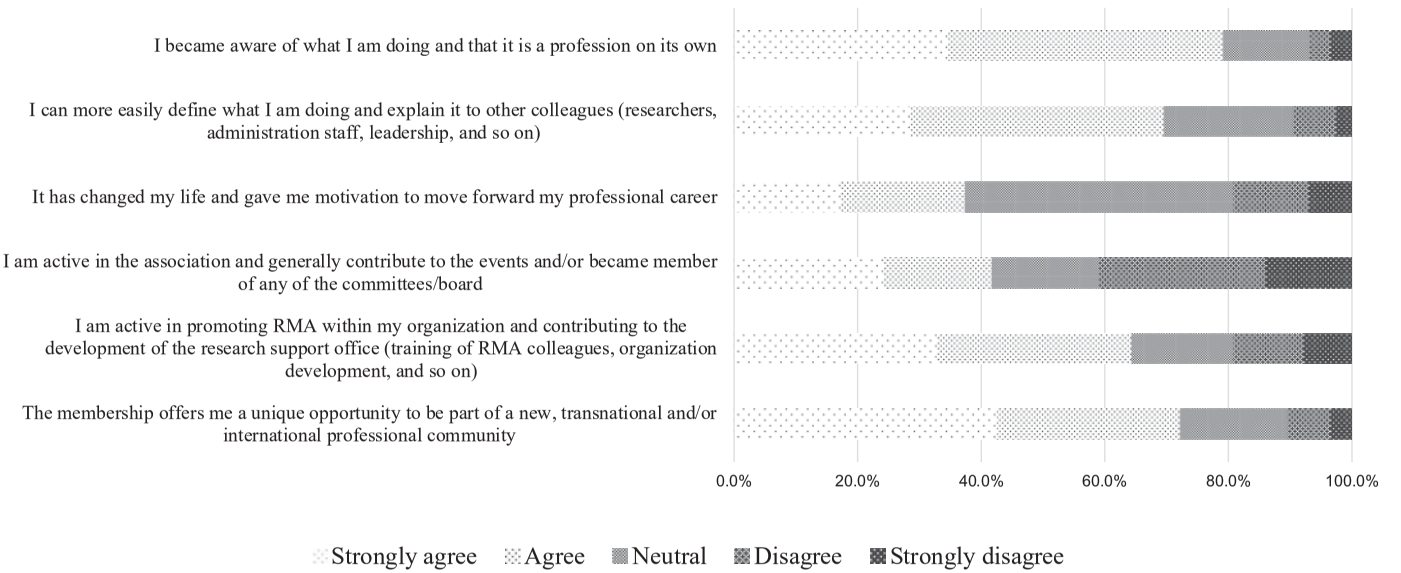

Fig. 3.6.3. Influence of RMA Associations on the Identity and Interests of Members (n = 115).

The question '*I am active in the association and generally contribute to the events and/or became member of any of the committees/board*' aims to understand whether members are aware of and use the opportunity of influencing and forming their association, its identity and interests. Similarly to the previous question, being active in the association is registered only in the case of a smaller group of respondents: 17.4% agrees and 24.3% strongly agrees. The number of years spent in the profession and the possibility of belonging to an international community seem to matter: 36.2% of respondents working for more than 10 years in the profession (n = 58) strongly agree and 29.3% agree that they are active in the association. Respondents being members of international associations for more than 6 years also indicates a similarly high rate of agreement: in case of 6–8 years' long membership (n = 16) 50.0% strongly agree and 25.0%; while in case of 9 or more years' long membership (n = 19) 36.8% strongly agree and 47.4% agree. Accordingly, the overall trend is that experience in RMA increases the likelihood for members to become active and contribute to the identity and interest formation of associations.

The following question '*I am active in promoting RMA within my organisation and contributing to the development of the research support office (training of RMA colleagues, organisation development, and so on)*' aims to understand whether the norms, values, and guidance set by the association can shape the institutions in which RMAs are working. With that regard, the number of years spent in international association seems to be decisive: whereas 7.4% of respondents having membership for 1 or 2 years (n = 27) strongly agree and 29.6% agree, the longer is the membership of respondents, the higher is the proportion which strongly agrees or agrees (see Fig. 3.6.4). The position also matters: all respondents in leadership positions agree with the statement confirming that they have the opportunity and the power to promote the profession within the organisation.

The last question '*The membership offers me a unique opportunity to be part of a new, transnational and/or international professional community*' aims to touch upon whether RMAs acknowledge that their interaction within and with the association deepens their collective identity through which we can identify an increased degree of cultural internationalisation of RMAs. Equally important proportion of respondents strongly agrees (42.6%) or agrees (29.6%) that through the membership they become members of a new, international community. Although respondents mainly confirm

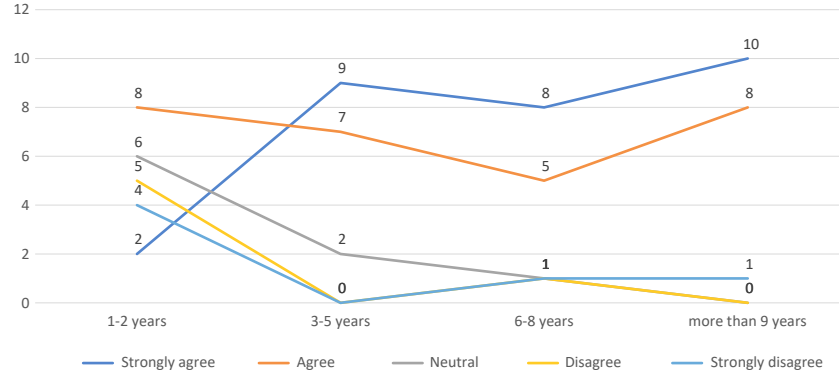

Fig. 3.6.4. Increasing Rate of Active Promotion of RMA in Line with the Length of the Membership in International RMA Associations (n = 78).

the statement, there seems to be a trend again that respondents with a longer career in RMA, being in higher positions and having membership for several years tend to recognise this influence.

Influence on Policymaking at the National, Transnational, EU, and International Levels

The next bunch of questions focusses on the corporate agency role of RMA associations: to what extent they can influence transnational and international policies in their domain and beyond, how the interests of members and the associations themselves are pursued, and whether it is acknowledged by members at all. Overall the rate of neutral responses are much higher than in the previous section suggesting that the influence on policymaking is less visible for the members (Fig. 3.6.5).

The first question '*The association is active in promoting and contributing to the development of the RMA profession at the national, transnational, EU and/or international levels*' aims to give a general context of the associations' activities as corporate agents. The vast majority of respondents acknowledge that the association is active in promoting the profession and contributing to its development (strongly agree: 39.1%, agree: 47.8%).

Then the two questions, '*The association is striving to shape relevant policies in favour of the RMA profession at the national, transnational, EU and/or international levels*' and '*The association is striving to shape relevant policies beyond the RMA profession at the national, transnational, EU and/or international levels*' are focussing directly on the awareness of members on the associations' influence on policymaking: the first in the RMA field, the second in other fields. 28.7% of the respondents strongly agree and 44.3% agree that the association is striving to shape policies in favour of the profession. However, the number of neutral responses is relatively high in the case of respondents who are newcomers to the profession [less than 1 year (n = 5): 75.0%, 1–3 years (n = 21): 57.1%]. Almost the same proportion (46.9%) agrees or is neutral (44.3%) regarding that their association is striving to shape policies beyond the RMA profession. The proportion of neutral answers is higher for newcomers to the profession [less than 1 year (n = 5): 75.0% and 1–3 years (n = 21): 57.1%] as well as to the associations [having membership for 1–2 years (n = 27): 51.9%].

The last two questions '*The existence and the activities of the association is acknowledged by stakeholders (research performing organisations, policymakers, decision-makers, research funding organisations, etc.)*' and '*The association can shape stakeholders' (research performing organisations, policymakers, decision-makers, research funding organisations, etc.) activities*' aim to get a picture to what extent RMA associations are recognised by other actors. Although 17.4% of respondents strongly agree and 33.9% agree that the association is acknowledged by stakeholders, 33.0% of them are neutral about the statement. The proportion of neutral respondents is especially high in case of newcomers to associations [1–2 years (n = 27): 51.9%]. The number of years spent in RMA and the current position in RMA seem to matter again: the more respondents work in the profession and get into a higher position, the higher is their proportion confirming the statement. Influence of RMA associations on stakeholder activities are the least acknowledged by administrators giving the highest rate of neutral answers (69.2%). Compared to them 61.5% of RMAs with multiple roles (n = 26) agreed and 7.7% strongly agreed with the statement suggesting that the latter groups have better overview of these activities possibly due to their involvement in various or multiple roles.

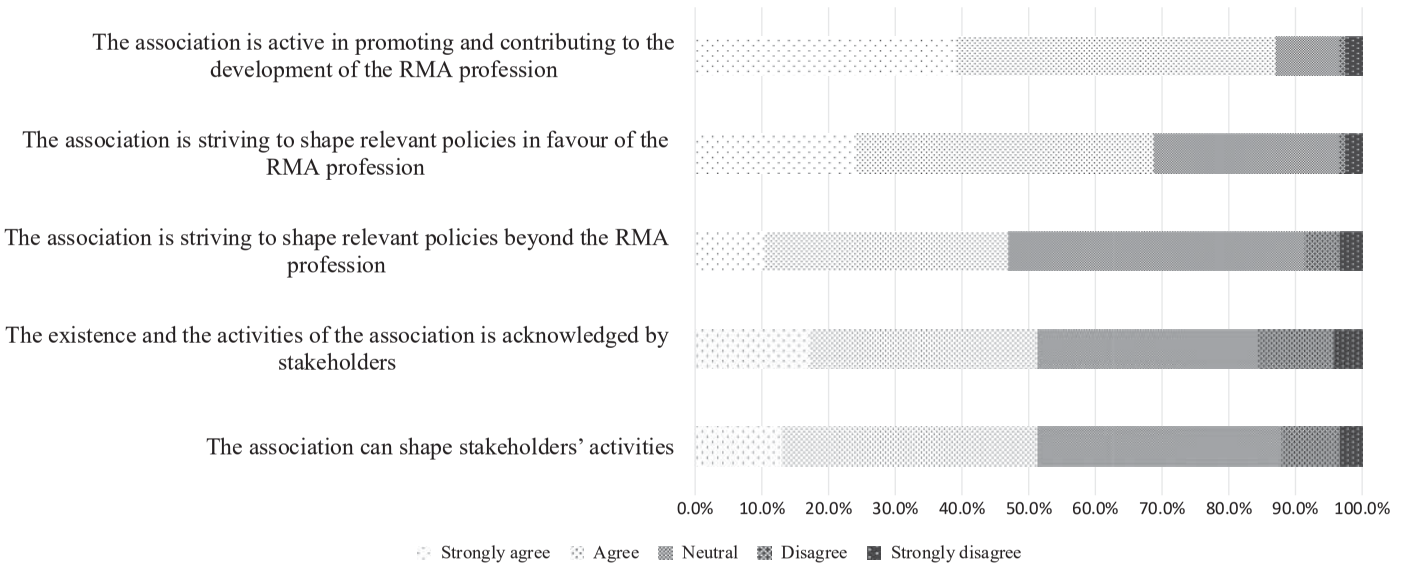

Fig. 3.6.5. Influence of RMA Associations on Policy-Making (n = 115).

Conclusions

Based on the investigation, RMA associations have a significant impact on their members. The most crucial influence is that members gain a clearer understanding of their profession and recognize RMA as a distinct field. Membership also enables them to define their roles more effectively and explain them to colleagues, thereby shaping their professional identities. Additionally, belonging to these associations reveals a sense of community with a global perspective, including shared knowledge, work culture, norms, and values. However, the findings suggest that the process of socialisation and identity and interest development through membership is gradual and is particularly beneficial as members advance in the careers.

Regarding the influence of RMA associations on policymaking at various levels – national, transnational, EU, and international – respondents confirm that the most important activity is promoting the RMA profession. However, shaping policies in favour of RMA is also noteworthy. This suggests that members recognize the association as a platform for collective action in policymaking. On the other hand, nearly half of the respondents are neutral about the association's potential to shape policies beyond RMA. Notably, the respondents' years of experience in RMA and their positions play a role: those with more experience and higher positions are more likely to acknowledge the corporate agency roles and activities of RMA associations.

The results also suggest that members are more aware of measures aimed at developing the RMA profession rather than those extending beyond it, such as shaping policies outside the RMA domain or other stakeholders' activities.

These results underscore the influential role of RMA associations in both fields of the investigation. Therefore, it is recommended to establish and operate such associations in countries, where the profession is less mature or nonexistent as in the case in several Central and Eastern European and Western Balkan countries. However, it is crucial to emphasize that even in countries with existing associations, more efforts are needed to promote the corporate agency role, particularly activities related to influencing policymaking, among all members. This is important as it can deepen the RMA identity of members and enhance the identity of the associations. Additionally, it would be worth while to explore ways for members to become more active in the early stage of their membership to, fostering a deeper mutual identity-building process between members and the association.

Since this investigation solely focused on the perspectives and experiences of RMA association members, future research could explore the views and approaches of the leadership regarding topics like identity and policymaking.

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References

Allen-Collinson, J. (2009). Negative 'marking'? University research administrators and the contestation of moral exclusion. *Studies in Higher Education*, *34*(8), 941–954. https://doi.org/10.1080/03075070902755641

Atkinson, T. N., Gilleland, D. S., & Barrett, T. G. (2007). The dimensions of influence on research administrator behavior: Toward a theoretical model of research administration as a public service profession. *The Journal of Research Administration*, *38*, 55–67.

Becher, T., & Trowler, P. (2001). *Academic tribes and territories: Intellectual enquiry and the culture of disciplines* (2nd ed.). Open University Press.

Chandler, D. (2005). *Constructing global civil society: Morality and power in international relations* (paperback ed.). Palgrave Macmillan.

Checkel, J. T. (1999). Social construction and integration. *Journal of European Public Policy*, *6*(4), 545–560. https://doi.org/10.1080/135017699343469

Curnow, C. K., & McGonigle, T. P. (2006). The effects of government initiatives on the professionalization of occupations. *Human Resource Management Review*, *16*(3), 284–293. https://doi.org/10.1016/j.hrmr.2006.06.001

Flexner, P. (1915). Is social work a profession? *School and Society*, *1*, 901–911.

Florini, A. M. (2001). Transnational civil society. In M. Edwards & J. Gaventa (Eds.), *Global citizen action*. Earthscan.

Hockey, J., & Allen-Collinson, J. (2009). Occupational knowledge and practice amongst UK University Research Administrators. *Higher Education Quarterly*, *63*(2), 141–159. https://doi.org/10.1111/j.1468-2273.2008.00409.x

Kerridge, S., & Scott, S. (2018a). Research administration around the world. *Research Management Review*. *23*(1), 1–34.

Kerridge, S. (2016). *RAAAP: Research administration as a profession*. https://www.acu.ac.uk/membership/member-communities/research-knowledge-information/articles/raaap-survey

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.

Kirkland, J. (2005c). University research management: Towards a global profession? *International Journal of Technology Management & Sustainable Development*, *4*(1), 63–65. https://doi.org/10.1386/ijtm.4.1.63/3

Kirkland, J., & Ajai-Ajagbe, P. (2013). *Research management in African universities: From awareness raising to developing structures*. Association of Commonwealth Universities. https://production-carnegie.s3.amazonaws.com/filer_public/df/ca/dfcac790-1792-4e8e-a7ea-b19ef174d403/ccny_report_2013_awareness.pdf

Langley, D., & Ofosu, M. H. (2007). Celebrating a profession: The global perspective. *The Journal of Research Administration*, *38*, 39–44.

Lewis, K. (2014). Constructions of professional identity in a dynamic higher education sector. *Perspectives: Policy and Practice in Higher Education*, *18*(2), 43–50. https://doi.org/10.1080/13603108.2014.914107

Liao, Y., & Ma, L. (2019). Do professional associations make a difference?: Linking municipal managers' association participation and attitudes toward citizen participation. *Public Management Review*, *21*(12), 1824–1847. https://doi.org/10.1080/14719037.2019.1577907

Moore, W. E. (1970). *The professions: Roles and rules*. Russell Sage Foundation.

Nembaware, V., Glasser, S., Priest, A., Davies, A., Skelton, M., Bodzo, P., Lelong, O., Naidu, A., Masimirembwa, C., Mutambiranwa, A., Hay, A., Wonkam, A., & Dandara, C. (2022). Competency-based training needs assessment for research managers and administrators in Africa and the United Kingdom to strengthen equitable partnerships. *AAS Open Research*, *5*, 11. https://doi.org/10.12688/aasopenres.13272.1

Poli, S. (2018a). Who are today's research managers? In *The European research management handbook* (pp. 1–29). Elsevier. https://doi.org/10.1016/B978-0-12-805059-0.00001-8

Poli, S., Oliveira, C., & Zsár, V. (2023). From conceptualisation to action – The quest for understanding attitudes of research managers and administrators in the wider world. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 201–220). Emerald Publishing.

Putnam, R. D. (2001). *Bowling alone: The collapse and revival of American community* (1. Touchstone ed.). Simon & Schuster [u.a.].

Risse, T. (2009). Social constructivism and European integration. In A. Wiener & T. Diez (Eds.), *European integration theory* (2nd ed., pp. 144–159). Oxford University Press.

Risse-Kappen, T., Ropp, S. C., & Sikkink, K. (Eds.). (2013). *The persistent power of human rights: From commitment to compliance*. Cambridge University Press.

Romano, V., & Albanesi, A. (2021). *The role of Research Manager and Administrator – RMA in Italy: Professional Framework and Needs. 2020 Activity Report*. CODAU Research Working Group.

Ryttberg, M., & Geschwind, L. (2019). Professional support staff in higher education: Networks and associations as sense givers. *Higher Education*, *78*(6), 1059–1074. https://doi.org/10.1007/s10734-019-00388-2

Saad, M., & Zawdie, G. (Eds.). (2011). *Theory and practice of the triple helix system in developing countries: Issues and challenges*. Routledge.

Sonday, A. (2021). Shaping professional identity: A descriptive qualitative study on health and rehabilitation final year students in higher education. *South African Journal of Occupational Therapy*, *51*(2). https://doi.org/10.17159/2310-3833/2021/vol51n2a7

Spencer, T., & Scott, J. (2017). Research administrative burden: A qualitative study of local variations and relational effects. *Research Management Review*, *22*(1), 42–70. https://files.eric.ed.gov/fulltext/EJ1161542.pdf

Szekeres, J. (2011). Professional staff carve out a new space. *Journal of Higher Education Policy and Management*, *33*(6), 679–691. https://doi.org/10.1080/1360080X.2011.621193

Wendt, A. (1999). *Social theory of international politics*. Cambridge University Press.

Whitchurch, C. (2006). Who do they think they are? The changing identities of professional administrators and managers in UK higher education. *Journal of Higher Education Policy and Management*, *28*(2), 159–171. https://doi.org/10.1080/13600800600751002

Whitchurch, C. (2007b). The changing roles and identities of professional managers in UK higher education. *Perspectives: Policy and Practice in Higher Education*, *11*(2), 53–60. https://doi.org/10.1080/13603100701259022

Whitchurch, C. (2012). *Reconstructing identities in higher education: The rise of 'Third Space' professionals*. Routledge. https://doi.org/10.4324/9780203098301

Williamson, C., Dyason, K., & Jackson, J. (2020). Scaling up professionalization of research management in Southern Africa. *Journal of Research Administration*, *34*(1), 88–98.

Zsár, V. (2022). *The influence of RMA associations* [XLS dataset]. https://figshare.com/projects/The_influence_of_RMA_associations/151935

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Chapter 3.7

Evolution of Professional Identity in Research Management and Administration

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Abstract

This chapter delves into the evolving identity of professionals within the field of research management and administration (RMA), examining the shifts in their roles and expectations in the changing landscape in higher education. After the introductory section, Section 2 offers a conceptual framework that emphasises identity as a dynamic process rather than a static concept. This framework sheds light on the changing roles and expectations that define the RMA profession. In Section 3, we explore the contextual backdrop of shifting expectations surrounding RMA roles while stressing the importance of recognizing the multiplicity of identities to comprehend the nuances of the RMA profession. Section 4 analyzes empirical data and explore the diverse pathways that lead individuals into the RMA profession. We uncover that a notable proportion of RMAs possess scientific training and research experience and highlight the complexities surrounding the identity of RMAs with doctoral training (DRMAs). Lastly, Section 5 discusses key observations that yield valuable insights for future research on the evolving professional identity of RMAs. We emphasise that, through self-exploration and

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introspection, practitioners in the field can contribute to a deeper understanding of their roles and actively shape their professional identity.

Keywords: Research management and administration; RMAs; identity; role; evolution; skills; professional; gender; gendered profession

Introduction

In the contemporary academic landscape, there is a growing imperative to ensure the efficient and ethical conduct of research while simultaneously upholding its relevance for academia and society. This evolving higher education (HE) environment, marked by increasing interdisciplinarity and globalisation, has given rise to a dedicated profession known as Research Managers and Administrators (RMAs). Recognising the pivotal role played by RMAs in navigating evolving regulations, facilitating collaboration, and meeting the ever-evolving demands of funders and governments is indispensable for institutions and nations aspiring to maintain a highly skilled workforce for sustained competitiveness. Raising awareness about this profession is essential for nurturing talent in this field, and research plays a central role in cultivating and promoting such awareness. While the literature on RMAs has traditionally focussed on topics such as their skills, careers, and roles, with a geographic emphasis on the US and the UK (Allen-Collinson, 2009; Derrick & Nickson, 2014; Kulakowski & Chronister, 2006; Shelley, 2010), recent works have begun to explore a broader range of issues in various regions. These newer studies delve into topics such as occupational status and the role of professionals as intermediaries between science and practice (Agostinho et al., 2018; Santos et al., 2023), praxis and professionalisation (Acker et al., 2019), professionalisation of the research management and administration (RMA) community (Williamson et al., 2020), and belonging among professional groups (Kurt-Dickson et al., 2018; Poli & Taccone, 2023; Siesling et al., 2017).

The unique domain in which RMAs operate has often been identified as 'the third space' (Veles, 2022; Whitchurch, 2008a, 2012), signifying the blend of their knowledge and expertise that straddles both academic and administrative spheres. While not all RMAs work in this space (Santos et al., 2023), discussions on these issues have gained the attention of scholars, practitioners, and policymakers in recent years (Lawrence, 2022; Quinsee, 2022; Veles & Carter, 2016). Professional identity is one such area, with Lewis investigating how identities are constructed for staff in professional services and proposing a path to enhance their visibility and acknowledgment of their professionalism (Lewis, 2014). In Chapter 3.1, Poli, Oliveira, et al., (2023) examine diverse definitions and perspectives held by RMAs across Europe, illustrating how they function in a multifaceted domain that goes beyond conventional boundaries.

In the following section, we will argue that viewing identity as a process, rather than a fixed state, enhances our understanding of the development of the RMA profession and its interaction with professional associations. The notion of identity can take contrasting forms, either as a stable state or as a dynamic process. In this context, studies have uncovered how identities take shape and evolve among the diverse members within universities (Baltaru & Soysal, 2018; Barnett & Di Napoli, 2008b; Bossu & Brown, 2018; Caldwell, 2022; Enders & Naidoo, 2022), highlighting the blurring of boundaries and the formation of a 'patchwork of *communities* of identity'(Barnett & Di Napoli, 2008a, p. 5). By adopting the perspective of identity as an evolving process,

we aim to encourage professionals in the field, especially those who have worked behind the scenes, to engage in self-reflection, share their perspectives, and ensure their voices are acknowledged (Allen-Collinson, 2009; Rhoades, 2010; Sebalj et al., 2012; Veles & Carter, 2016).

Conceptual Framework: Identity as an Evolving Process

The identities of professional staff have been thoroughly explored within a static framework. Whitchurch (2008b, 2008d), for example, introduced the initial categorisation of bounded, unbounded, cross-boundary, and blended professionals, and later described them in relation to their level of knowledge, legitimacies, spaces, and relationships. Some of these identities, categorised following Gidden's (1991) definition of 'rules and resources' within predetermined institutional structures, can be regarded as static concepts. Specifically, bounded identity is an example of static identity. This concept denotes that professionals choose to be governed by the 'rules and resources' within the given space and maintain these imposed boundaries throughout their careers (Whitchurch, 2008b, p. 11). More discussion on this group of professionals and a full description of their 'bounded' traits are covered in Chapter 3.1 (Poli, Oliveira, et al., 2023).

In contrast, other studies have depicted professional identity as a fluid concept that develops over time. They highlight various recent categories of professional staff and view their identities as something adaptable, residing in the 'third space' between academic and professional domains (Whitchurch, 2008d). More recently, RMA identities have been recognised as even more dynamic, evolving alongside complex organisational and occupational expectations, extending beyond the 'third space' (Barnett, 2008; Callender et al., 2020; Krücken et al., 2013). This process of adaptation has led RMA professionals to move towards a new territory with an expectation to serve as 'a living project of knowledge in action' and 'a practising epistemologist and a practising ontologist' (Barnett, 2008, p. 206). In other words, the domain where the RMAs operate is described as a dynamic testing ground, where these professionals experiment and engage in a search for their identity within the higher eduation (HE) sector.

Their search surrounding professional identity has led to a discussion of 'HE professionals' and 'new HE professionals' as described by Whitchurch (2018) and Gornall (2010). Furthermore, the fluidity of identity has been acknowledged by Caldwell (2022). Her presentation of the acquired visibility of individuals in professional services and a clearer definition of RMAs as a workforce in today's higher education institutions (HEIs) are well aligned with a previous recommendation by Lewis (2014). These studies (Barnett & Di Napoli, 2008b; Giddens, 1991) treat identity as a dynamic concept, viewing it as a 'reflective, iterative process between the individual and the structures in which they find themselves' (Whitchurch, 2012, p. 112). Such an approach also applies to the process through which individual RMAs reflect on themselves through a 'reflexive understanding of their own biography' (Giddens, 1991, p. 53) as professionals.

Viewing identity as a process not only enables us to examine the evolution of the RMA profession but also perceives professional identity as continually under construction; it is an ever-evolving process without a fixed endpoint. There might be interim or provisional agreements on what constitutes a certain identity; however, it implies that there is no ultimate, definitive form of an RMA identity. This perspective also directs our attention to the potential impact of associations on the profession. In other words, when understood as a process, the concept of identity opens the door to looking into a dynamic interplay between individuals and professional associations, potentially

fostering a unique sense of belonging influenced by the distinct histories and attributes of each entity. This perspective aligns with the findings in Chapter 3.6 (Zsár, 2023b), suggesting that RMA associations play a role in shaping the culture of their members, and vice versa. In summary, perceiving identity as a process empowers us to scrutinise the factors affecting it and analyse the effects of professional associations on one's identity.

Context: The Transforming Landscape of RMA Roles in Higher Education

Administrative staff in HE sector have often been considered an invisible workforce (Gordon, 2010; Rhoades, 2010) and and have received limited attention as a subject of academic inquiry. Similarly, RMAs were traditionally pictured as 'invisible intermediaries' in the literature (Derrick & Nickson, 2014; Poli, 2017; Romano et al., 2019; Szekeres, 2004), and this portrayal remained largely unexplored. Consequently, RMAs' identity has long been seen as static. When we shift our perspective to view identity as a dynamic process, how does this affect our understanding of the development of professional identity among RMAs? In this section, we trace the changing roles of individuals in research support positions and show how the career path of RMAs have transitioned from linear to more fluid and dynamic trajectories.

It is important to note that the traditional discussion about the 'roles' of administrative staff in HEIs has limited our understanding of the evolving nature of this emerging profession. Traditional discussions often portrayed administrative staff as disengaged civil servants and categorised them either as professionals, specialists, or generalists (Barnett, 2008; Whitchurch, 2008a). This is not to suggest that the previous discourse was entirely inaccurate, but rather, RMAs have evolved from administrative positions into a dynamic profession that encompasses a wide array of tasks and responsibilities. Nowadays, RMAs are often described as 'blended' or 'hybrid' professionals, reflecting the diversity of their qualifications, experiences, and perspectives.

Changing Landscape and Shifting Expectations Surrounding RMAs

To understand the transformation in RMA's identities, we can trace back to a time when tasks for professional staff roles were clearly defined without overlap with those of academic staff. This model emphasised the aspect of service, with responsibilities geared toward the betterment of society as a whole. In this view, the role of research administration was straightforward and unambiguous. That conception of the university was initially introduced by Clark (2008) in his study of global HE systems and has since gained widespread acceptance.

However, the notion of a progressive neoliberal university linked to New Managerialism (Exworthy & Halford, 1999) introduced a new approach to management in HE. This shift from an administration to a managerial model represents a significant change in our understanding of roles expected of RMAs (Whitchurch, 2008a). In this paradigm, positions within universities become less rigidly defined, with a blending of academic and professional qualifications. Career paths for HE occupations are no longer linear but rather resemble a 'concertina' (Whitchurch et al., 2021) or a 'labyrinthine' (see Chapter 2.4, Poli, Kerridge, et al., 2023). This transformation in RMA roles may well be connected to the rise of academic capitalism, a concept that refers to the commercialization and market-oriented practices increasingly prevalent in HE (Kulakowski, 2023, Chapter 1.7; Slaughter & Leslie, 1997).

This transition in RMA roles, from administrative to managerial within the framework of neoliberalism carries important implications. It implies that professionals in today's HE environment are motivated solely by compassion but also by opportunism. The university's service, once tailored to the needs of students and faculty, might prioritise market competition and the establishment of reward structure. This transformation is often described as a shift from a focus on service to a focus on performance (Barnett, 2008). This viewpoint also implies that RMAs are under growing pressure to demonstrate institutional success as well as individual achievements. Although this viewpoint may not universally apply to all situations involving RMAs, it serves as a foundation for introspection. It encourages the professionals in this field to scrutinise their roles as their professional identities evolve within the changing HE environment.

Blurring Boundaries and Evolution of RMA Identity

In light of the evolving HE landscape, issues surrounding academic and professional identities have become prominent topics of discussion (Locke, 2014; Marini et al., 2019; Whitchurch et al., 2021). As mentioned in the preceding section, there is a growing perspective that RMA professionals have transitioned from primarily serving the academic community to adapting to market competition. This shift also implies a transformation in the partnership between academics and RMAs, resulting in overlapping workspaces, functions, and responsibilities (Whitchurch, 2008a). As a result, the traditional distinction between highly visible academic positions and less visible or invisible administrative roles has progressively blurred.

The evolution of RMA professions from service-oriented administrative roles to market-driven managerial roles hints at a potential shift in the required skill sets, with an increased emphasis on technical competencies to remain competitive in the changing environment. Neverthess, it is worth noting that recent studies indicate that RMA leaders highly value soft skills (Kerridge & Scott, 2018a) such as emotional intelligence, agility, and adaptability. These soft skills also align with the requirements of the start-up sector (Poli, 2022b), suggesting that the RMA profession is not only adapting to neoliberal changes in higher education but also embracing the traditional qualities that hold timeless value.

Professional Associations and Impact on RMA Identity

Professional groups, communities of practice, and professional associations are crucial for shaping a collective identity (Poli, 2013; Zsár, 2023b, Chapter 3.6). This formation of professional identity is often seen as a socialisation process which involves both 'the acquisition of specific knowledge and capabilities required for professional practice' and 'the internalisation of attitudes, dispositions, and self-identity peculiar to the community of practitioners' (Hall, quoted in Borden, 2008, p. 145). Similar to academic identities, this process of shaping professional identity comes with its own set of beliefs, artifacts, rule, and dynamics (Becher & Trowler, 2001), suggesting an ongoing process with stages that foster an understanding of individual and collective growth while emphasizing the connection between individual and shared identity.

In some countries such as the USA (Borden, 2008), professional RMA associations are well established (Shaklee, 2023, Chapter 5.7) and have a significant role in shaping the identity of their members, attracting individuals from both academic and professional roles. However, in some European countries, as found in a 2013 study (Poli, 2013), benefits of belonging to professional networks and associations has

shown mixed and less clear results. Another study found that, despite having high academic qualifications, professionals in research administration in Switzerland hold a distinctive position straddling the realms of science and administration, resulting in an ambiguous professional group identity (Yang-Yoshihara, 2019).

RMA networks provide diverse and supportive environments for discussing identity. They prioritise professionalisation and skill sharing as key collective goals, influencing how engaged their members are and how they perceive their professional identity. Social capital plays a pivotal role in achieving these objectives and influences individual decisions to participate actively in these networks (Poli, 2013). These dynamics not only affect engagement levels but also the formation of identity within these groups. In some countries, such as the US (Borden, 2008), well-established professional RMA associations (Shaklee, 2023, Chapter 5.7) have a significant impact on their member's identity. However, in certain European countries, as revealed in a 2013 study (Poli, 2013), the benefits of being part of professional networks and associations have yielded mixed and less clear results.

Understanding a profession like RMA requires considering multiplicity of identities. Academic and professional managers may have taken varying paths to enter this profession (Borden, 2008; Dutta et al., 2023, Chapter 2.3; Locke, 2007; Marini et al., 2019; Poli, 2017; Poli, Oliveira, et al., 2023, Chapter 3.1), and this could lead to a blended identity, especially for those with a background in research. When examining the identity of RMAs, we see how 'individuals can be on the border of different forms of identity or move between these according to circumstances' (Whitchurch, 2012, p. 9). This introduces additional identity-related considerations, such as whether RMAs perceive a divide between their administrative and research roles, which we will explore further through empirical analysis of the RAAAP-3 data and a case study in the next section.

Examining RMAs' Evolving Identities through Empirical Data Analysis

Diverse Trajectories into RMA Profession

The 2022 RAAAP-3 survey data offers insights into how RMAs perceive their roles, highlighting the dynamic and evolving nature of their professional identity. Among the 3,480 respondents, 63.2% identified themselves as Research Managers and Administrators, while an additional 26.1% found some level of identification with this role (Kerridge, Dutta, et al., 2022). However, when asked to choose an identifying title from a list (Professional at the Interface of Science, Project Manager, Research Administrator, Research Adviser, Research Consultant, Research/Researcher Development, Research and Innovation Manager, Research Manager, Research Manager and Administrator, Researcher, Other – please state), only 13.9% of the 3,435 respondents selected 'Research Manager and Administrator.' Respondents from various geographic regions opted for different titles, underscoring the absence of a unified definition or identity based on self-perception.

Moreover, the survey unveiled a diverse trajectory into the RMA profession. Some transitioned from administrative roles to RMA positions, constituting 25.6% of the 3,408 respondents. Conversely, others embarked on a different path, moving from RMA roles to research or hybrid positions. This lack of a distinct career path contributes to the multifaceted and complex nature of their professional identity, aligning with the literature's insight that there exists no ultimate, definitive form of an RMA identity.

RMAs with Scientific Training and Research Experience

It is important to point out that a significant minority of RMAs have scientific training and research experience. In regions such as the UK, Scandinavia, Europe, Canada, and Asia, more than one out of three respondents held doctorates (Dutta, Oliveira, et al., 2023, Chapter 2.2). These RMAs with doctorates (DRMAs) who move from research to administration possess a strong scientific background and commitment to scientific endeavors. In the RAAAP-3 survey, 33.3% cited their research background as a factor influencing their choice to become an RMA. In addition, a large proportion of DRMAs believe that their educational background should align with the research they support. Among those transitioning from research backgrounds, 30.4% made an intentional choice to join the profession; this is higher than the rate (20.2%) indicated by those who transitioned from other administrative areas.

The matter of identity becomes particularly intricate for DRMAs, who operate in a specialised 'third space' straddling the scientific and professional realms. The RAAAP-3 survey highlights that DRMAs are notably concentrated within the scientific field across all regions (Kerridge, 2023a). A similar concentration of scientific talent was observed in a case study of DRMAs in Switzerland conducted between 2015 and 2018 (Yang-Yoshihara, 2019). In this study, many RMAs working in federal institutes held doctoral degrees, with some possessing postdoctoral research experiences, and mostly specialised in natural sciences. For these individuals, their close connection to the scientific community served as a strong motivation to enter the RMA profession. Their unique position, bridging the realms of academia and administration, equips them with distinctive expertise and attachment to science, which manifest in comments such as "Research management is like a science experiment," and "In a way, I'm doing a different type of research than what I've done in the past (as a scientist)." However, while these DRMAs clearly have deep emotional ties to science and scientific pursuits, they also acknowledge the need for a thoughtful decision "to leave science" when transitioning from research to research administration. Their close proximity to science can create a sense of ambivalence in their identity as they navigate this highly specialised space with no clear boundaries separating it from the scientific community (Yang-Yoshihara, 2022). This situation prompts questions about the most effective approach and mindset for harnessing the potential of these highly trained talents.

Prospects for Future Research on the Changing RMA Identity

6.1. The Gendered Profession

This section discusses key observations that yield valuable insights for future research on the evolving professional identity of RMAs.

Gender Dynamics and the Visibility of the RMA Profession

The current landscape of RMAs reflects a gendered profession. The belief that female practitioners are well-suited for this role is encapsulated in the phrase, She knows, practices, and is the one who explores the doing. And she is in action with courage, in today's fragile domain of professionalism. She dares to be the pioneer or the creator of these new discourses, ontological and epistemological. (Barnett, 2008, p. 206)

While further affirmation of the predominantly female nature of the profession can be found in Chapter 2.4 (Poli, Kerridge, et al., 2023), it is worth considering the role of gender in shaping professional identity. Notably, a contrast becomes evident

when examining responses about professional identity. A higher percentage of females (31.3% of 2,688) identify as Research Administrators compared to males (23.6% of 679). However, this pattern displays regional variations that warrant further investigation. Interestingly, the RAAAP survey results indicate a notably lower concentration of female RMAs in regions like Asia and Africa, where the profession is relatively new further investigation. Interestingly, the RAAAP survey results indicate a notably lower concentration of female RMAs in regions such as Asia and Africa, where the profession is relatively new.

One significant implication of the female orientation could be the potential invisibility of the RMA profession within HEIs, as discussed earlier in this chapter. Some researchers have argued that administrative staff in HE sector are often overlooked, considered them part of the invisible workforce (Gordon, 2010; Rhoades, 2010). It is possible that the invisibility of the RMA profession has been exacerbated by the gender discrimination prevalent in workplaces, including HEIs, where women historically had limited opportunities to make their voices heard (Morley, 2013; O'Connor, 2015; O'Connor et al., 2015). This lack of visibility for female professionals, particularly in leadership roles, has raised concerns for researchers. The topic of diversity, equity, and inclusion is explored in greater detail by Christensen and Smith (2023, Chapter 4.8).

Navigating the Expanding Complexity and Diversity of RMA Identity

RMA is a profession in constant evolution. There is an increasing diversity and complexity surrounding the responsibilities and roles within the field (Langley, 2012). While some scholars may regard RMAs as a subset of the broader professional staff in university administration (de Jong, 2023, Chapter 2.1), many chapters in this book demonstrate that the RMA profession extends beyond the boundaries of universities. It encompasses professionals in various sectors, including companies, hospitals, research institutes, government agencies, charities, foundations, policy organizations, and funding agencies (Santos et al., 2023). As discussed in this chapter, there is no single, uniform identity that encompases all RMAs; rather, this field is characterised by a growing diversity of roles. However, there are specific domains within the profession where individuals have the potential to cultivate a strong community with a more defined shared identity. For example, in the US, 'research development professionals' have established their own specialised associations (Shaklee, 2023, Chapter 5.7). In the ASEAN region, there is an emergence of 'STI Coordinators' (Sonobe & Saito, 2023, Chapter 3.5). RMAs working in these domains can develop a specific sense of shared norms as emerging professionals.

Fostering the Evolution of RMA Identity through Self-Exploration and Research

A group of RMA practitioners has taken the initiative to investigate their profession as a distinct field of research (Agostinho et al., 2019; Santos et al., 2023). Their self-exploration and introspection efforts aim to deepen their understanding of their roles and actively shape their professional identity. This undertaking plays a pivotal role in increasing the visibility and recognition of the professional RMA community, effectively showcasing the value of their contributions (Caldwell, 2022; Lewis, 2014; Poli, 2022b). By scrutinising their intricate professional identities, these practitioners can offer a fresh perspective on the existing research on RMAs, potentially

propelling the RMA profession forward. Ultimately, research can contribute to a more comprehensive understanding of the complexities within the RMA, driving its overall development.

Conclusion

This chapter has provided an exploration of the evolving landscape of the RMA profession within the changing HE environment. Our discussion has emphasised the need for practitioners to engage in self-exploration and introspection. This perspective aligns with discussions in the field of HE studies, as highlighted by Tight (2020). As Eraut (1994) suggests, practitioners' potential for knowledge development often remains untapped, resulting in redundant efforts and the repetitive reinvention of existing methods and processes. We recommend that RMA practitioners embrace this evolving process and actively participate in shaping their professional identities. Through this endeavour, they can increase the visibility and advancement of the RMA profession and potentially become the 'creative pioneers or the developers of the most up-to-date discourses' (Barnett, 2008, p. 206).

In conclusion, we emphasise that the modern HE landscape is characterised by increasing diversity and complexity in RMA roles and responsibilities. This diversity leads to an absence of a one-size-fits-all identity for RMAs. Instead, the RMA profession is in a constant state of evolution, marked by ongoing changes. By shedding light on the dynamic evolution of RMA identities, we aimed to provide valuable insights at a time when a growing number of practitioners are beginning to study RMA as a distinct field of research.

References

Acker, S., McGinn, M. K., & Campisi, C. (2019). The work of university research administrators: Praxis and professionalization. *Journal of Praxis in Higher Education*, *1*(1), 61–85.

Agostinho, M., Moniz Alves, C., Aresta, S., Borrego, F., Borlido-Santos, J., Cortez, J., Lima Costa, T., António Lopes, J., Moreira, S., Santos, J., Trindade, M., Varela, C., & Vidal, S. (2018). The interface of science: The case for a broader definition of research management. *Perspectives: Policy and Practice in Higher Education*, *24*(1), 19–27. https://doi.org/10.1080/13603108.2018.1543215

Allen-Collinson, J. (2009). Negative "marking"? University research administrators and contestation of moral exclusion. *Studies in Higher Education*, *34*(8), 941–954.

Baltaru, R. D., & Soysal, Y. N. (2018). Administrators in higher education: Organisational expansion in a transforming institution. *Higher Education*, *76*(2), 213–229.

Barnett, R. (2008). Critical professionalism in an age of supercomplexity. In B. Cunningham (Ed.), *Exploring professionalism* (pp. 190–207). IOE Press.

Barnett, R., & Di Napoli, R. (2008a). Introduction. In R. Barnett & R. Di Napoli (Eds.), *Changing identities in higher education: Voicing perspectives*. (pp. 1–8). Routledge.

Barnett, R., & Di Napoli, R. (2008b). Identity and voice in higher education: Making connections. In R. Barnett & R. Di Napoli (Eds.), *Changing identities in higher education: Voicing perspectives* (pp. 197–204). Routledge.

Borden, M. H. V. (2008). The role of professional associations in the formation of professional identity. In R. Barnett & R. Di Napoli (Eds.), *Changing identities in higher education* (pp. 145–157). Bedford Way Press.

Becher, T., & Trowler, P. (2001). *Academic tribes and territories: Intellectual enquiry and the culture of disciplines* (2nd ed.). Open University Press.

Bossu, C., & Brown, N. (Eds.). (2018). *Professional and support staff in higher education*. Springer. https://doi.org/10.1007/978-981-10-1607-3_29-2

Caldwell, J. (2022). Professional identity and professional services staff: Understanding and impact. *Perspectives: Policy and Practice in Higher Education*, *26*(4), 140–147. https://doi.org/10.1080/13603108.2022.2073288

Callender, C., Locke, W., & Marginson, S. (Eds.). (2020). *Changing higher education for a changing world*. Bloomsbury Academic.

Christensen, J. F., & Smith, L. (2023). Diversity and internationalisation: A new core competence for research managers? In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 405–415). Emerald Publishing.

Clark, B. R. (2008). *On higher education: Selected writings, 1956–2006*. Johns Hopkins University Press.

de Jong, S. (2023). A novel definition of professional staff. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 99–111). Emerald Publishing.

Derrick, G., & Nickson, A. (2014). Invisible intermediaries: A systematic review into the role of research management in university and institutional research processes. *Journal of Research Administration*, *45*(2), 11–45.

Dutta, M., Oliveira, C. I., Fischer, M., & Kerridge, S. (2023). Routes into research management and administration. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 125–140). Emerald Publishing.

Enders, J., & Naidoo, R. (2022). The rise and work of new professionals in higher education. In C. Sarrico, M. J. Rosa, & T. Carvalho (Eds.), *Research handbook on academic careers and managing academics* (pp. 89–98). Edward Elgar. https://doi.org/10.4337/9781839102639.00014

Eraut, M. (1994). *Developing professional knowledge and competence*. Psychology Press.

Exworthy, M., & Halford, S. (1999). *Professionals and the new managerialism in the public sector*. Open University Press.

Giddens, A. (1991). *Modernity and self-identity: Self and society in the late modern age*. Stanford University Press.

Gornall, J. (2010). The role of the media in the Stoke CNEP saga. *Journal of the Royal Society of Medicine*, *103*(5), 173–177.

Kerridge, S. (2023a). Is research management and administration (RMA) a profession? *Journal of Research Management and Administration*, *2*(1), 1–5.

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Kerridge, S., & Scott, S. F. (2018a). Research administration around the world. *Research Management Review*, *23*(1), 1–34.

Kulakowski, E. (2023). The establishment and history of the international network of research management societies. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 83–95). Emerald Publishing.

Kulakowski, E. C., & Chronister, L. U. (2006). *Research administration and management*. Jones & Bartlett Publishers.

Kurt-Dickson, A., Poli, S., & Siesling, M. (2018, June 17). *New dynamics for new futures: Bridging academic and professional cultures [Conference presentation]*. International Network of Research Management Societies (INORMS), Edinburgh.

Krücken, G., Blümel, A., & Kloke, K. (2013). The managerial turn in higher education? On the interplay of organizational and occupational change in German Academia. *Minerva*, *51*, 417–442. https://doi.org/10.1007/s11024-013-9240-z

Langley, D. (2012). Research management and administration: A reflection of where we are and where we need to go as a profession. *Perspectives: Policy and Practice in Higher Education*, *16*(3), 71–76.

Lawrence, J. (2022). Career trajectories in the third space. In E. McIntosh & D. Nutt (Eds.), *The impact of the integrated practitioner in higher education: Studies in third space professionalism*. Routledge.

Lewis, K. (2014). Constructions of professional identity in a dynamic higher education sector. *Perspectives: Policy and Practice in Higher Education, 18*(2), 43–50.

Locke, W. (2007). The changing academic profession in the UK: Setting the scene.

Locke, W. (2014). *Shifting academic careers: Implications for enhancing professionalism in teaching and supporting learning*. https://discovery.ucl.ac.uk/id/eprint/1475606/1/shifting_academic_careers_FINAL.pdf

Marini, G., Locke, W., & Whitchurch, C. (2019). The future higher education workforce in locally and globally engaged higher education institutions: A review of literature on the topic of the academic workforce.

Morley, L. (2013). The rules of the game: Women and the leaderist turn in higher education. *Gender and Education*, *25*(1), 116–131.

O'Connor, P. (2015). *Management and gender in higher education*. (pp. 1–224). Oxford University Press.

O'Connor, P., Carvalho, T., Vabø, A., & Cardoso, S. (2015). Gender in higher education: A critical review. *The Palgrave international handbook of higher education policy and governance* (pp. 569–585), Palgrave Macmillan.

Poli, S. (2013). *Institutional focussed study - IFS* [Unpublished EdD dissertation]. Institute of Education.

Poli, S. (2017). Navigating cultures and roles during a professional doctorate. In C. McMaster, C. Murphy, S. Cronshaw, & N. C. McMaster (Eds.), *Postgraduate study in the UK: Surviving and succeeding*. Libri Publishing.

Poli, S. (2022b, May 4–6). Research management striving to re-invent an up-to-date idea of professionalism in a post-pandemic age [Conference presentation]. *EARMA 2022 annual conference*, Oslo.

Poli, S., Kerridge, S., Ajai-Ajagbe, P., & Zornes, D. (2023). Research management as Labyrinthine. How and why people become and remain research managers and administrators around the world. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 141–154). Emerald Publishing.

Poli, S., Oliveira, C., & Zsár, V. (2023). From conceptualisation to action – The quest for understanding attitudes of research managers and administrators in the wider world. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 201–220). Emerald Publishing.

Poli, S., & Taccone, D. (2023). Professional staff in support services in education and research – How to connect research with practice. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 341–353). Emerald Publishing.

Quinsee, S. (2022). Leadership in the third space. *The impact of the integrated practitioner in higher education: Studies in third space professionalism*, 33–39.

Rhoades, G. (2010). Envisioning invisible workforces: Enhancing intellectual capital. In G. Gordon & C. Whitchurch (Eds.), *Academic and professional identities in higher education: The challenges of a diversifying workforce* (pp. 35–54). Routledge.

Romano, V., Albanesi, A., & Poli, S. (2019). *Are research managers regarded as servant leaders?* [Conference paper]. EARMA conference.

Santos, J. M. R. C. A., Varela, C., Kerridge, S., & Fischer. M. (2023). Where do RMAs work? In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 155–166). Emerald Publishing.

Sebalj, D., Holbrook, A., & Bourke, S. (2012). The rise of 'professional staff' and demise of the 'non-academic': A study of university staffing nomenclature preferences. *Journal of Higher Education Policy and Management*, *34*(5), 463–472.

Shaklee, T. (2023). Research administration in the United States. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 473–481). Emerald Publishing.

Shelley, L. (2010). Research managers uncovered: Changing roles and 'shifting arenas' in the academy. *Higher Education Quarterly*, *64*(1), 41–64. https://doi.org/10.1111/j.1468-2273.2009.00429.x

Siesling, M., Kurt-Dickson, A., & Poli, S. (2017). *The blended professional in Academia – Bringing them further* [Conference paper]. European Association of Research Managers and Administrators conference.

Sonobe, T., & Saito, C. (2023). Empirical and empathetic approaches taken by science, technology and innovation coordinators in Southeast Asia. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 265–279). Emerald Publishing.

Slaughter, S., & Leslie, L. L. (1997). Academic capitalism: Politics, policies, and the entrepreneurial university. The Johns Hopkins University Press.

Szekeres, J. (2004). The invisible workers. *Journal of Higher Education Policy and Management*, *26*(1), 7–22. https://doi.org/10.1080/1360080042000182500

Tight, M. (2020). Higher education: Discipline or field of study? *Tertiary Education and Management*, *26*(4), 415–428.

Veles, N. (2022). *Optimising the third space in higher education: Case studies of intercultural and cross-boundary collaboration*. Taylor and Francis.

Veles, N., & Carter, M. A. (2016). Imagining a future: Changing the landscape for third space professionals in Australian higher education institutions. *Journal of Higher Education Policy and Management*, *38*(5), 519–533.

Whitchurch, C. (2008a). Shifting identities and blurring boundaries: The emergence of Third Space professionals in UK Higher Education. *Higher Education Quarterly*, *62*(4), 377–396. https://doi.org/10.1111/j.1468-2273.2008.00387.x

Whitchurch, C. (2008b). *Professional managers in UK higher education: Preparing for complex futures: Final report*. Leadership Foundation for Higher Education. www.lfhe.ac.uk/publications/research.html

Whitchurch, C. (2008d). Beyond administration and management. Changing professional identities in UK higher education. In R. Barnett & R. Di Napoli (Eds.), *Changing identities in higher education*. Bedford Way Press.

Whitchurch, C. (2012). *Reconstructing identities in higher education: The rise of 'third space' professionals*. Routledge. https://doi.org/10.4324/9780203098301

Whitchurch, C. (2018). Being a higher education professional today: Working in a third space. In C. Bossu & N. Brown (Eds.), *Professional and support staff in higher education* (pp. 11–22). Springer.

Whitchurch, C., Locke, W., & Marini, G. (2021). Challenging career models in higher education: The influence of internal career scripts and the rise of the 'concertina' career. *Higher Education, 82.* https://doi.org/10.1007/s10734-021-00724-5

Williamson, C., Dyason, K., & Jackson, J. (2020). Scaling up professionalization of research management in Southern Africa. *Journal of Research Administration*, *51*(1), 46–72.

Yang-Yoshihara, M. (2019). Research administrators in Switzerland: Highly-skilled talents in the science and technology hub. In M. Fujimoto, M. Yamauchi, & A. Noda (Eds.), *Education and employment systems and youth career development in Europe: A guide to transnational mobility and internationalisation of human resources* (pp. 257–293). Hakuto Publications.

Yang-Yoshihara, M., (2022). Research Managers and Administrators with Doctorates (DRMAs): An Emerging Profession for Advanced Degree Holders. In *Proceedings of the 2022 SRHE Annual conference*. Online. https://srhe.ac.uk/arc/22/0247.pdf

Zsár, V. (2023b). The influence of RMA associations on identity and policymaking internationally. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 281–295). Emerald Publishing.

Section 4: Professionalism

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Chapter 4.1

Professionalisation of Research Management and Administration in Southern Africa – A Case Study

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Abstract

This case study will illustrate how the Southern African Research and Innovation Management Association (SARIMA) set in motion a professionalisation journey through close collaboration with its members while leveraging strategic partnerships and funding opportunities. The case study will highlight the impetus that inspired the journey, and the outputs aimed at accelerating the professionalisation of research management and administration (RMA) beyond Southern Africa.

Keywords: Professionalisation; research management and administration; competency framework; professional recognition; Sub-Saharan Africa

Background

There are many factors that contributed to the development of RMA globally. Two of these drivers are: the growth in the importance of research and related activities, and

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the increased levels of legislation, regulation, oversight and compliance that are associated with them (Carter & Langley, 2009; Goodman, 2019; Kirkland, 2009).

Using a global lens, RMA has grown significantly over the years. Lewis (2014) attributes the expansion and specialisation of 'non-academic' roles in higher education to a more visible, globally linked RMA community. Poli (2021d) points to the growing body of academic literature as research managers and administrators (RMAs) engage in research into the practice of RMA. Derrick & Nickson (2014) argued that the growth is evident from the establishment of professional organisations for RMAs across the world. The membership directory of the International Network of Research Management Societies (INORMS) shows that 6 of the 21 member associations were established in the last 20 years and 7 more in the last 10 years. In Africa, SARIMA is the oldest, celebrating its 20th year of existence in 2022. SARIMA has four sister organisations, the three in Central (CARIMA), West (WARIMA)[1] and East Africa (EARIMA) were established and/or strengthened through a European Union funded project titled *Improvement of Research and Innovation Management Capacity in Africa and the Caribbean for the Successful Stimulation and Dissemination of Research Results (RIMI4AC)*. The latest addition is an association in North Africa (NARIMA) established in 2020.

RMA and its professionalisation is still evolving in Southern Africa and Africa at large, with the need for continued advocacy. In their study of 200 universities in Africa, Akindele and Kerridge (2019) concluded that most African universities still do not possess dedicated research support services. Although there is a growing number of research offices, they admittedly have diverse structures, resources and capacity (Dyason et al., 2017). Prof. Tom Kariuki, the Director of the Alliance for Acceleration of Sciences in Africa (AESA)[2] recently stated that capacity development remains a key challenge hindering the development of research management ecosystems in Africa (ARMA UK, AESA, Wellcome Trust, 2021).

In the early years, much of SARIMAs focus was on South Africa, the country from which it originated. With the establishment of a portfolio first for Southern African Development Community (SADC) Engagement and later renamed to Africa Engagement, SARIMA showed its commitment to expand its footprint on the continent. SARIMA has joined forces with many partners over the years to build capacity and to take the first steps towards professionalising RMA.

SARIMAs 2011 Strategy for Capacity Building and Professionalisation, the outcome of stakeholder engagements and results from surveys laid the foundation for its professionalisation journey, allowing SARIMA to get a better understanding of the capacity needs and professionalisation preferences of the RMA community in the region (Williamson et al., 2020). The stakeholder inputs pointed to the need for SARIMA to broaden its training programme to accommodate a wider range of topics at differentiated levels of development from basic to advanced, context appropriate professional accreditation and postgraduate level qualifications in RMA. SARIMA responded by developing a concept for professionalising RMA. The generous funding support from the Department of Science and Innovation (DSI),[3] South Africa and the Special Programme for Research and Training in Tropical Diseases (TDR)[4] at the World Health Organisation (WHO), allowed SARIMA

[1]WARIMA – https://warima.org/.
[2]AESA – https://www.aasciences.africa/programmes.
[3]DSI – https://www.dst.gov.za/.
[4]TDR – https://tdr.who.int/.

to embark on a journey to pave the way for the professionalisation of RMA in the Southern African region and beyond.

Literature has mooted the complexity of RMA. RMAs often come from a variety of backgrounds and experiences (Bertero et al., 2012; Poli & Toom, 2015) and have been referred to as blended professionals (Poli et al., 2014) who often 'fall into the career' (Green & Langley, 2009). They fulfil a range of roles, with new roles constantly emerging (Bertero et al., 2012; Green & Langley, 2009; Hockey & Allen-Collinson, 2009) requiring them to expand the boundaries of their work (Whitchurch, 2008a). It becomes more complex in the absence of a common understanding of what RMA is. Some efforts made globally to scope and define RMA are documented by Kerridge (2021a) and Poli (2021d). In Africa, RMA is often still very narrowly defined. A Wellcome Trust commissioned report concluded that RMA in Sub-Saharan Africa often equates primarily to good grant management (Consort, 2017). SARIMA aimed to define the profession for the African continent through the first phase of its professionalisation project. The aim of the Professional Competency Framework (PCF) for RMA was to unify RMAs through a common understanding of the scope and nature of the developing profession in the region.

It is worthy to note that SARIMA, from its inception, has been an integrated organisation covering both research management and technology transfer management.[5] While appreciating the complementary role of research and technology transfer management at an organisational level, SARIMA acknowledges that different skill sets and competencies are required and treat research management and technology transfer management as distinct professions. While this case study only focusses on SARIMA's journey to professionalise RMA, there is a parallel journey to professionalise technology transfer management. SARIMA is a member of the Alliance of Technology Transfer Professionals (ATTP)[6] providing access to the Registered Technology Transfer Professional (RTTP) designation for technology transfer professionals who are members of SARIMA. SARIMA has been represented on the Council of ATTP, allowing the association to participate in shaping the profession (Southern African Research and Innovation Management Association (SARIMA), 2022a).

Professionalisation Journey Phase I: A PCF for Southern Africa

The PCF was developed through a qualitative, socially constructed study following an action research design with organised reflection (Reynolds & Vince, 2004) as the overarching approach. This section will draw on Williamson et al. (2020) who reported on the conceptualisation and development of the PCF.

The inception included setting up a Project Advisory Committee with representation from key stakeholders, including government, funding agencies, private sector and public research institutions, to guide the study. Through collaboration with the Association of Research Managers and Administrators (ARMA) in the United Kingdom (UK), SARIMA used an existing framework developed for the UK context (ARMA, 2011) as the foundation for a contextualised version for Southern Africa.

[5]Involving knowledge transfer and commercialisation practitioners.
[6]ATTP – https://attp.global/.

A methodology was conceptualised within open-ended responsive parameters and the contextualisation was done through an action research project working with purposefully sampled participants in the RMA profession (Williamson et al., 2020).

An initial exploration of extant competency frameworks provided a draft framework with seven functional areas which was explored and refined through a pilot phase. Pilot focus group participants reflected on their roles, level of operation, technical competencies and the competence gaps they need to fill to better perform in their roles. They also had to reflect on the gaps in the functional areas, how these could be structured to best define RMA in their context and support a dynamic and growing profession. The outcome was nine key competency areas (KCAs) and three levels of competencies (administrative/operational, management and leadership/strategic) that provided the resource for the data gathering and analysis (Williamson et al., 2020). During subsequent focus groups, participants confirmed the validity of the nine KCAs. ATLAS.ti, a qualitative data analysis software, provided for an integrated project management base. Each of the nine KCAs and the three levels of operation were populated with the findings of the focus groups' contributions. Where they emerged from the data, distinct sub-areas associated with the KCAs were included. Principles for the analysis were that the participants must be able to 'see their thinking and words in the PCF', yet also the vast data must be rationalised to achieve a user-friendly and contextualised framework. The literatures were also themed against the nine KCAs and an interweaving of the empirical data and secondary data applied to each competency area (Williamson et al., 2020). The nine KCAs are:

1. Organisation and delivery of a research management service.
2. Research planning, strategy and policy development.
3. Researcher development.
4. Partnerships and collaboration.
5. Research funding.
6. Research ethics and integrity.
7. Managing funded research.
8. Research data and research information management.
9. Research uptake, utilisation and impact.

Besides the technical competencies associated with each KCA, the participants repeatedly identified transferable ('soft') skills. Initially, these were collated and reviewed holistically, but as the PCF took shape, they were organised according to the competency areas and level of work (Williamson et al., 2020). Using the PCF as the basis, Holmes-Watts and Engelbrecht (2021) explored the critical RMA competencies required for the 'new normal' during and post-Covid. They too have emphasised the critical role transferable competencies play and will play in being a RMA professional. A SARIMA study conducted in 2021 further explored this dimension, reflecting on what RMA practitioners offer as 'human-being' professionals and not only knowledgeable experts (Williamson & Dyason, 2023).

The PCF was firmed up through several feedback sessions from the Project Advisory Committee and additional consultations, including online consultations, to broaden the scope for inputs. The PCF was formally adopted in December 2016 (Williamson et al., 2020).

Although the PCF was initially designed for the Southern African context, the participation of representatives from sister organisations in Africa and from other

low- and middle-income counties in consultation sessions provided a platform to test its relevance to other contexts.

SARIMA has actively been using the PCF as the basis for targeted training interventions and for the competency assessment of RMAs applying for professional recognition (discussed in the next section). SARIMA advocates for a contextualised use of the PCF considering aspects such as the level of specialisation and the capacity of a RMA team. Likewise, SARIMA views the PCF as formative, and at its crux, it is to be kept relevant through feedback and revision. The PCF should be a dynamic framework that keeps track of the developing profession.

In 2022, SARIMA completed a study that is now being prepared for publication, exploring how the PCF enters the university RMA system and builds learning outcomes. The case studies confirmed the usefulness of the PCF for personal learning, for universities to map out the professional development learning pathways for their RMA staff and, in general, for deepening individual professionalisation.

Data gathering during this first phase of SARIMAs professionalisation project provided the opportunity to supplement the data of previous surveys and consultations mentioned in the Background section. The collective data confirmed that research managers in our context are highly qualified (over 70% had a doctorate or masters qualification) (Williamson et al., 2020) and that professional certification and postgraduate qualifications in RMA were high on their list for professionalisation. These inputs and the insights of research management leaders were incorporated in the PCF (Williamson et al., 2020) and in the design of professionalisation routes that were at the centre of the second phase of the SARIMAs professionalisation project. Research management leaders were clear that the more professional we are as RMAs, the more credibility we have. They also viewed a balance between the hard and the soft competencies as essential.

Professionalisation Journey Phase II: Professionalisation Pathways Beyond Southern Africa

The implementation of three key initiatives, through partnerships and collaboration, formed part of the second phase of SARIMAs professionalisation project. These initiatives are offering different pathways for recognising professional competence, not only for research managers in Southern Africa, but across the African continent.

A University Accredited Certificate in Research Management

SARIMA and its partners developed a suite of six online courses through the multi-funder supported Science Granting Councils Initiative (SGCI).[7] Expert practitioners sourced from research institutions in Southern, East, West and Central Africa developed the course content using the PCF as a reference and incorporating regional perspectives. Implementing the courses was guided by quality, accessibility and relevant and needs-based content. Each module provides a balance between theoretical content and practical application, and is reinforced through case studies, work-based assignments and facilitated online discussions (Jackson et al., 2020).

[7]SGCI – https://sgciafrica.org/.

The fully online short courses, certified by a highly ranked South African University, provide a flexible learning solution. It is constituted by the following courses and learning outcomes:

(i) Fundamentals of research management – equips learners with a range of knowledge and experiences that promote the value of the RMA profession.
(ii) Intellectual property, technology transfer and commercialisation – provides a foundation for the management of intellectual property, the technology transfer process and the commercialisation process within a public research organisation.
(iii) Programme evaluation – provides learners with the core knowledge and skills to capably design, guide and implement effective programme evaluation.
(iv) Research grants and contracts management – explains how post award management fits into the entire grant management process and how best to set up and manage projects in line with budgets and funder expectations.
(v) Ethics and integrity – helps learners develop the competence to promote, foster and support research ethics and integrity, compliance and responsible research conduct to understand the ethical challenges of research work.
(vi) Research and gender in science, technology and innovation – examines the mutual shaping of gender and science, technology and innovation (STI) in the national systems of innovation in Africa and explores how gender becomes imprinted in new scientific knowledge and new technologies, and how women and men encounter the products of science and technology differently.

The programme is targeted at early- to mid-career RMA professionals and was designed to ensure improvement in the general level of skills in these practitioners, enabling them to perform better within their current job roles or to support their advancement to a higher-level professional role.

The courses run over a twelve-month period and the duration of each course ranges from five to eight weeks, with three to four learning hours per week. A certificate of competence is issued for the successful completion of each course.

In its pilot phase under the SGCI project (2017–2019), 69 research managers from 13 Science Granting Councils in Africa took part in the online programme. The programme was accessible to Anglophone, Lusophone and Francophone countries, representing the main official language communities across Africa. The certificate programme was launched to the general RMA community in 2020, and to date, the participants have primarily been individuals sponsored by their institutes or through capacity development projects.

A Postgraduate Diploma in RMA

A new Postgraduate Diploma in RMA – as the first formal academic qualification in RMA in and for Africa – was established through an EU Erasmus+ programme funded project entitled *Strengthening of Collaboration, Leadership and Professionalisation* in Research Management in SADC and EU Higher Education Institutions (StoRM).[8] The course was developed in recognition of the fact that professional RMA structures and systems within African universities are critical enablers in achieving

[8]StoRM – https://sites.google.com/view/projectstorm/home?pli=1.

maximum research and innovation impact in an increasingly competitive global environment, and that the effectiveness of these structures depend on skilled research and innovation managers (Langley & Theron, 2018).

Stellenbosch University (South Africa), through its Centre for Research on Evaluation, Science and Technology, offers the qualification, which provides a comprehensive introduction to RMA theory, practice and the latest trends via four modules offered over two years (https://www0.sun.ac.za/crest/students/pgd-rma/). Students are typically early- or mid-career staff members working in Research Offices (or equivalent structures) at research institutions. The course content is relevant to global settings but focusses on the African context. The PCF developed by SARIMA over the past decade has served as a foundation for the development of the course content.

Delivery of the course is through a combination of lecturing sessions, ongoing online support and tutor groups, self-study and written assignments to be completed within the work context of the participants. Each module includes an initial five-day face-to-face lecturing block. The modular structure of the course aims to make it accessible to working individuals.

The aim of the course is to develop a comprehensive RMA-related skills set, as summarised below:

Module 1: The research landscape in Africa – describe the unique environment, conditions and features that define African research, explain the trends in the governance, institutional landscape, R&D funding and scientific output of African countries and reflect and comment on the role of university research offices against the broader landscape of African research.

Module 2: The management of research and research-related information – identify, characterise and explain the roles and interactions between the relevant internal and external stakeholders in the management and use of research- and research-related information. Specify and describe the different types of information, and the information management systems and databases required for its collection, management and use. Develop an understanding of the basic principles of the development and management of databases with a view towards integrated reporting; and explain and demonstrate how research performance is measured using basic principles and practices of key bibliometric data sources and indicators. Develop a critical awareness of the key issues related to modern trends in scholarly publishing, as well as insight into the theory and practice of science communication.

Module 3: Research grants management – insights into the management processes required for grant-making. Understand the generic requirements of and critically evaluate research grant proposals. Understand the appropriate indicators for monitoring and evaluation of research grant impact. Understand the basic principles of project management and the application of a selected set of project management tools in the sphere of research project management. Understand the requirements of project and financial reporting, research contract negotiations and risk management, as well as the identification of intellectual property and protection thereof.

Module 4: Research integrity and ethics – understand the 'research integrity' curriculum (including management of conflict of interest; publication, authorship and peer review ethics; collaboration ethics; ethical issues related to data management and transfer, etc.). Critically reflect and comment on the values involved in responsible research and understand the difference between a 'compliance' and 'personal responsibility' approach to research integrity. Understand the Singapore declaration of research integrity, and other international guidelines. Understand what are considered

'questionable research practices' and 'research misconduct', and how these should be investigated and reported. Understand the basic principles of research ethics in the context of research involving humans, animals and biosafety, and the systems and processes needed to implement ethics review and approval of applicable research.

The Postgraduate Diploma in RMA, as a potential first step in a professional RMA career trajectory, provides a new academic direction for graduates from various disciplinary fields, providing a link to the job market. This is of relevance in the African and potentially other developing world contexts where RMA capacity is lacking, and graduate youth unemployment is problematic.

An International Professional Recognition Council and a Professional Recognition Programme for RMA in Africa

SARIMA initiated the establishment of an International Professional Recognition Council (IPRC)[9] as an autonomous body to lead the development of a framework for a professional recognition programme for RMA. The professional recognition process was conceptualised as a peer recognition process based on a portfolio of evidence of prior knowledge, capabilities, and work experience. This is because in Southern Africa and Africa at large, research managers and administrators enter the profession from a variety of backgrounds and experiences, and do not necessarily have any specialised qualifications or other means to acquire professional status.

The inaugural IPRC, established in 2017, was composed of 15 experienced RMAs from research and research management organisations within the Southern African region, the African continent and internationally. The mix of members provided expertise and consistency to establish and oversee the quality and standards of professional certification of RMAs, which was initially aimed at the Southern African region, but eventually expanded to include the rest of the continent.

In 2020, a nomination and election process was run to re-constitute the Council and three sub-committees were established. The Technical Review Committee conducts the peer review process on applications and confers professional status. RMA training is endorsed through the Training Endorsement Committee to encourage the participation in quality training to maintain and advance competence. The Advocacy Committee serves to address issues related to the advancement and promotion of RMA, the IPRC and the professional recognition programme.

The IPRC launched the STARS Programme in 2021 as an initiative to support the work of the Advocacy Committee. The programme participants are recognised professionals – individuals who possess the *s*kills and experience, who were *t*ested and *a*ffirmed as professionals and who will *r*each out and *s*hare their experience with others in their institutions and their broader professional communities.

The IPRC engages with SARIMA through the SARIMA Professional Recognition Committee (SPRC) that serves as the secretariat of the IPRC and supports the implementation, monitoring and evaluation, quality assurance, marketing and advocacy.

The professional recognition programme recognises prior learning, experience, functional and transferable competence and achievements of research managers at different levels. RMAs can be awarded one of three professional designations:

[9]IPRC – https://iprcouncil.com/.

(i) Research Administrator Professional (RAP) – for emerging professionals.
(ii) Research Management Professional (RMP) – for mid to advanced career research managers.
(iii) Senior RMP (SRMP) – for research managers who serve in leadership or strategic roles.

The programme was first opened to the RMA community across Africa in August 2019 for applications in either the RMP or SRMP category. The RAP designation was introduced in 2021 based on the feedback from the RMA community that the programme also needed to instil a professional identity in early career research managers/administrators and offer them a professional development trajectory. Professional designations are valid for five years, after which it should be renewed or upgraded.

The programme has been evolving and growing steadily. An iterative process involving feedback from the applicants and reviewers is streamlining the application process. The submission process has been advanced to an automated process through an independent website of the IPRC in 2022. Although the current strategic focus of the IPRC is to roll out the programme across Africa, the vision is to extend this to other developing regions, with a similar research and RMA landscape.

To date, the professionalisation programme has benefitted through support and funding from the TDR, WHO and ESSENCE on Health Research Initiative,[10] the Erasmus+ Programme of the European Union, the DSI, South Africa and the SADC Secretariat,[11] the SGCI and the Research Management Programme (ReMPRO) in Africa,[12] among others. Although there has been progress in its strive towards sustainability, there is still a journey ahead to ensure that the professional recognition programme continues to gain traction within the RMA community across Africa.

One of the recognised professionals expressed what the recognition means to her:

> RMP status is the highest honour I cherish most, as I am the only one in Zimbabwe at the moment and other research managers and administrators are encouraged now to take up research management seriously as a profession. I used the PCF to identify the competency areas that I want to improve and are now registered for the PG Dip. A highlight of my involvement in the STARS programme is that my institution has started to consider institutionalising other colleagues if they are recognised professionally, and this has increased interest from my work colleagues to initiate the IPRC application process. (Pillay & Pabla, 2022)

For this professional, receiving the professional status resulted in her project funded contract position being converted into a permanent position (Pillay & Pabla, 2022). The hope is that the examples will be a catalyst for institutional and individual buy-in across the continent.

These initiatives have placed Africa on par with global professionalisation efforts, as summarised by Poli (2021d, 2022c).

[10]ESSENCE on Health Research – https://tdr.who.int/groups/essence-on-health-research.
[11]SADC – https://www.sadc.int/.
[12]ReMPro Africa – https://www.aasciences.africa/aesa/programmes/research-management-programme-africa-rempro-africa.

Joining the Dots: A Professionalisation Escalator

The constituent components resulting from the professionalisation journey have culminated in a professional development escalator (Fig. 4.1.1) that is currently the roadmap that is nurturing and steering the young profession of RMA in Africa.

The PCF, originally designed for the Southern African context but inherently relevant to the other African regions, has become the foundational pillar guiding various routes of professionalisation, which range from the basic building blocks (such as workshops, webinars and conferences) to a suite of articulated training and qualification offerings to the IPRCs professional recognition process. Fig. 4.1.1 shows the professionalisation tools and routes that SARIMA and its partners have developed, and are constantly evolving and enriching, and how they relate to each other and the various stages of professional development.

The concept of the escalator allows individual RMAs to identify at what point they are within their professional development trajectory and what options are available to them to advance to the next level.

Conclusions

The offerings in the African context are still relatively new and have some way to go to be formally recognised and fully adopted. The current focus of SARIMA and the other associations should be on advocating for the PCF to be inculcated into RMA units and organisations across the continent as a tool for recruitment, career planning and development, training interventions and succession planning. It is envisaged that once this has been firmly embedded within the RMA culture and practices as far and wide across the continent as possible, there will be an increase in terms of the uptake of the training interventions and the professional recognition programme. An escalation in the professionalisation of the RMA workforce will ultimately shift the paradigm of research and its impact in Africa. Chapter 2.7 by Ritchie et al. (2023) focus on RMA education, training and professional development in the United States and Europe and compares and contrasts the features of certification, certificates and degree programmes and reviews their development and growth over the past 30 years.

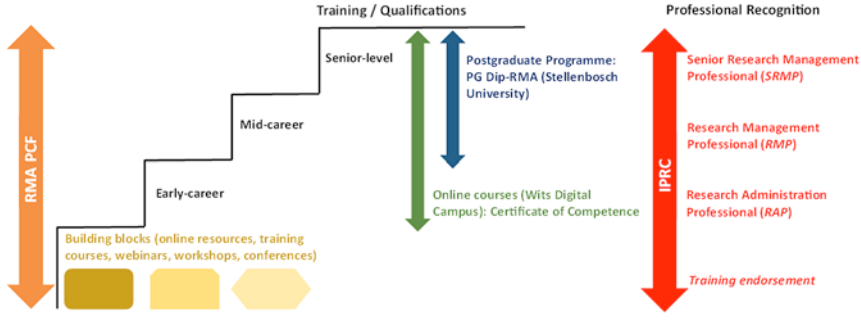

Fig. 4.1.1. Professional Development Escalator for RMA in Africa (Authors).

References

Akindele, A. T., & Kerridge, S. (2019, July 8–11). *Benefits of research management and administration for African universities: The way forward* [Paper presentation]. COREVIP: 2019: The Role of Higher Education Institutions in Promoting the Continental Education Strategy for Africa, Egypt. https://www.researchgate.net/publication/346962911_Benefits_of_Research_Management_and_Administration_for_African_Universities_-_The_Way_Forward

ARMA. (2011). *A professional development framework for research managers and administrators*. Association of Research Managers and Administrators. Retrieved 26 November 2022, from, https://arma.ac.uk/wp-content/uploads/2018/11/PDF-Final.docx

ARMA UK, AESA, Wellcome Trust. (2021). *Global goals: Co-creating Africa–UK research management solutions*. https://arma.ac.uk/global-goals-co-creating-africa-uk-research-management-solutions/

Bertero, M., Farinelli, C., & Poli, S. (2012, April). From academia to management and from management to academia: The search for a new professional route. *NCURA Magazine*, *XLIV*(2), 17–19.

Carter, I., & Langley, D. (2009). Overview of research management and administration. *Perspectives: Policy and Practice in Higher Education*, *13*(2), 31–32. https://doi.org/10.1080/13603100902805359

Consort. (2017). *Scoping work on research management in sub-Saharan Africa*. Wellcome Trust. https://wellcome.org/sites/default/files/current-state-of-research-management-in-africa.pdf

Derrick, G., & Nickson, A. (2014). Invisible intermediaries: A systematic review into the role of research management in university and institutional research processes. *The Journal of Research Administration*, *45*(2), 11–45.

Dyason, K., Williamson, C., Moyo, S., & Jackson, J. (2017). *Professionalization of research management in Southern Africa*. TDR/World Health Organisation.

Goodman, I. (2019). Remembering 50 years in research administration. *The Journal of Research Administration*, *L*(1), 13–19.

Green, J., & Langley, D. (2009). *Professionalising research management*. Snowball Metrics. https://snowballmetrics.com/wp-content/uploads/2009-professionalising-research-management-2.pdf

Hockey, J., & Allen-Collinson, J. (2009). Occupational knowledge and practice amongst UK University Research Administrators. *Higher Education Quarterly*, *63*(2), 141–159.

Holmes-Watts, T., & Engelbrecht, S. (2021, October 26–29). *Research management competencies befitting our 'new normal' during and post Covid-19* [Conference presentation]. Southern African Research and Innovation Management Association (SARIMA) annual conference (Virtual).

Jackson, J., Dyason, K., Mpye, D., & Sobuza, Z. (2020). Building sustainable research management capacity in sub-Saharan Africa. In R. Hanlin, A. Tigabu, & G. Sheikheldin (Eds.), *Building science systems in Africa: Conceptual foundations and empirical consideration* (pp. 210–233). Mkuki na Nyota Publishers Ltd and African Centre for Technology Studies.

Kerridge, S. (2021a). Research administration around the world. *The Journal of Research Administration*, *52*(1), 11–14.

Kirkland, J. (2009). Research management. *Perspectives: Policy and Practice in Higher Education*, *13*(2), 33–36.

Langley, D., & Theron, T. (2018, October 17). *Discovery relies on strong support staff. A lack of trained administrators is holding African scientists back*. Nature Index. https://www.nature.com/nature-index/news/discovery-relies-on-strong-support-staff

Lewis, K. (2014). Constructions of professional identity in a dynamic higher education sector. *Perspectives: Policy and Practice in Higher Education*, *18*(2), 43–50.

Pillay, P., & Pabla, J. (2022, May 4–6). *Professionalisation of research management in Africa* [Conference presentation]. European Association of Research Managers and Administrators (EARMA) annual conference, Norway.

Poli, S. (2022c, March 1–3). *Research into RMA supports professionalism as well as our day-to-day job*. International Convention for Research Administrators (VICRA) (Virtual). https://www.academia.edu/73326244/Research_into_RMA_supports_professionalism_as_well_as_our_day_to_day_job

Poli, S. (2021d, December 6–10). *Research management staff move toward greater levels of professionalism* [Conference presentation]. Society for Research into Higher Education (SRHE) annual conference (Virtual). https://www.academia.edu/63637244/Research_management_staff_move_toward_greater_levels_of_professionalism

Poli, S., Andersen, J., Toom, K., & Wilkman, L. (2014, August). Shaping a new profession in higher education. *NCURA Magazine*, *XLIV*(4), 54–56.

Poli, S., & Toom, K. (2015, June 28–July 1). *What combination of skills and career paths in today's research management and administration (RMA)?* [Conference presentation]. European Association of Research Managers and Administrators (EARMA) annual conference, The Netherlands.

Reynolds, M., & Vince, R. (2004). Organizing reflection: An introduction. In R. Vince (Ed.), *Organizing reflection* (pp. 1–14). Routledge.

Ritchie, J., Lythgoe, E., & Donovan, J. (2023). RMA education, training and professional development in North America and Europe. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 177–186). Emerald Publishing.

Southern African Research and Innovation Management Association (SARIMA). (2022a). *Celebration report 2013–2022* (88 pp.). https://www.sarima.co.za/wp-content/uploads/2022/08/SARIMA-20-YEAR-CELEBRATION-REPORT-WEB-FINAL.pdf

Whitchurch, C. (2008a). Shifting identities and blurring boundaries: The emergence of third space professionals in UK higher education. *Higher Education Quarterly*, *62*(4), 377–396.

Williamson, C., & Dyason, K. (2023). Knowing, doing and being: Transferable competencies for the research management profession. *Journal of Research Administration*, *54*(1), 14–36.

Williamson, C., Dyason, K., & Jackson, J. (2020). Scaling up professionalization of research management in Southern Africa. *Journal of Research Administration*, *51*(1), 46–72.

Chapter 4.2

Professionalisation of Research Support in Hungary Through the Lens of the Non-research Specific Requirements of Horizon Europe

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Abstract

The emergence of Research Management and Administration (RMA) is a result of the pressure on academics to secure research funding from external sources, the increasing competition for these funds, as well as the rising requirements of research funders in terms of reporting and compliance with regulations. This is relevant in the case of the current Horizon Europe Framework Programme for Research and Innovation (HEU) funded by the European Union (EU) which requires important level of professionalisation of the research support staff on behalf of the applicant institutions. Data management, open science, research ethics and integrity, achieving impact beyond academia and the valorisation of project results can be regarded as non-research specific criteria which have to be met by applicant organisations to secure the highly competitive funding. Meeting these non-specific criteria is not always possible in countries whose performance is lagging behind compared to the Western European competitors in EU-funded programmes, such as Hungary.

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Our findings reveal two things. First, research support in Hungary is in its early stage of maturity, similary to many countries in Central and Eastern Europe. In several cases, Research Managers and Administrators (RMAs) do not possess the knowledge necessary to meet the non-research specific criteria even if the knowledge is present at the institution or with other colleagues. Second, due to the continuously increasing participation in EU-funded framework programmes (FPs), the state of research support in Hungary is constantly evolving. There is also willingness to learn and improve capacities, which needs strategic planning, studying others' examples and their adaptability. Such processes can support the capacity building and professionalisation of research offices not only in Hungary, but in countries of the Central and Eastern European region with a similar maturity level of RMA.

Keywords: RMA; research support; professionalisation; framework programmes; non-research specific criteria; Central and Eastern Europe

Introduction

The profession of RMA does not have a long history. It emerged in public research performing organisations (RPOs) and in higher educational institutions (HEIs) after World War II, primarily in the Anglo-Saxon world (Campbell, 2010, p. 1). The rationale behind its development is manyfold, including the pressure on academics to secure research funding from external sources, the increasing competition for these funds, the rising requirements of research funders in terms of reporting and regulations, as well as their complexity and scrutiny (Campbell, 2010; Green & Langley, 2009; Kerridge, 2016; Reiser et al., 2015; Wedekind & Philbin, 2018, p. 44).

In Europe, the launch of the FPs for research and technological development within the European Economic Community in 1984, now the EU, also reinforced the demand for university staff to support researchers who were struggling, for example, with EU-funded grants. Then the cuts in national research budgets made these research programmes significantly more competitive – meaning that 'only the very best proposals are retained for funding' (Wedekind & Philbin, 2018, p. 48). As a result, universities had to increase their investment in the management of their research processes (Virágh et al., 2020).

In line with this, Campbell (2010, p. 1) describes RMAs as those who 'both navigate and administer the increasingly complex world that funds and oversees research'. Similarly, Schützenmeister (2010, p. 23), when talking about 'new research managers', underlines the complex requirements of different funding sources. His list includes requirements which are not necessarily connected to the research itself, such as the inclusion of stakeholders, multidisciplinary research design and promotion of societal goals.

However, the non-research specific requirements of EU-funded research programmes, which are our main focus here, are explicitly highlighted by Wedekind and Philbin (2018, p. 48):

> proposals are evaluated on a wide range of non-research related aspects, such as the socio-economic impact and the visibility of the envisaged project as well as project and risk management processes and competencies. This concretely means that … a European research and innovation project entails the involvement of a wide range of non-research related roles.

This is how we arrive to the overarching concept of RMAs as 'Professionals at the Interface of Science', proposed by Agostinho et al. (2018), which lists a number of responsibilities throughout the research project lifecycle, including outreach and science communication, knowledge and technology transfer, intellectual property management, ethical compliance, project management and so on.

Nevertheless, the long-term lack of recognition and awareness of the RMA profession is evidenced by the fact that, in the evaluation of the research management work carried out under the FP7,[1] no focus was dedicated to the importance of RMAs supporting researchers in carrying out these projects. EU experts (Jansen et al., 2014) only expressed that 'good research management and project success goes hand in hand'. Neither did the report 'Interim Evaluation of Horizon 2020[2]' (European Commission, 2017a) refer to the importance of research managers or their lack in case of countries lagging behind, such as EU-13 countries.[3]

It was not until the report on 'Overcoming innovation gaps in the EU-13 Member States' (European Parliament, 2018) highlighting the lack of experience and capacities of EU-13 countries in the preparation and management of FP-funded projects that there was any reference to the importance of RMAs in research governance mentioned in the public domain. The report underlined that 'another aspect that might help to increase the success rate rests on the improvement of supporting services for writing proposals, project management …' (European Parliament, 2018, p. 118).

Such reference to the rudimentary status of research support in EU-13 countries, including Hungary, is crucial since, as of April 2022, beneficiaries from EU-13 represent only 8.54% of H2020 beneficiaries; whereas they absorb only 5.25% of H2020 contributions. Hungarian beneficiaries represent 0.87% of H2020 beneficiaries, and 0.55% of H2020 grants are received by them. These rates are higher in case of other EU Member States with somewhat similar size but with different research & innovation (R&I) ecosystems, such as the Netherlands (6.23%; 7.78%), Belgium (4.77%; 5.05%), Portugal (2.22%; 1.69%) or Czechia (1.06%; 0.72%).[4]

The current HEU[5] requires a significant level of professionalisation of the research support staff on behalf of the applicant institutions. As the importance of open science, FAIR[6] data management, gender equality, research ethics and integrity, achieving impact beyond academia and the successful exploitation of project results is growing, it becomes a factor of competitiveness how the institutions can provide specialised

[1]FP7 stands for the 7th EU-funded FP for research and technological development running between 2007 and 2013. See https://cordis.europa.eu/programme/id/FP7.
[2]Horizon 2020 (H2020) stands for the 8th FP of R&I running between 2014 and 2020. See https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-2020_en.
[3]Since 2004, there have been 13 new countries added to the EU – Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia.
[4]Data retrieved from Horizon Results Dashboard on 15 April 2022. See https://webgate.ec.europa.eu/dashboard/sense/app/98dcd94d-ca66-4ce0-865b-48ffe7f19f35/sheet/KVdtQ/state/analysis.
[5]The HEU is the 9th FP of the EU funding R&I running between 2021 and 2027. See https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en.
[6]FAIR is an abbreviation for findability, accessibility, interoperability and reuse of digital assets. See https://www.go-fair.org/fair-principles/.

support for their researchers to meet these criteria which are not research specific and should not belong to the core activities of researchers.

The response of institutions to meet these non-research specific criteria can vary, for example, setting up a regulatory framework, assigning specialised human resources and establishing dedicated positions. By assessing the current state-of-the-art and mechanisms of the research support structure of the Hungarian RPOs, including HEIs and public research institutes (RIs), we shall get a picture of the current state of RMA in Hungary and the challenges these professionals face. Similar exercises might support countries with a similar or lower maturity level of research support services to identify their strength and weaknesses and develop strategic plans for their improvement.

The Focus of the Research and the Research Question

Our investigation aims to identify and assess the capacities and the level of professionalisation of research support in Hungarian RPOs through the lens of non-research specific requirements of Horizon Europe, such as the division of tasks during the research lifecycle, data management and open science, gender equality, research ethics, communication and valorisation of project results. The supporting questions are as follows: what kind of expertise is provided to researchers in the case of non-research specific requirements of the Horizon Europe Programme? To what extent are RMAs prepared to offer in-depth non-research specific support? Are there institutional strategies and/or answers to meet these requirements or are only ad hoc solutions offered? Which non-research specific requirements can be easily met and which necessitate additional efforts in terms of human resources, capacity building or professionalisation?

Methodology

The mixed method research design relies on an anonymous online questionnaire and on in-depth online interviews, as this was the most appropriate way to retrieve the relevant information due to the (in some cases extreme) workload of RMAs working in Hungarian organisations.

At the time of the investigation, 65 HEIs were operating in Hungary, ranging from minor universities of applied sciences to top research universities. The Hungarian Research Network (HUN-REN)[7], formerly known as the Eötvös Loránd Research Network (ELKH) comprises 11 research centres and 7 RIs.

The subject of the research includes those universities and RIs which participated in H2020. The list was drawn by Horizon Dashboard search and includes 44 entities: 26 HEIs and 18 public RIs. In this way, 40% of all Hungarian HEIs, while all ELKH research centres were approached with the questionnaire.

Questionnaire

The questions aimed to provide an overview of the status quo of the context and capacities of the organisations with regard to the most crucial issues of Horizon Europe's non-research specific requirements. Thus, the main topics included the

[7]https://hun-ren.hu/en.

institutional frameworks and strategies regarding participation in international R&I projects, research data management and open science, gender equality plan (GEP), research ethics and integrity, science communication and dissemination of research results, planning and implementation of R&I projects, as well as exploitation and marketisation of the results. To make it easy-to-answer and not requiring a lot of time, most questions required only Yes/No responses. Respondents could add any further comments after each topic in the form of long answers. No difference was intended to be made whether the participant was employed at the central level or at departmental/institutional level of the given organisation.

The questionnaire was open between 1 March and 29 March 2022. E-mails were sent to the direct contacts collected by the authors, as well as to various lists maintained by Hungarian National Contact Points.

In total, 26 questionnaires were completed representing 59% of the targeted population: 16 respondents (62%) from HEIs and 10 respondents (38%) from RIs.[8] As almost half of the Hungarian RPOs are based in the capital Budapest and the other half are situated in other regions in the countryside, the responses gathered are in balance with this overall geographical division of Hungarian organisations (see Fig. 4.2.1).

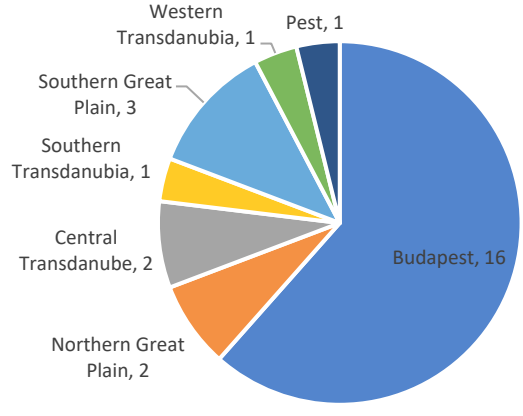

Fig. 4.2.1. Institutional Background of the Respondents and the Geographical Location of Their Institute According to NUTS-2 Regions.[9]

The majority of respondents were research managers (n = 16). Three in leadership positions and three research project assistants answered, whereas two researchers, a librarian and a research data steward were also among the respondents.

[8]It is important to add that to secure privacy and reach the highest number of possible respondents, the survey did not ask the respondents to specify their organisations nor to limit the number of respondents from each organisation. Nevertheless, based on the responses it is not likely that more respondents filled in the questionnaire from the same organisation.
[9]The seven Hungarian (NUTS-2) regions are: Central Hungary, North Hungary, North Great Plain, South Great Plain, South Transdanubia, West Transdanubia and Middle Transdanubia. See https://ec.europa.eu/eurostat/documents/345175/7451602/2021-NUTS-2-map-HU.pdf.

Online Interviews

The selection criteria for the online interviews included the organisations' performance in H2020; the size of the institution (e.g. number of faculties, students and researchers); research portfolio (single or multiple focus); geographical location (capital or countryside region); and willingness to participate in an in-depth interview.

The authors aimed at selecting a diverse range of HEIs and RIs (see selection criteria above), so eight universities and three RIs were contacted directly. Few of them responded, so in the end, three universities (two from Budapest and one from Northern Hungary NUTS-2) and two RIs (both from Budapest) undertook the interview. One in a leading position, two research managers and two research assistants participated.[10] To get a more inclusive picture, the authors reached out and interviewed two representatives of the Hungarian research funding organisation as well.

Assessment and Discussion

Background Notes on the Context

Different organisational structures of research support (e.g. centralised and decentralised) exist in parallel among Hungarian RPOs, thus their daily operation also varies. In several cases, we seldom find organic development or continuity of the research support offices (RSO) due to the numerous reorganisations[11] initiated in recent years. The two major initiatives are explained briefly below.

Hungarian Research Network

In 2018, the reorganisation of the entire R&I sector was initiated in Hungary. On 2 July 2019, the Hungarian Parliament adopted a Bill (Act no. LXVIII of 2019[12] on the structure and financing of the research, development and innovation system) which detached the network of RIs from the Hungarian Academy of Sciences (HAS) and made them independent entities.[13] The new law renders the research network (named HUN-REN) under a governing body that consists of 13 members, all of them appointed by the Prime Minister.

The HUN-REN[14] research network currently comprises of 11 research centres, 7 RIs and 116 additional supported research groups operating at universities and other public

[10]Even though the invitation for interview stated clearly that the name of interviewee and their affiliation would not be included in the chapter, approached representatives of the organizations were reluctant to participate. The authors learned from unofficial channels that interviewees are not allowed to participate in the research even anonymously without prior approval from senior leadership.

[11]These changes either occurred based on internal decisions of the RPOs, like the merger of smaller colleges and/or medical universities into one big institution or due to governmental initiatives. The in-depth overview and analysis of recent changes in the field is not the subject of this study, it is only providing information for a better understanding.

[12]Act no. LXVIII of 2019 on the amendment of certain acts to transform the structure and financing of the research, development and innovation system See https://njt.hu/jogszabaly/2019-68-00-00#foot1.

[13]For more information check out https://abouthungary.hu/news-in-brief/minister-reorganization-of-science-academy-to-boost-rdi-in-hungary; https://cz.boell.org/en/2019/03/12/battle-academy-war-academic-freedom-hungary-enters-its-next-phase; and https://www.nature.com/articles/d41586-019-02107-4.

[14]See https://hun-ren.hu/en/about-hun-ren/about-us.

institutions, conducting basic and applied research, exploring the most varied disciplines of mathematics and natural sciences, life sciences, social sciences and the humanities.

The Shift in Governance Models for Hungarian Universities

In parallel, in public education, the financial remodelling of the higher education system had been initiated. The goal of the model change was to boost universities' overall performance and to attract new private resources through a more flexible regulatory environment.[15]

Corvinus University of Budapest began as a pilot, then became the model for the entire restructuring of the university system, when it was transformed from a state-funded institution into one that is maintained by a non-profit foundation in 2019. This change also meant that the university was no longer controlled and financed by the government, but a foundation. As of August 2021, only six HEIs remained under state maintenance, the vast majority of them are located in Budapest. However, negotiations are taking place on the transformation of these institutions as well.[16]

General Observations on the Operation of RSOs

As it is highlighted above, the engagement in EU-funded R&I projects and meeting all the requirements necessitates significant support from the RSO. Therefore, the authors aimed to reveal whether there was any such organisational unit in the surveyed institutions. A total of 20 respondents (77% and almost the same ratio of the interviewees) confirmed its existence, whereas 6 reported the lack of such a unit. Each organisation belonging to the latter category are RIs. In their case, half of them reported that despite the lack of RSO there is strategy for engagement in international research projects, and apart from one institution, the RPO leadership is in favour of participation in such projects. In one case, where there is no RSO and no support of leadership, only a central unit is responsible for the financial management of running projects.

Interviewees also revealed that adequate financial resources for the efficient operation of RSOs were rarely allocated during the reorganisation(s) of the institutions under investigation.

In most cases, the RSOs typically consist of only a few but devoted staff, who are extremely overwhelmed (which is the case in several other countries as well, see Shambrook, 2010; Tabakakis et al., 2020). It was also learnt from the interviews that many RMAs have research backgrounds or they are still active researchers thus playing dual roles. This means that if they want to take part in EU-funded research projects, they are responsible for all the activities which should be generally shared by researchers and RMAs; screening calls, seeking consortia, contribution to the preparation of the different parts of the proposal. Then, when the project is awarded, responsibility for coordinating contracting within the organisation, managing not only research but financial, administrative and communication activities also must be done. While it is rather general that researchers become research managers, examples when researchers act as research managers were also learnt from the interviews and the survey. This situation is perceived unfortunate as researchers cannot carry out their work in full potential if they also have to carry out all management related tasks for the funded projects.

[15]For more information check out https://publicgoods.eu/model-change-hungarian-tertiary-education; https://kozjavak.hu/node/579 and https://4liberty.eu/from-public-to-private-universities-model-change-in-hungarian-higher-education/.

[16]See https://eduline.hu/felsooktatas/20220119_BME_targyalasok_modellvaltas.

Strategic Documents and Leadership Support

Before focussing on meeting non-research specific criteria, following the example of Green and Langley (2009), the investigation aimed to reveal the context in which the research support operates. If there is a decision by RPOs to get engaged in international R&I collaboration, the main goals and the related actions are laid down in an institutional strategy. Based on international practices, it is becoming more common for RMAs to take an active role in such processes (Krasinski, 2021).

As regards the main institutional frames for participation in international R&I projects among the organisations taking part in the assessment, it was found almost two third of the institutions (n = 16, representing 62%) have institutional R&I strategy. Although a vast majority (n = 24, representing 92%) of the institutional leadership favours participation in international R&I projects, only 12 (46%) of the respondents reported to have a dedicated strategy for participation in international R&I projects. Interviewees added that even if such documents exist they are not specific enough and lacks a real strategic approach. Furthermore, outstanding support from the senior leadership for the successful participation in Horizon Europe was confirmed only in a very few cases both in the interviews and the survey.

Preparation for Horizon Europe in General

Examples from European RPOs

The preparation of international R&I projects needs an important amount of time and resources, therefore last-minute submission, even if the institution has only a partner role, is a waste of resources (Zsár, 2022). Both the institutional leadership and the researchers have to understand the life cycle of FP programmes and act not only when the calls are published, but shall try to get informed and engaged during the planning phase of the policy, then at the elaboration of the draft Work Programmes. In this way, important topics for the research organisations can become part of the calls, thus before they are published, the preparations of the proposal can be already on the way (McCarthy, 2022a).

As researchers have different levels of interest in participating or coordinating EU-funded projects, the offer provided by the RSO has to consider such differences. Potential winners need coaching and mentoring, newcomers need training and one-to-one support, whereas those who are not interested, first, need to learn success stories from participation in FPs highlighting the benefits of participation (McCarthy, 2022b).

To provide such tailor-made and proactive support for researchers, research organisations across Europe developed a number of practices which can be showcased as good practices. For instance, the allocation of roles and competences of RMAs altogether is carried out by the Politecnico di Milano in order to strengthen the consultancy quality within the RSO, to manage and use data as well as to give researchers the opportunity to trust in services offered (Grotti & Suevo, 2021). Charging a fee on the project for the services provided by the RSO is also becoming common, such as the case of the University of Vienna (Fogel, 2021). Developing proactive research support services, based on data and communication, can be also highly important by addressing silent needs of researchers (Grotti & Suevo, 2021).

Personal meetings of pre-award funding advisors and post-award RMAs are regularly organised by a number of institutions, including the RSO at the University of Paris. For current updates, news, and knowledge sharing, such meetings are held biweekly, but for more in-depth knowledge exchange and training, such meetings should be held at least quarterly (Mereu, 2021).

Skill development workshops (e.g. intervision sessions within the research support team, Kanters & Le Large, 2018; and trust building workshops with researchers, Krasinski, 2021) are also organised at several research organisations to handle the stressful and hectic workload and to build good working relations within the teams. This can be complemented by MicroSoft Teams/Slack channels to keep in touch and discuss challenges and rules but also to support community building.

The commitment and motivation for RMAs can be increased through numerous incentives, such as self-development and training opportunities, networking, clear career path and so on. Participation in European and international network of research managers, such as EARMA,[17] SRAI,[18] NCURA,[19] etc. can be part of such motivational factors as conferences, trainings and the participation of other type of events or networks not only provide important up-to-date information to participants, but platform for practical knowledge exchange (Mereu, 2021).

It is of crucial importance that researchers and potential principal investigators (PIs) are aware of the RSO and RMAs, to whom they can turn with their questions and use the services provided during the whole lifecycle of the funded project. Based on the example of the University of Paris, it also proved to be highly useful that the RSO presented all the advantages to participate in research projects (e.g. bonuses and teaching release) for researchers (Mereu, 2021).

The Situation in Hungary

However, in Hungary, apart from a few good practices of organisations with a significant track record in terms of H2020 participation, it is rare to find wide-spread examples of conscious, tailor-made activities either generally or specifically with regard to the preparation or the participation in HEU that was reported at the institutional level. Organisations rarely took time to learn from the experiences of H2020 participation or identify new areas for potential cooperation.

RMAs participated in the FP European Commission (EC) info days, trainings and webinars organised by the National Research, Development and Innovation Office (NRDIO)[20] and/or the EC, as they realised that acquiring information on Horizon Europe is crucial for the successful completion of their work. In some cases, institutions' senior leadership ordered RSO staff to attend in such events.

Therefore, individual considerations are still strong in initiating proposals – they are typically bottom-up initiatives coming from the researchers, however, in some cases there is also top management pressure to generate revenue from national and EU resources. As it was underlined by the interviewees, young researchers (usually up to PostDoc level) are generally more encouraged to apply for grants and submit proposals. Participation in a Horizon Europe project provides EU-wide visibility, which is a very strong motivation for researchers. Validating the experiences of European counterparts, the existence of a well-functioning RSO can motivate researchers to apply as they 'dare to ask questions and can receive detailed answers thus they are not left alone' (interviewee from university based in Budapest).

[17]EARMA stands for the European Association of Research Managers and Administrators. See https://earma.org/.
[18]SRAI stands for the Society of Research Administrators International. See https://www.srainternational.org/home.
[19]NCURA stands for the National Council of University Research Administrators. See https://www.ncura.edu/.
[20]See https://nkfih.gov.hu/about-the-office.

Effective engagement in international projects, including their preparation and management, also necessitates the provision of predictable incentives both for the academics and the support staff, for example, travel cost and subsistence allowance paid for researchers to attend and actively contribute to proposal writing seminars abroad, or opportunity for career advancement and so on.

Financial support provided for the elaboration of collaborative international projects is provided by 9 (35%), a bonus following the awarded grant is provided by 7 (27%) organisations. A total of 15 respondents (58%) reported the lack of any such financial motivational scheme. For these institutions, the only option is to actively encourage and convince the researchers to participate in EU-funded projects; the so-called 'champions', well-respected, influential individuals play a crucial role in this mission.

The interviewees also reported, in some cases, the availability of financial incentives for researchers to apply for individual research grants or participate in collaborative projects. One can differentiate (at least) two categories, such as follows: (a) researchers receive financial support only in case their proposal is winning, while in the other case (b) the organisation is already willing to pay for submitting a proposal. The amount of remuneration depends on the workload or the level of involvement of the researcher in the project. Other interviewees reported that their organisation is considering launching similar financial incentives. In case of patents, it was also learnt that if patent or know-how is sold on the market, researchers might receive some reward.

Addressing the Non-research Specific Requirements of Horizon Europe

Research Data Management and Open Access

A data management plan (DMP) is the required element for the right management of data.[21] DMPs are requested from funded projects and not from institutions, however, the knowledge related to sound data management is considered as an important asset of all applicants.

A total of 16 respondents (62%) confirmed the existence of a research data steward in the institution, whereas 7 reported (27%) the lack of such a position (Fig. 4.2.2). Interestingly, in the case of institutional procedures related to the management and

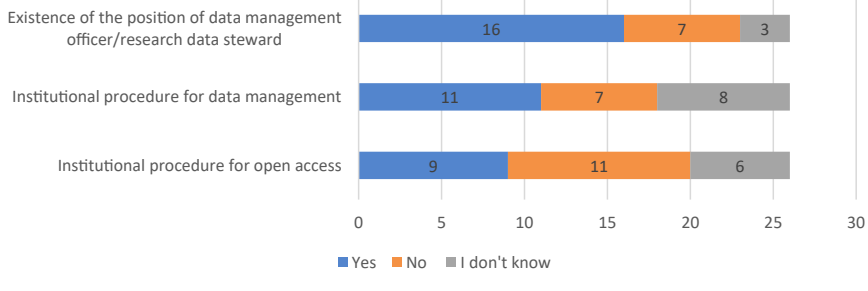

Fig. 4.2.2. Institutional Settings Related to Data Management and Open Access.

[21]Retrieved 19 April 2022, from, https://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/open-access-data-management/data-management_en.htm.

accessibility of research data, seven respondents (27%) (however, not entirely the same group of respondents) confirmed the lack of any documents pertaining to that topic. The need for guidance supporting open access to research data and results is underlined by the respondents: only 9 respondents (35%) referred to an already existing institutional procedure, whereas 11 respondents (42%) confirmed its lack.

A few of the interviewees claimed that in their organisation, there is no dedicated research data steward. Moreover, in certain cases there is even no intention (from the senior leadership side) to employ one or simply there is no budget which could be allocated to employ one. Generally, librarians are prepared for data management instead of RMAs.

Open access refers to the practice of providing online access to scientific information that is free of charge to the end-user and reusable. In case of Horizon Europe, open access of publications is a condition, whereas the Commission has extended the Open Research Data (ORD) pilot to ensure the accessibility of research data with the aim to 'improve and maximise access to and re-use of research data generated' by the funded projects.[22]

Apart from some good examples, more than 60% of the RPOs who participated in the online interviews are facing difficulties in handling open science/open access/open data related issues. Large sound of data are being produced in many scientific field or research area (e.g. microscopic analysis), which requires appropriate internal storage capacity. As a consequence, they cannot be shared easily with the public, thus in some cases it is available only upon individual request. Also, in case of other measurement results, modelling algorithms and simulation, it is questionable how to keyword, index, store or publish them, which is a challenge both for researchers and research managers in the elaboration of the DMPs. Interviewees identified 'research data management and open access' as one of the main areas, in which they and the support they provide to researchers should improve, especially in regional comparison.

Gender Equality Plan

As the EC strives to reinforce gender equality across various policies and fields, it is also considered as a cross-cutting priority by the HEU. In practice, it means that for most legal entities, including the organisations under investigation, the elaboration and the implementation of a GEP is an eligibility criterion from the year 2022.[23]

GEPs have been either completed or in progress in case of all examined institutions. A total of 20 respondents (77%) confirmed the existence of the GEP, the other (23%) added that its elaboration is in progress. One indicated that the plan for equal opportunities was in place since 2010, whereas a dedicated GEP has been elaborated only recently. For those organisations where a GEP is already in place, only 10 respondents (38%) reported that the implementation of the strategy is followed up by any monitoring process. One respondent even doubted that there would be any resources to carry out such a monitoring activity within the institution.

Interviewees confirmed that GEPs already existed before it became the pre-condition for Horizon Europe participation, for instance, in those institutions where gender

[22]Retrieved 19 April 2022, from, https://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/open-access-data-management/data-management_en.htm.

[23]Retrieved 19 April 2022, from, https://ec.europa.eu/info/research-and-innovation/strategy/strategy-2020-2024/democracy-and-rights/gender-equality-research-and-innovation_en.

studies are being taught or research is being conducted in the field. In other cases, a need for a GEP emerged due to the different culture/background of the colleagues together with sensitisation trainings. Nevertheless, both the interviewees and survey respondents confirmed that there are significant differences in the quality of delivered GEPs.

Research Ethics

Horizon Europe introduced several changes concerning the ethics appraisal process for EU-funded research projects. Key changes reflect three areas: research integrity, ethics self-assessment and ethics appraisal process.[24]

Rather divisive answers were collected in the case of research ethics (Fig. 4.2.3). Less than half of respondents confirmed the possible choices (existence of research ethical committees: $n = 12$ representing 46%; institutional procedures monitoring research ethics: $n = 9$ representing 35%; institutional code of research integrity: $n = 7$ representing 27%). Only one respondent added that the institution follows the European Code of Conduct for Research Integrity (ALLEA, 2017).

Science Communication, Communication and Dissemination of Research Results

Transforming project results into concrete benefits for the society, maximising the scientific, social, economic, technological and policy value of the EU-funded projects, is required. According to the Model Grant Agreement,[25] 'the beneficiaries must promote the action and its results by providing targeted information to multiple audiences (including the media and the public), … and in a strategic, coherent and effective manner'.[26]

Based on the responses, Hungarian RPOs are committed to the successful communication and dissemination of research results. A majority of respondents ($n = 20$ representing 77%) confirmed that the unit responsible for external communication and/or public relations is also responsible for the communication of the projects, their results and outcomes. An even higher percentage of respondents ($n = 25$ representing 96%) added that there are numerous initiatives striving to promote research results with the

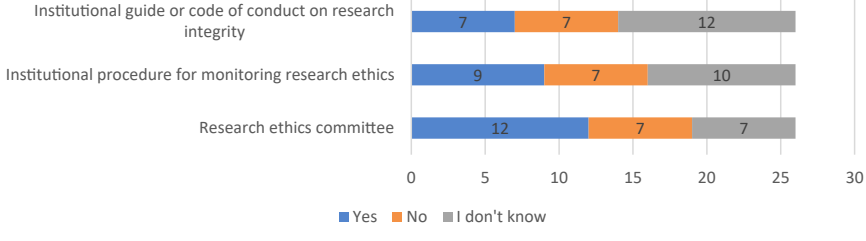

Fig. 4.2.3. Institutional Practices and Procedures Related to Research Ethics.

[24]Retrieved 19 April 2022, from, https://www.horizoneuropencpportal.eu/academy/ethics-research-and-research-integrity.

[25]Annotated Model Grant Agreement (AGA). Retrieved 19 April 2022, from, https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/aga_en.pdf.

[26]Retrieved 19 April 2022, from, https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/agr-contr/general-mga_horizon-euratom_en.pdf.

active involvement of the general public, including events such as the Researchers' Night,[27] Girls' Day[28] and so on.

A total of 21 respondents (81%) indicated that their organisation cooperates with the business sector and non-governmental or civil society organisations to promote research and its results, through various forms, including summer camps for high school students, mentoring and internship for BSc, MSc and PhD students and so on. However, a lower number of respondents ($n = 9$ representing 35%) reported the availability of colleagues who is specifically charged with the communication and dissemination activities of international projects. Among respondents, 12 (46%) confirmed the lack of such colleagues and one added that such efforts have to be carried out by the researchers if they have time for that at all.

Preparation and Implementation of International Projects

As mentioned earlier, the limited in-house skills on drafting proposals or project management of RPOs across EU-13 countries were considered a barrier to the successful participation in H2020 (European Parliament, 2018). The findings can provide additional insights on the still relevant problems.

Among respondents, 23 (88%) indicated the existence of an institutional procedure to manage the different units in case of the preparation and implementation of international projects. There were two respondents who reported the lack of such an institutional procedure and provided detailed explanation. One respondent said that there is a general procedure for the preparation, approval and submission of the proposals (by the organisation), however, for the management, the institution hardly has capacities and resources to set up a team and working procedure. Another respondent explained that administrative and financial support is provided by one or two colleagues to the researcher who has to take the responsibility for all the content related work.

The division of work between the researcher and the RSO in case of the preparation and implementation of international projects can be used as a proxy for the overall maturity level of the availability of research support in Hungarian RPOs. A significant number of respondents ($n = 12$ representing 46%) confirmed that most of the work is carried out by the researcher, whereas RMAs are responsible for minor tasks. In two cases, it was reported that the researcher is responsible for carrying out all the tasks in their entirety, whereas five claimed that the researcher is responsible for about three-quarters of the work including research, coordination and management. Only six respondents reported that there is good team work between the researcher and the research support colleague, they prepare and coordinate the project by supporting each other, sharing the work equally.

Exploitation and Valorisation of R&I Results

According to the Model Grant Agreement, beneficiaries receiving funding under the grant must – up to four years after the end of the action – use their best efforts to exploit their results directly or indirectly, in particular through transfer or licencing.[29]

In terms of exploitation and valorisation of research results, the majority of respondents ($n = 23$ representing 88%) claimed that there is continuous cooperation

[27]Retrieved 12 February 2022, from, https://marie-sklodowska-curie-actions.ec.europa.eu/event/2022-european-researchers-night.
[28]Retrieved 12 February 2022, from, https://lanyoknapja.hu/.
[29]Retrieved 19 April 2022, from, https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/agr-contr/general-mga_horizon-euratom_en.pdf.

between the RPO and industrial partners. Among respondents, 16 (62%) indicated the existence of a unit which is responsible for supporting technology transfer and/or the exploitation and valorisation of research results. The same proportion (even if not the same respondents) confirmed that there are expert colleagues providing support in the field of intellectual property rights (IPR) and commercialisation. Two of those RPOs which lack RSOs have technology transfer units and three of them have experts for IPR, though in some cases it is an external expert.

As the interviewees reported, applicants to Hungarian national research programmes are required to indicate the number of new patents created as a result of the implemented project. However, most of these patents are terminated after the maintenance period (if they are not utilised by the market) because the institute is not willing to undertake the further payment. One can note that certain institutions pay more attention to the interest of the institution and the researchers and not accepting all the conditions dictated by companies.

Conclusions, Recommendations and Future Discussion

The complexity of R&I funds are rising internationally and this is even more true in the case of the EU-funded Horizon Europe Programme. As the performance of Hungary as well as its counterparts among EU-13 countries has not reached their full potential in the participation of EU-funded R&I programmes, this research aimed to understand the level of the professionalisation of RMA among the Hungarian RPOs through their capacities answering the non-research specific criteria of HEU. By doing so, the aim was to set a benchmark and provide recommendations for future development for countries having similar or lower maturity level of research support.

Context of Research Support in Hungarian RPOs

The strategic approach towards the engagement of international R&I projects is not wide-spread so far; although institutional leadership generally favours the participation, less than half of the respondents confirmed the existence of dedicated strategy for the engagement of international projects.

The organisational structure of the research support at Hungarian RPOs are highly diverse and generally lack organic development. Although a majority of the organisations under investigation reported the existence of RSOs, some institutions still lack such a unit. If there is such a unit, it typically consists of a few devoted staff.

Strategic activities with regard to the preparation and participation in HEU projects were rarely reported at the institutional level; although certain incentives were mentioned by less than half of the respondents. Thus, in initiating proposals, typically individual considerations matter, however, the visibility of RSOs and their services can motivate researchers to seek EU funding opportunities.

Recommendations to Address Non-research Specific Criteria

Regarding data management, as it seems a slightly unknown field for people working in research support, deeper cooperation should be maintained between RMAs and librarians, as in many cases, FP proposals and projects necessitate a detailed awareness of research data management procedures.

As open access is one of the most critical issues in Hungarian RPOs; a better understanding of the HEU requirements is needed, first. Second, RMAs need guidelines

how to use 'as open as possible as close as necessary' principle in reality and work closely with librarians. Third, each institution should initiate an in-depth overview of the research data which can be potentially handled and then build up the process of internal data management and, if possible, making it accessible.

Regarding GEPs, once they are approved, organisations are supposed to continuously keep an eye on their implementation, carry out the regularly monitoring tasks and, if necessary, adjust them to the real needs and problems. Moreover, in case of all proposals, both RMAs and researchers have to bear in mind the gender related requirements towards the set-up of the proposals, research teams and the implementation of the whole research as such.

To ensure that all research activities meet the general standards of research ethics and integrity, beyond the set-up of research ethic committees, it is worth to adopt The European Code of Conduct for Research Integrity at the institutional level.

As FP-funded projects and their promotional activities have to meet the needs of the general public, it is important to plan and use interactive and innovative tools. For that, specific expertise is needed, therefore having a colleague experienced in marketing and promotion, responsible for supporting communication and dissemination efforts can be highly useful.

As most Hungarian RPOs involved in the investigation have a good track record in organising specific occasions and programmes for youngsters or the public at large, these initiatives should be kept and transformed to the basis of research carried out through co-creation, action research and citizen engagement.

The concept of exploitation does not necessarily mean commercialisation. Thus, all RPOs should embrace the inclusive approach of exploitation and plan related activities regardless of whether they are purely scientific or rather in line with the interest of citizens. In the case of the development of new methodologies, toolkits, recommendations, the most efficient measure for exploitation could be the development of training material and the provision of trainings.

In case of commercialisation, more knowledge would be needed to find the right balance between the provision of open access as well as the potential exploitation routes and related obligations. For that, the help of an internal or external advisor on IPR can be useful – depending on the size of the institution. Benefitting researchers following the selling of a patent or know-how should be also taken into consideration as another incentive to produce applicable results.

Future Directions

Based on these findings, it can be stated that research support is at its early stage of maturity in Hungarian RPOs, and that, however, due to the continuously increasing participation in EU FPs, this level is constantly evolving. In many cases RMAs do not have the knowledge necessary to meet the non-research specific criteria of HEU projects; even if the knowledge is present at the institution at other colleagues – for instance, in case of data management, research ethics, communication, technology transfer – it is not always easily available to the research support.

Nevertheless, there is willingness to learn and improve capacities, which needs strategic planning, studying others' examples and their adaptability. For that, more in-depth investigation would be needed to understand the operation of research support abroad as well as the needs and possibilities of domestic institutions. Such efforts shall support the capacity building and professionalisation of research offices not only in Hungary, but in countries with similar levels of maturity of their communities of RMAs.

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References

Agostinho, M., Moniz Alves, C., Aresta, S., Borrego, F., Borlido-Santos, J., Cortez, J., Lima Costa, T., António Lopes, J., Moreira, S., Santos, J., Trindade, M., Varela, C., & Vidal, S. (2018). The interface of science: The case for a broader definition of research management. *Perspectives: Policy and Practice in Higher Education*, *24*(1), 19–27. https://doi.org/10.1080/13603108.2018.1543215

ALLEA. (2017). *The European code of conduct for research integrity*. All European Academies. https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/european-code-of-conduct-for-research-integrity_horizon_en.pdf

Campbell, D. R. L. (2010). *The role and development of the research administration profession in higher education*. Washington State University. http://www.dissertations.wsu.edu/Thesis/Spring2010/d_campbell_041810.pdf

European Commission. (2017a). *Interim evaluation of Horizon 2020: Commission staff working document*. Directorate-General for Research and Innovation. http://dx.publications.europa.eu/10.2777/220768

European Parliament. (2018). *Overcoming innovation gaps in the EU-13 Member States*. European Parliament Scientific Foresight Unit (STOA). https://www.europarl.europa.eu/RegData/etudes/STUD/2018/614537/EPRS_STU(2018)614537_EN.pdf

Fogel, S. (2021, March 4). *Research support office at the University of Vienna. The future of the RMA profession* [Event]. EARMA Digital Event. https://earma.wildapricot.org/event-4155067

Green, J., & Langley, D. (2009). *Professionalising research management*. Higher Education Founding Council for England & Medical Research Council. https://www.snowballmetrics.com/wp-content/uploads/2009-professionalising-research-management-2.pdf

Grotti, S., & Suevo, S. (2021, September 28). *EARMA Digital Event: RMAs and informal power: How can we influence institutional research strategies and nudge researchers towards funding and excellence?* https://earma.wildapricot.org/event-4387879

Jansen, W., Warmenhoven, B., Fikkers, D. J., & Poel, M. (2014). *Study on assessing the research management performance of framework programmes projects*. European Commission. https://www.technopolis-group.com/wp-content/uploads/2020/02/Research-Management-Performance-of-projects-in-FP6-FP7-and-Horizon-2020.pdf

Kanters, E., & Le Large, S. (2018, September 24). *Intervision session* [Meeting]. BESTPRAC WG meeting, Belgrade, Serbia. https://bestprac.eu/events/cost-tn1302-events/workshop-belgrade-september-2018/

Kerridge, S. (2016). *RAAAP: Research administration as a profession*. https://www.acu.ac.uk/membership/member-communities/research-knowledge-information/articles/raaap-survey

Krasinski, Z. (2021, September 28). *Role of RMAs in the process of widening participation in Horizon Europe* [Event]. EARMA Digital Event. https://earma.wildapricot.org/event-4387879

McCarthy, S. (2022a, February 14). *Profile of researchers with high success rates in Horizon Europe* [Webinar]. 12th webinar hosted by the V4WB RMA Network project. https://hetfa.eu/wp-content/uploads/2022/03/RMA_presentation_SeanMcCharty.pdf

McCarthy, S. (2022b, March 30). *Profile of research support offices with high success rates* [Conference]. Final conference of the V4WB RMA Network project, Budapest, Hungary. https://hetfa.eu/wp-content/uploads/2022/04/PROFIL1.pdf

[30]https://nkfih.gov.hu/about-the-office

Mereu, S. (2021, September 28). *RMAs and informal power: How can we influence institutional research strategies and nudge researchers towards funding and excellence? RMAs and informal power: How can we influence institutional research strategies and nudge researchers towards funding and excellence?* [Event]. EARMA Digital Event. https://earma.wildapricot.org/event-4387879

Reiser, R. A., Moore, A. L., Bradley, T. W., Walker, R., & Zhao, W. (2015). Supporting faculty efforts to obtain research funding: Successful practices and lessons learned. *The Journal of Faculty Development*, *29*(3), 43–50.

Schützenmeister, F. (2010). *University research management: An exploratory literature review*. UC Berkeley, Institute of European Studies. https://escholarship.org/uc/item/77p3j2hr

Shambrook, J. (2010). *Health behavior, occupational stress, and stress resiliency in research administrators working in the academic environment* [Doctoral dissertation]. Walden University.

Tabakakis, K., Sloane, K., Besch, J., & Quyen G. T. (2020). Burnout and its correlates in research administrators. *Research Management Review*, *24*(1), 1–21.

Virágh, E., Zsár, V., & Balazs, Z. (2020). *Research management and administration: The relevance of special education and training programs*. HETFA Working Paper Series 2020. Budapest. https://doi.org/10.13140/RG.2.2.29780.83847. ISSN: 2062-378X.

Wedekind, G. K., & Philbin, S. P. (2018). Research and grant management: The role of the Project Management Office (PMO) in a European research consortium context. *Journal of Research Administration*, *49*(1), 43–62.

Zsár, V. (2022). *DOs and DON'Ts of successful consortium building: How can RMAs provide the best support in setting up consortia?* [Meeting]. Third BESTPRAC-EARMA virtual meeting. https://bestprac.eu/fileadmin/mediapool-bestprac/documents/EARMA-virtual-202201/DOs_and_DON_Ts_of_successful_consortium_building_Zs%C3%A1r.pdf

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Chapter 4.3

Professional Staff in Support Services in Education and Research – How to Connect Research with Practice

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Abstract

This chapter provides first insights into identities and communities of educational staff in one of the largest, multi-campus universities in Italy. This group of managers refers to those supporting teaching and learning in the light of emerging demands from the European strategy for universities which is positioning education at the frontline in today's higher education institutions (HEIs).

These insights are compared with common issues surveyed among research managers and administrators (RMAs) working in the same as well as in other international HEIs using Evans' 'restricted' and 'extended' models of professionalism.

Among findings, educational managers (EM) show awareness of their identity only as 'professionals' while RMAs may feel like 'hybrid' profiles. Unlike RMAs, EM report not having a strong sense of belonging to one community but feeling like they belong to a plethora of groups. In conclusion, there are no

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dominant 'extended' or 'restricted' traits for any of the two groups and they have both these attitudes to a certain extent as the results of this chapter will further explain.

Keywords: Educational support managers; RMAs; dissemination; identity; community; engagement

1. Introduction and Background

The contemporary higher education (HE) sector can be depicted globally as a very complex working environment (Barnett, 2008; Callender et al., 2020; Clark, 1983, 2008; Connell, 2019). This overview embraces a worldwide pandemic, with implications from the move from more traditional to hybrid forms of teaching and learning; an unpredictable war now in the core of Europe, with effects spreading to the university level incl. internationally. These points, combined with recurrent, long-term challenges posed by climate change, social inequalities, and with new waves of unrests driven by geopolitical trends that seem unstoppable in the short as well as in the long run, may seem like insurmountable challenges.

These issues emphasise the opportunities surfacing in a post-pandemic world to move towards more flexible, less in-person, hybrid forms of educational programmes to meet students' emerging demands. In addition, the post-Covid environment has paved the way for a long list of opportunities in the use of technologies, the adoption of hybrid forms of learning and skill development (Baré et al., 2021; Callender et al., 2020; Coates et al., 2020), and in the transformation of the global hybrid model of HE.

Today's HE has experienced an unprecedented period of unrest and criticism (Callender et al., 2020; Connell, 2019, Heller, 2022) and of unparalleled complexity, which Barnett would describe using the expression 'supercomplexity'. Herewith not only stressing the ever-changing and challenging environment (Barnett, 2008, p. 2017), but also to highlight how all our frameworks to understand and navigate the sector have failed.

Within this turbulent environment, the role of education in universities has progressively changed, moving to a frontline role in the space of a few years. In this regard, the European Strategy for Universities published earlier in 2022 (European Commission, 2022a) calls for establishing synergies while breaking down silos between education and research missions (European University Association – EUA, 2021). This can be done by establishing European Universities or EUAs as 'transnational alliances that will lead the way towards the universities of the future, promoting European values and identity, and revolutionising the quality and competitiveness of European higher education' (European Education Area[1]). In doing so, today's universities seek not only to be entrepreneurial, ecological, and sustainable as recommended by several scholars (Barnett, 2017; Clark, 1998; Connell, 2019; Heller, 2022) but even strategically and synergically interwoven.

All these points may explain how education, which refers not only to learning and teaching (EUA, 2021) but also to students' support and affairs, is nowadays at

[1]https://education.ec.europa.eu/education-levels/higher-education/european-universities-initiative

a crucial intersection. The above-mentioned issues come together and demand to be addressed appropriately.

In this ever-changing context, EM are among those professional staff supporting teaching and learning; specifically, those aiming at supporting academics even in the design and delivery of these teaching and learning programmes; those likely to contribute to make students' achievements and learning smooth and feasible; those who more often strive to balance demands from academics with regulations from their institutions and central regulatory bodies.

EM therefore strive to keep the pace of changes and challenges in today's HE sector and represent the core group depicted in this chapter, as compared with other professional groups in the sector. And this professional group may even include some activities carried out by the sub-group of RMAs in some contexts or institutions; this will depend on the organisational structure, on the size of the institution, and also on the proximity that has been choosing between education and research support.

This chapter was designed at the time of collecting data as part of a new training programme to strengthen the capability of EM to cope with the surge of complexity at the University of Bologna (Unibo) also in the light of the ongoing pandemic. During the pandemic, we collected data and then moved on to analyse the data to fulfil the design of our training programme; at the same time, we began comparing some results with data from RMA groups at Unibo as well as with different European HEIs.

2. Who Do They Think They Are? Coming to Know EM

This chapter begins by explaining the university reforms that have affected Unibo since 2011. Later, the focus will switch to HE professionals working in educational support services at Unibo, their identities, and communities. It will also include insights into the working relationships with peers in other professional services and with academics.

To start, an excursus of the most recent university reforms restructuring the organisational structure at Unibo will be described since these may have influenced the current identities of different professional groups.

2.1. Unibo and Three Waves of Organisational Reforms

As one of the oldest universities in the western world, Unibo was founded back in 1088 with no classrooms nor library. Beginning in 2011, a period of rapid change began as the university was affected by several major waves of reform. In 2012, 70 research departments merged to become 33 (now 32); contextually, faculties were restructured and so replaced by schools as the leading units dealing with education and teaching.

In the following years, the 32 departments confirmed their status of research and research-related core units, while the 5 schools became the organisational units linking and coordinating their aggregated departments to support and streamline their programme offer.[2] These schools neither have financial resources allocated nor staff for educational support services anymore.

Thus, educational support services and their staff were taken away from these schools and became independent units reporting to the director of the education division in the central administration. These organisational units have been named Educational Services sub-divisions, literally from Italian *filiere,* 'food supply chains',

[2]https://www.unibo.it/en/university/campuses-and-structures/schools/schools

referring to the agricultural cultural heritage of the Emilia Romagna region in which Bologna lies.

These organisational units, are new physical and organisational structures that do not correspond to anything existing in the current HE system, at national level at least; this point serves to emphasise their distinctiveness in the sector. According to Clark (1983), some of the distinctive features of universities are their 'uniqueness' and 'differentiation' and, with respect to its *filiere*, Unibo is pretty unique among Italian HEIs.

In this renewed organisational structure, we find schools and departments, which may vary in size and level of cross-disciplinarity, led by presidents and heads of department, respectively. While the new units of educational support services, now sub-divisions of the educational division in the central administration, do not have any link with the traditional academic structure anymore but are functionally dependent on the director of the education division.

Under the restructured university depicted above, also in the light of the European Strategy for Universities, the role of educational support managers has to be completely reshaped. More than ever before these managers are expected to gain an understanding of themselves, including the knowledge available on their roles and identities, and develop their potential in the ever-changing domain of HE.

2.2. Who Do They Think They Are? Insights into the Community of HE Professionals in Educational Support Services

The leading research questions underlying this chapter are the following: *How do these educational professionals describe their identities and communities?*

Additional questions, as part of a larger study only partially included here, are: *What are the key relationships and the primary alliances that they see at stake in today's education? What spaces do they occupy – professional, academic, or even hybrid spaces – and where do they find their professional communities? Do they see supercomplexity in the working spaces they occupy and if so, why?*

The EM we are referring to may come from a variety of background and professions, including research, other sectors, teaching in secondary schools, among others; they are part of a hybrid, wide community of professional staff, and HE professionals (Caldwell, 2022; Deem et al., 2010; Enders & Naidoo, 2022; Gornall, 1999; Gordon & Whitchurch, 2010; Harland, 2012; Henkel, 2010; Middlehurst, 2010; Warren, 2018; Whitchurch, 2008a, 2010a, 2010b, 2018).This broad group is to be intended as the overarching community of those performing a variety of professional roles and functions in today's HEIs.

Thus, the challenges depicted above illustrate that EM are under unprecedented pressure these days; they may be regarded as the frontrunners or even as change makers of an educational, future landscape of HE. To succeed, they need support to equip themselves with top level management tools and skills as well as an innovative up-to-date attitude of professionalism (European Commission, 2022a; Poli, 2022b) to cope with the supercomplexity of times that lie ahead.

2.3. EM as Another Professional Group in Today's HEIs and a Sub-community of the Workforce of HE Professionals

Within this challenging context, EM represent one of the under-researched professional groups populating today's HEIs. Specifically, regarding EM, the body of

knowledge on this professional group is scarce and dispersed (Parkes et al., 2014). However, it became clear in 2021 at the time of designing the training programme that we could not count on any report or work of similar kind conducted at Unibo in previous years on these HE professionals. While several professional networks had been active in developing training and related activities at the national level, such as Comenio Didattica & Management.[3]

Furthermore, professional profiles in HE had already some attention in Italian studies, see, for example, Simone (2017). This study, however, appears to some extent more explicative and informative rather than academic or inquisitive. This confirms the ongoing need for investigating the role of staff involved in educational services even only in professional terms or for a specific audience.

3. Methods

The questions listed above were posed to a pool of 15 EM, all working in the education division and its support services. This study was meant not only to train but also to share knowledge among themselves through the body of research covering the entire community of HE professionals (Gornall, 1999; Kehm, 2015; Middlehurst, 2010; Whitchurch, 2006, 2018). Within the spectrum of the training, aspects on roles and identities, communities, the domain of education, as well as the relationships with peers and academics were key issues.

To analyse the data, we used a qualitative design of enquiry based on a set of unstructured interviews and, in a second phase, on thematic deductive coding analysis (Punch, 2012; Scott, 2012).

Methodologically, we relied on phenomenology as the mode of understanding social phenomena from an actor's perspective; this means that these actors – here the EM – are expected to describe the world as the reality they experience in the way they perceive it to be (Kvale & Brinkman, 2009). The core point of this phenomenological approach is for individuals to describe what they experience or perceive rather than to explain or analyse what they experience.

Therefore, we first conducted focussed interviews (Bell, 2012; Robson, 2011), which were meant to be interviews that are neither strictly structured with standardised questions nor entirely nondirective. By this means, respondents could describe what they experience as well as to raise or even explore unexpected themes (Kvale & Brinkman, 2009; Mason, 2002; Miles & Huberman, 1994). Interviews with the 15 EM, working in the central administration and in local educational support offices, were conducted between December 2021 and March 2022, exclusively in an online mode. More specifically, the sample consisted of five junior staff members and ten senior staff members, of whom four were males and eleven females, while ten of the staff members worked in local offices (*filiere*) and five in the education division.

Next, we moved on to analyse the data firstly manually focussing on deductive codes and later on using the qualitative software NVivo (version 14). In the first round of analysis, we grouped the responses, the predetermined and the emerging themes in an overarching, simplified table (Table 4.3.1). While in the second round, we focussed

[3]https://www.comeniodm.it/

Table 4.3.1. Themes Covered (Predetermined in the Interview Guide).

Theme Covered (Predetermined in the Interview Guide)	EM	Insightful Points and Quotes	Emerging Themes (from Interviews)
Identity	Education is the most engaging; and I feel the facilitator of the whole lifecycle in education	*We are the punching balls in the organisation of today's education.* (R4)	*I feel like the joining link in the educational system*
Community	Unibo, faculty, school, and also the informal community of practice of experts in educational services set up locally (group of experts of educational support services)	*I feel just an UniBO employee, that's it!* (R13)	*All and nothing*
The space in today's Education is …	Fragile, dynamic, multifaceted, varied, complex, confused, and innovative	*I don't know them [what they do], and so I don't talk with them either [staff working in different functions and admin divisions].* (R2)	*Fragile, confused, innovative, but not boring at all*
Third spaces of collaboration	I spot this space from a distance	*It's hard to identify it but I know that this space exists out there.* (R3)	*There're lots of these spaces around here*
Complexity	Widespread in today's education and on the rise. But also, schizophrenic	*It's all fragmented in a very high number of contact persons/points at present.* (R14)	*Schizophrenic education*
Relations and key alliances	Tensions with academics are seldom reported but cannot be lacking	*I am here, count on me and my high-quality provision of support services!* (R7)	*I am here for you, use me, please!*
Evolution of the profession	Several stages of this evolution have gone on in recent years	*Our role has moved to be more a role of coordination than never before.* (R14)	*Coordinating professional, sort of intermediary*

Notes: R stands for respondent and the number for the number of the interview this respondent took part.

on repetitions, similarities, and differences, as well as on indigenous categories to identify possible new themes arising from the dataset (Ryan & Bernard, 2003).[4]

This two-step analysis, carried out manually and through NVivo,[5] was expected to help us design the programme with up-to-date research on the group and to enable EM to familiarise themselves with findings on their emerging community and their identities. Even looking at visible and invisible challenges that may lie ahead of them.

4. Shedding Light on EM While Comparing Them with Research Managers

This section compares the results of the overview above of EM with previous studies conducted on RMAs at Unibo in previous years. The dataset on RMAs dates back to 2016 (Poli et al., 2016) when RMAs working at the London School of Economics and at Tilburg University had been compared (Kurt-Dickson et al., 2018; Poli et al., 2016; Siesling et al., 2017). This dataset was updated and completely re-analysed for this chapter in the light of the comparison with EM.

For this comparison, we chose to rely on Evans 'restricted' and 'extended' models of professionalism as the conceptual framework. The former group stands for those, firstly described by Evans among schoolteachers and then educational researchers, who have a narrow vision of their context while accepting their field of practice with no criticism; they are more likely to resist changes and to lack any interest in wider educational and social issues. While the latter group, of the so-called 'extended' professionals is that of reflective and analytical individuals, including those doing some research also on their topic. They strive to improve their practice through lifelong learning and research into their field of practice (Evans, 2002, 2008; Hoyle, 2012).

The choice of this framework came from the consideration that there is a growing body of literature covering RMAs, while there is less knowledge describing EM, their identities, and communities. The point above means that the community of RMAs is already visible globally, in the professional and academic literature, for example; and that this degree of visibility may even be higher than any other professional community in HE and research institutions. This visibility also means that the knowledge we have acquired on this professional group has already been disseminated quite a lot within the community so to enable RMAs to know more about themselves and their positioning in the research field.

With this latter point that resonates with Evans (2002), when she envisions the 'restricted' model appropriate for more junior staff, those more likely to show less awareness of who they are, and the 'extended' one for more senior staff, expected to be RMAs here. Along the models postulated by Evans (2002), EM may be less aware of themselves and belong to the 'restricted' and more junior category while RMAs may know more about themselves and fall into the 'extended' category and more senior staff. However, we acknowledge that this model is more likely to represent a spectrum of possibilities with different levels of professionalism, that is, professionals are more likely to exhibit some characteristics throughout the spectrum of the model and do not fall into either the 'restricted' or the 'extended' category.

[4]This table is not available yet so not included in the results of this chapter.
[5]Version 12.

4.1. Community

In the university context, academics have their particular academic tribes and territories to which they belong to; these communities consist of beliefs, styles of communication, artefacts, and working spaces. The different disciplines have their own tribes and frameworks of understanding as well as codified knowledge to rely on (Becher & Trowler, 2001). Nevertheless, staff in professional services may not have a clear sense of belonging and may strive to find their communities within their institution. Some authors have even suggested to position the community of EM in the role that professional staff hold or in the University Centre (Caldwell, 2022; Whitchurch, 2010b).

On one hand, when inquired about their communities, EM argue that:

> I don't know other professional staff at my university, I mean I don't know what they do [even meaning how their job may affect or interact with mine], and so I don't talk with them either [staff working in different functions and admin divisions]. (Resp#7EM)

This statement refers to the lack of knowledge of what other managers from other divisions and offices do and results in a feeling of lacking connection and the clear feeling of belonging to a community of professional staff. What clearly emerges is the wish to further know what other colleagues do, connect with other managers from various communities of HE professional at Unibo apart from those in educational services.

On the other hand, the importance for RMAs to belong to their professional community within the research division, to the university central administration, is clearly rationalised, their workplace is even regarded as an ideal workplace for all RMAs at Unibo (Kurt-Dickson et al., 2018; Poli et al., 2016; Siesling et al., 2017). Interestingly, in some statements, issues of prestige and reputation were reported to explain why the Centre may be regarded as that sort of ideal workplace. Thus, the research division was regarded as the place to find peers since peers

> are only those within ARIC [the research division], … ARIC is the ideal workplace to get visibility and top your reputation up. (Resp#5RM)

Regarding EM, this sense of having a community was instead less clear and unquestionable; EM, both those working centrally and locally, provided a wider, varied set of responses spanning from Unibo, the school, faculty, or also the informal community of practice gathering those in educational services locally. The reasons for having this variety of answers could be several: the recurrent reforms that have progressively transformed organisational life at Unibo; the feeling of not having a unique organisational culture within the division or the closer proximity to a more familiar professional group in educational settings; alternatively, the strong commitment to the entire university culture, or to a previous model of organisation for educational services, for example, a school, that would have been preferred.

> I feel to belong to Unibo, that's it. (Resp#14EM)

In consideration of the variety of replies and communities identified as preferred, we may conclude that there is not one community to belong to for EM. In comparison, the replies collected from RMAs were extremely clear, for example:

> [I feel strongly committed to this community] since this is the community that has provided me with career opportunities overall. (Resp#4RM)

From the results above, the identification with a community emerges as one of the core topics for those working in universities, not only for academics, but also for those in professional services particularly for RMAs. This comes to the fore as one of the lines of investigation still to be further explored.

4.2. Identity

Identity is a concept widely explored in universities particularly in academic settings (Barrow et al., 2022; Henkel, 2000, 2010). Recently, the concept has emerged as one of the core topics worth exploring for those in professional services (Caldwell, 2022; Henkel, 2010; Whitchurch, 2008a) even to scrutinise the community individually as well as collectively. In the present study, identity was a clear and straight definition for the majority of respondents as they showed a good grasp of the concept. This differs from previous studies, for example, from Caldwell (2022), where identity is regarded as an unexpected side among professional staff, even when it is not ambivalent in its definition.

On one hand, respondents in educational settings describe their identity clearly and instantaneously, seeming like promoters, servants as well as core players in education, and/or also those acting as facilitators of everyday connections. This last meaning is often intended as playing a linking role between the university boards and its departments, the people sitting in between the two sides and making their dialogue feasible. An extreme view also depicts these managers as 'the punching balls' so to stress their role of falling between opposite views or groups. Respondents may however also hold a highly specialised and multifaceted role, where identity comes to be regarded as

> the capacity to develop adaptability to changing contexts or to different parts I'm working with at Unibo. (Resp#15EM)

This statement serves to illustrate the richness of features and capabilities. Although they seem to feel like they fall into the group of professional staff, they could not identify any hybrid or academic features in their group. They reported being aware of their identity and proud to call themselves 'professionals' and this contrasts with Caldwell (2022) on professional staff' view of their 'just' an administrator identity.

On the other hand, once challenged on their blend of identities – professionals, academics, hybrid – RMAs claimed to be administrators, professionals, and potentially hybrid managers, but never academics (even though the majority of respondents held an academic title). Interestingly, though, they did not choose to call themselves only 'professionals' and this made clear their preference for sitting in the wide spectrum of identities ranging from 'administrator' to 'hybrid' professional so to be 'professionals depending on occasion' or also 'those more likely to adapt [even their identity]

to changeable circumstances' (Resp#1RM). This latter point, which resonates with Whitchurch (2012), was made particularly clear by respondents at Unibo.

Looking at other insights (for example, see chapter 2.4 Poli et al., 2023) reflections on identity for RMAs often match the reasons they have come to and decided to remain in the profession. These reasons include societal and ethical issues arising from the proximity to research and/or from the contribution to society.

5. Conclusions

Unlike RMAs and their less clear-cut, strategic positioning depending on the situation to tackle (hybrid or professional depending on circumstances), EM identify themselves unequivocally as professional staff. Additionally, even when these EM do not have a unique community, they report their key alliances in a wider university setting, specifically in departments and any sort of educational support units, including informal networks as communities of practice set up locally with other EM to support each other.

5.1. Professional Tribes, Elite Communities, or a Plethora of Communities?

Among the further points that emerge from our comparative analysis, we see that RMAs more often have a clear sense of belonging to a precise, unique, restricted community; in the Unibo case, for example, this community is a prestigious one, the research division.

Unlike RMAs, EM tend to have a wider and more varied community they belong to within the whole university; with a plethora and variety of communities that could be the result of recurrent reorganisations taking place at Unibo.

Since both groups of professionals – RMAs and EM at Unibo – work in the central administration of the university, the organisational culture of central administration may differ from that of local departments (Santos et al., 2021a). The findings on RMAs may therefore support and complement Whitchurch's findings (Caldwell, 2022) on professional staff more likely to identify with the institution when working in the central administration.

In this regard, while RMAs clearly and unanimously point to their respected inner community, which could even remind us of the academic tribes depicted by Becher and Trowler (2001), EM display a varied, wide range of communities they belong to. In this regard, EM could be regarded as those having more holistic views than RMAs or even a wider organisational-minded view.

5.2. Final Remarks

In conclusion, the chapter highlights that EM consider working in educational services as extremely challenging and exciting; in addition, they show they can, with no ambiguity or hesitation, position their identity in the university context. Unlike RMAs, EM do not refer to any ethical reasons or proximity with the domain of education as one of the reasons for being pleased by their job. They rather highlight complexity and ambiguity as the major forces inhabiting today's educational domain at Unibo.

Differently from RMAs, EM do not have a strong sense of belonging to one professional community and, on the contrary, they feel to belong to a wider range of university communities. Again, it seems that RMAs may be regarded as the first 'professional tribe' having their spaces and territories, for example, the research division at Unibo;

and so these RMAs seldom report any commitment to wider associations or networks, this point may have multiple causes, for example, the lack of national association, only recently established, see Chapter 4.4 (Romano et al., 2023), but also cultural attitudes rooted in the HE sector where HE professionals may not be to join networks and so act collectively. Used as those from other countries, from the UK or USA, for example, for acting collectively (Poli, 2013).

From all the points above, we see that both educational and research managers show 'extended' attitudes, while the 'restricted' ones are less likely to come up as dominant traits of one of the two professional groups; however, traits of 'restricted' features can be found among both groups, for EM in relation to the vague and imprecise definition of their communities, and for RMAs for their close circle of peers likely to be found in the local community, as it is evident in the Unibo case, which may favour proximity and sometimes disregard wider networking opportunities.

5.3. Recommendations

In the final point of this chapter, our vision would recommend for the professional groups supporting education and research to move closer one another; this would be good for several reasons, for example, to follow the European strategy for universities and its suggestion of breaking silos between core functions, to strengthen transnational collaborations, and to foster knowledge exchange and contamination among professional groups.

As a preliminary step, therefore, this vision should encourage the design of joint training between the two professional groups in education and research; and this should be done not only among those working within the same institution but also among those in different universities of the same EUA or across different, more international HEIs.

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References

Baré, L., Beard, J., Marshman, I., & Tjia, T. (2021). *Does the COVID-19 emergency create an opportunity to reform the Australian university workforce?* LH Martin Institute, University of Melbourne. https://melbourne-cshe.unimelb.edu.au/lh-martin-institute/fellow-voices/evolving-australian-university-workforce

Barnett, R. (2008). Critical professionalism in an age of supercomplexity. In B. Cunningham (Ed.), *Exploring professionalism* (pp. 190–209). Institute of Education, Bedford Way Papers.

Barnett, R. (2017). *The ecological university: A feasible utopia*. Routledge.

Barrow, M., Grant, B., & Xu, L. (2022). Academic identities research: Mapping the field's theoretical frameworks. *Higher Education Research & Development*, *41*(2), 240–253. https://doi.org/10.1080/07294360.2020.1849036

Becher, T., & Trowler, P. L. (2001). *Academic tribes and territories*. Open University Press.

Bell, B. (2012). Interviewing: A technique for assessing science knowledge. In E. Hoyle & J. Megarry (Eds.), *Learning science in the schools* (pp. 359–376). Routledge.

Caldwell, J. (2022). Professional identity and professional services staff: Understanding and impact. *Perspectives: Policy and Practice in Higher Education*, *26*(4), 140–147.

Callender, C., Locke, W., & Marginson, S. (Eds.). (2020). *Changing higher education for a changing world*. Bloomsbury Academic.

Clark, B. R. (1983). *The higher education system*. University of California Press.

Clark, B. R. (1998). Creating entrepreneurial universities: Organizational pathways of transformation. In S. M. Glynn & R. Duit (Eds.), *Issues in higher education*. Elsevier.

Clark, B. R. (2008). *On higher education. Selected writings, 1956–2006*. Johns Hopkins University Press.

Coates, H., Xie, Z., & Hong, X. (2020). Engaging transformed fundamentals to design global hybrid higher education (TNE4.0). *Studies in Higher Education*, *46*(1), 166–176. https://doi.org/10.1080/03075079.2020.1859683

Connell, R. (2019). *The good university: What universities actually do and why it's time for radical change*. Bloomsbury Publishing.

Deem, R., Hillyard, S., & Reed, M. (2010). *Knowledge, higher education, and the new managerialism. The changing management of UK universities*. Oxford University Press.

Enders, J., & Naidoo, R. (2022). The rise and work of new professionals in higher education. In C. Sarrico, M. J. Rosa, & T. Carvalho (Eds.), *Research handbook on academic careers and managing academics* (pp. 89–98). Edward Elgar. https://doi.org/10.4337/9781839102639.00014

European Commission. (2022a). *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee of the regions. On a European strategy for universities (18/01/2022)*. Belgium.

European University Association. (2021a). *University without walls. A vision for 2030*. Belgium.

Evans, L. (2002). *Reflective practice in educational research*. A&C Black.

Evans, L. (2008). Professionalism, professionality and the development of education professionals. *British Journal of Educational Studies*, *56*(1), 20–38.

Gordon, G., & Whitchurch, C. (Eds.). (2010). *Academic and professional identities in higher education: The challenges of a diversifying workforce*. Routledge.

Gornall, L. (1999). 'New professionals': Change and occupational roles in higher education. *Perspectives: Policy & Practice in Higher Education*, *3*(2), 44–49.

Harland, T. (2012). Higher education as an open-access discipline. *Higher Education Research & Development*, *31*(5), 703–710.

Heller, R. F. (2022). *The distributed university for sustainable higher education* (p. 80). Springer Nature.

Henkel, M. (2000). *Academic identities and policy change in higher education*. Jessica Kingsley.

Henkel, M. (2010). Introduction: Change and continuity in academic and professional identities. In G. Gordon & C. Whitchurch (Eds.), *Academic and professional identities in higher education: The challenges of a diversifying workforce* (pp. 3–12). Routledge.

Hoyle, E. (2012). Deprofessionalization in education. In E. Hoyle & J. Megarry (Eds.), *World yearbook of education 1980: The professional development of teachers* (pp. 42–57). Kogan Page.

Kehm, B. M. (2015). Academics and new higher education professionals: Tensions, reciprocal influences and forms of professionalization. In T. Fumasoli, G. Goastellec, & B. M. Kehm (Eds.), *Academic work and careers in Europe: Trends, challenges, perspectives* (pp. 177–200). Springer.

Kurt-Dickson, A., Poli, S., & Siesling, M. (2018, June 4–7). *New dynamics for new futures: Bridging academic and professional cultures* [Conference presentation]. International Network of Research Management Societies (INORMS), Edinburgh.

Kvale, S., & Brinkman, S. (2009). *Interviews. Learning the craft of qualitative research interviewing*. Sage.

Mason, J. (2002). *Qualitative researching* (2nd ed.). Sage.

Middlehurst, R. (2010). Developing higher education professionals: Challenges and possibilities. In G. Gordon & C. Whitchurch (Eds.), *Academic and professional identities in higher education: The challenges of a diversifying workforce* (pp. 223–243). Routledge.

Miles, M., & Huberman, A. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Sage.

Parkes, S., Blackwell Young, J., Cleaver, E., & Archibald, K. (2014). *Academic and professional services in partnership literature review and overview of results: Leading the student experience*. Higher Education Academy (HEA). https://www.advance-he.ac.uk/knowledge-hub/academic-and-professional-services-partnership-literature-review-and-overview-results

Poli, S. (2013). *Institutional focussed study – IFS*. EdD Institute of Education.

Poli, S. (2022b, May 4–6). *Research management striving to re-invent an up-to-date idea of professionalism in a post-pandemic age* [Conference presentation]. European Association of Research Managers and Administrators EARMA 2022 annual conference, Oslo.

Poli, S., Kerridge, S., Ajai-Ajagbe, P., & Zornes, D. (2023). Research management as labyrinthine – How and why people become and remain research managers and administrators around the world. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 141–154). Emerald Publishing.

Poli, S., Kurt-Dickson, A., & Siesling, M. (2016, June 6–8). *Being blended (as) research managers in different context of higher education* [Conference presentation]. Association of Research Managers and Administrators ARMA conference, Birmingham.

Punch, K. F. (2012). *Developing effective research proposals* (2nd ed.). Sage.

Robson, C. (2011). *Real world research*. Wiley.

Romano, V., Del Bello, A., & Albanesi, A. (2023). Professional associations and professional development frameworks. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 355–372). Emerald Publishing.

Ryan, G. W., & Bernard, H. R. (2003). Techniques to identify themes. *Field Methods*, *15*(1), 85–109.

Santos, J. M., Varela, C., & Kerridge, S. (2021a). Professionals at the interface of science: Is there more than meets the eye?. *Perspectives: Policy and Practice in Higher Education*, *25*(3), 100–105.

Scott, D. (2012). Research design: Frameworks, strategies, methods and technologies. In A. R. J. Briggs, M. Coleman, & M. Morrison (Eds.), *Research methods in educational leadership and management* (pp. 106–121). Sage.

Siesling, M., Kurt-Dickson, A., & Poli, S. (2017, April 24–26). *The blended professional in Academia – Bringing them further* [Conference presentation]. European Association of Research Managers and Administrators EARMA conference, Malta.

Simone, M. G. (2017). Il management didattico. Tra rischi involutivi e nuove prospettive di sviluppo. In N. Paparella (a cura di), *Il management didattico. Una responsabilità da condividere* (pp. 199–218). Giapeto. ISBN: 978-88-9326-097-8

Warren, V. (2018). *Professional and support staff in higher education* (C. Bossu & N. Brown, Eds.). Springer.

Whitchurch, C. (2006). Who do they think they are? The changing identities of professional administrators and managers in UK higher education. *Journal of Higher Education Policy and Management*, *28*(2), 159–171.

Whitchurch, C. (2008a). Shifting identities and blurring boundaries: The emergence of third space professionals in UK higher education. *Higher Education Quarterly*, *62*(4), 377–396. https://doi.org/10.1111/j.1468-2273.2008.00387.x

Whitchurch, C. (2010a). Convergence and divergence in professional identities. In G. Gordon & C. Whitchurch (Eds.), *Academic and professional identities in higher education: The challenges of a diversifying workforce* (pp. 167–183). Routledge.

Whitchurch, C. (2010b). The challenges of a diversifying workforce. In G. Gordon & C. Whitchurch (Eds.), *Academic and professional identities in higher education: The challenges of a diversifying workforce* (pp. 245–255). Routledge.

Whitchurch, C. (2012). *Reconstructing identities in higher education: The rise of 'third space' professionals*. Routledge.

Whitchurch, C. (2018). Being a higher education professional today: Working in a third space. In C. Bossu & N. Brown (Eds.), *Professional and support staff in higher education* (pp. 11–22). Springer.

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Chapter 4.4

Professional Associations and Professional Development Frameworks

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Abstract

This chapter compares research management and administration (RMA) associations worldwide and the existing professional development frameworks (PDFs) for RMAs. The comparison is based on a study of 22 national, European Union (EU), and international RMA associations/networks which was carried out between April and June 2020 and revised in 2022; it aims at providing a comprehensive overview of skills and competences of RMAs as a profession to enable worldwide benchmarking and analysis.

The benchmarking analysis could provide useful information for those working on the development of professional frameworks training targeted at RMAs, or the recognition of RMA as a profession.

Keywords: Research management and administration; associations; professional development frameworks; professional development; skills; competences

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Methodology of the Analysis

In order to collect sufficient data for the benchmarking analysis, the authors compared most of the existing RMA associations worldwide. To start with the identification of these associations, the RAAAP project (Kerridge & Scott, 2018a) was taken into consideration, which led to the investigation of INORMS (Kulakowski, 2023, Chapter 1.7), member organisations, and associated bodies. Also BESTPRAC (2019), a COST[1] Targeted Network gathering administrative, financial, and legal staff at universities and research-driven institutions – was included in the benchmarking (www.bestprac.eu/home, see Table 4.4.1).

As a result, 15 RMA professional associations and the BESTPRAC network were finally selected for the survey based on the completeness of information collected from the websites and subsequent email correspondence.

The survey was first administered in February 2020 and revised in July 2022.

A summary of data collected is presented in Table 4.4.1; while further information is available on the associations' websites.

Benchmarking Analysis

This section will discuss the findings in detail.

Regarding the year of foundation, it can be seen that, except for NCURA and SRAI (founded respectively in 1959 and 1967), the majority of the associations were founded starting in the 1990s. Most, once established, remained simple informal networks, perhaps for a decade, turning into associations only later on and more often recently (Beasley, 2006; Chronister & Killoren, 2006; Poli, 2018a). Furthermore, most associations focus on a single country, with the main exception being the European Association of Research Managers and Administrators (EARMA). Many RMA Associations are engaged in international activities: NCURA, SRAI, the Australasian Research Management Society (ARMS), and the Southern African Research & Innovation Management Association (SARIMA), just to name a few. For example, SRAI has an active International Section that in 2022 promoted the first Virtual International Convention for Research Administrators (VICRA) an online event by design scheduled for universities and research organisations located from the West Atlantic to the East Pacific shores. So it can be seen that in recent years, there has been a considerable increase in the level of awareness of the RMA role both in the national and, more recently, in the international community.

With reference to the number of individual members, there is a great variation in size, ranging from NCURA, which is the biggest association (counting about 7,000 members), and to a few other supranational associations (SRAI with about 5,600; ARMS with about 3,000; and EARMA with about 1,500). Some others, such as ARMA (3,000) and CARA-ACAAR (1,000), represent quite large communities, with the remainder mostly counting between 300 and 500 members. Generally, numbers are growing, showing a rising awareness of the individual practitioners and an increasing level of the profession's maturity.

It is interesting to note that most of the associations analysed have a scope that covers both aspects related to research and to innovation (Stackhouse, 2008). This probably happens because there is no such clear distinction between research processes and innovation ones in daily operations and for this reason research and innovation

[1] The European Cooperation in Science and Technology (COST) is a funding organisation for the creation of research networks (https://www.cost.eu/).

Table 4.4.1. Summary of Data Collected from RMA Associations and BESTPRAC.

Name and Country	Scope	Pdf	Training and Accreditation/ Recognition	Website
ARMA (UK)	Founded in 1991, has over 2,500 members from across the UK, from higher education institutions, research funders and charities	Yes, available on the website https://arma.ac.uk/professional-development/	Two certificates (Foundation and Advanced) accredited by Awards for Training and Higher Education (ATHE) https://arma.ac.uk/qualifications/ other than training events https://arma.ac.uk/events/	www.arma.ac.uk
ARMA-NL (the Netherlands)	Founded in 2018, after 10 years activity as an information network (Groeninx van Zoelen & Kanters, 2023, Chapter 5.35). It includes professionals active in advice, management, and administration of international as well as national financed research, innovation, and education projects	Under development	ARMA-NL is developing a programme of certified training courses and workshops. https://www.armanl.nl/professionals	https://www.armanl.nl/
ARMS (Australia, New Zealand, and Singapore)	Founded in 1999, involves more than 3,500 members from universities, independent research institutions, and government and health and research institutions	Yes, available on the website https://www.researchmanagement.org.au/professional-development	Two accreditation programmes (Foundation; Established and Advanced)	www.researchmanagement.org.au

(*Continued*)

Table 4.4.1. (*Continued*)

Name and Country	Scope	Pdf	Training and Accreditation/ Recognition	Website
CARA-ACAAR (Canada)	Provides a critical interface between all stakeholders in the management of the research enterprise. Has more than 1,000 members	Not formally defined	Two programmes (fellowship and mentorship) and one certificate in Research Administration in partnership with Mohawk College. Another certificate in progress https://cara-acaar.ca/Programs/Professional Certification	www.cara-acaar.ca
DARMA (Denmark)	Open to individuals working as research and development managers or administrators, from all kinds of employers – universities, colleges, research institutes, hospitals, museums, companies, funders, agencies, or any organisation engaged in scientific research	Not formally defined	DARMA organises workshops, webinars, and courses	www.darma.dk
EARMA (Europe)	Founded in 1995, EARMA represents the community of research managers and administrators within Europe	EARMA has not developed a framework but builds on the ARMA one	Early Stage Research Administrators Masterclass, Certificate in Research Management (validated by ATHE), events and seminars for Leaders in Research Management https://earma.org/courses-and-training/	www.earma.org

Finn-ARMA (Finland)	Founded in 2012 as a network of Finnish universities' research services, that support universities' research activities, including services, for example, in research funding, legal and contractual matters, innovation and entrepreneurship, and research administration. It has 500 members	Not formally defined	Organises professional training for its members	www.finn-arma.fi
FORTRAMA (Germany)	The network FORTRAMA is an affiliation of professionals working in the fields of research and innovation management at German universities and other German research institutions. Founded in 2003, turned into an association in 2018	Not formally defined but identified as a key task in FORTRAMA's statutes	Training for heads of research office and workshops	www.fortrama.net
Italian Research Managers Network (Italy)	A network of university research support offices is created within the CODAU (Association of General Directors of Italian Universities), established in 2014. Within it a working group established in 2020 creates a network of RMA professionals aimed at raising awareness and promoting training and recognition of the profession	Yes, info available on the website https://www.italianresearchmanagers.eu/wp-content/uploads/2022/09/Annex-IV-Framework-RMA_Italy2021.pdf	Organises workshops on specific issues related to funding programmes	www.codau.it www.italianresearchmanagers.eu

(*Continued*)

Table 4.4.1. (*Continued*)

Name and Country	Scope	Pdf	Training and Accreditation/ Recognition	Website
NARMA (Norway)	Norwegian Network for Administration and Research Management was established in 2013 by Universities Norway (UHR) and has around 700 members	Yes, not public, more info is on the website https://narma.no/professional-development-program/	One competence development programme (info on the main page of the website, link in the next column)	www.narma.no/om-https://narma.no/om-narma/english-about-narma-and-contact/
NCURA (USA)	The National Council of University Research Administrators (NCURA), founded in 1959, is an organisation of individuals with professional interests in the administration of sponsored programmes (research, education, and training), primarily at colleges and universities	Not formally defined	Online education opportunities ranging from live webinars to tutorials, workshops, and fellowship programmes https://www.ncura.edu/Education.aspx	www.ncura.edu
PIC-Plataforma de Interface à Ciência (Portugal)	Informal network of science interface professionals, created in 2016	Not formally defined	Provides a short training session during its annual meeting	https://sites.google.com/view/pic-pt/home?authuser=0
R-MAN J (Japan)	Professional association for those engaged in research management and administration. It aims to promote science, technology,	Info available in Japanese on the website: https://www.mext.go.jp/a_menu/jinzai/ura/detail/1349663.htm	Provides training opportunities for research managers and administrators in Japan	http://www.rman.jp/

	and future innovation in Japan through the enhancement of research capabilities of Japanese universities and research institutes. Founded in 2015			
SARIMA (South Africa)	SARIMA is an organisation that brings together research and innovation management practitioners	Yes, available on the website (developed in 2015–17) https://www.sarima.co.za/resources/research-management/#01	Three certificates in research management, accredited by the International Professional Recognition Council (IPRC) https://www.sarima.co.za/professionalisation/	www.sarima.co.za/about
Society of Research Administrators International – SRAI (USA)	Founded in 1967 in the USA, it evolved in 1998 when the word 'International' was added to the society's name. It's the premier global research management society providing education, professional development and the latest comprehensive information about research management to professionals from over 40 countries. It has 5,600 members from colleges and universities, research hospitals and institutes, government agencies, and non-profit funders of research and industry	Not formally defined	Ten certificate programmes (https://www.srainternational.org/meetings/certificate-programs), LevelUP https://www.srainternational.org/online-learning/levelup-main), trainings and conferences, webinars, true-fit training, coffee talks, continuing education credit	www.srainternational.org/home

(*Continued*)

Table 4.4.1. (*Continued*)

Name and Country	Scope	Pdf	Training and Accreditation/ Recognition	Website
BESTPRAC (COST Project)	COST Targeted Network (2014–2019) that gathers administrative, financial, and legal staff at universities and research-driven institutions who are carrying out different tasks to support transnational external competition based (in particular EU funded) research projects. BESTPRAC is now an EARMA thematic group	Yes, available on the website and wiki page. Activities defined according to the Project Cycle Management Phases http://www.bestprac-wiki.eu/Main_Page	During the project lifetime some training courses for RMA were provided by partner's institutions. https://bestprac.eu/training/general-information/	www.bestprac.eu/home https://earma.org/bestprac/

Source: Authors' analysis of associations' websites and e-mail correspondence.

can be regarded as the two fundamental phases of the same process (Agostinho et al., 2018). This implies that RMA may need to be proficient in both these fields, even if at different levels, depending on their role. Indeed, the Association of Commonwealth Universities (2008) Global Research Management Network states that 'Research management embraces anything that universities can do to maximise the impact of their research activity'. This breadth of scope, for both functions and profiles, maybe one of the reasons why this profession is hardly recognised at institutional level (Derrick & Nickson 2014; Kirkland, 2008). But it should be remembered that while RMAs predominantly to be found in research performing organisations they also appear in other parts of the research ecosystem, for example, working in research funding bodies (Santos et al., 2021a, 2023, Chapter 2.5).

Finally, with regard to training and accreditation processes, the situation is rather heterogeneous, but it is possible to identify a couple of experiences within the sample of associations investigated. Indeed, some associations offer *certificates or accreditation programmes*. In the USA (see Ritchie et al., 2023, Chapter 2.7), the accreditation body for continuous professional development is the Research Administrators Certification Council, formed in 1993 (http://www.racc-cert.org). ARMA has two certificates (Foundation and Advanced) accredited by ATHE; ARMS has two accreditation programmes (Foundation and Advanced); CARA-ACAAR has one certificate in Research Administration, while another certificate is in progress and two programmes (Fellowship and Mentorship) are ongoing; EARMA has one formally recognised certificate, one workshop for early stage RMA and a leadership programme; SARIMA has two certificates, accredited by the IPRC; and SRAI offers LevelUP and Certificate Programmes, Trainings and Conferences, Webinars, True-fit Training, Coffee Talks, and Continuing Education Credit. A further group of these associations is still *developing certified training programmes and/or offering workshops, webinars, courses, professional training, competence development programmes*.

The majority of the associations examined are, therefore, moving towards the development of certificates or accreditation programmes, sometimes in collaboration with national or international institutions.

Professional Development Frameworks

Every profession should have a structure to support it, strengthen it, and guide its development. In most cases, this structure is known as the PDF and is made up of all the elements required before an occupation can be considered a profession. In addition, many professions require participation in continuous education and ongoing learning, sometimes as a prerequisite for professionals to keep their job or to maintain their licence, designation, or certification. This is why PDFs are often set not just to help structure a profession, but also to help continuous education and career training for people who entered the workforce to develop new skills, stay up-to-date on current trends, and advance their career.

Advantages of Professional Frameworks (PDFs) for RMAs

In order to pave the way for the recognition of RMA as a profession, some RMA associations decided to set up their own framework, also taking advantage of established PDFs for other professionals. In the RMA field, PDFs are useful for various stakeholders:

Workers, to make choices on employment and learning: PDFs guide the professional development of research managers at various stages of their career. PDFs

usually identify functional areas or activities and levels – operational/administrator, management, or leadership. For each of them, the description of skills, knowledge, and behaviours can help to identify the suitable area for development. This means an RMA can identify relevant development opportunities within their current role. Being aware of the next level could help them understand how to reach it or plan their career progression.

To broaden the RMA experience or to move into a totally new area, it is important to understand what types of activities, skills, knowledge, and behaviours are involved. In some frameworks, requirements for different functional areas at different levels are introduced. Developing the right skills and knowledge might be useful to broaden experience or change direction.

Employers, to find people with the required skills: PDFs guide the institution to define job descriptions and hire skilled people. Since a formal recognition of the profession does not exist in most countries, a full description of the activities, knowledge, skills, and behaviours required by an individual who works in research management is a useful tool in the preparation of job descriptions and personal specifications.

Education/training institutions, to design curricula that provide skills required by the labour market:

PDFs lay the basis to identify training and development paths for university students and for those already into the profession: mapping existing skills and knowledge against the requirements of each activity can help universities/RMA associations and training providers to build anything from ad hoc training modules to master's degrees for students who are approaching the profession or professionals willing to improve their skills.

They can also help institutional staff developers to identify gaps in individuals, teams, or the entire research support office, and to deliver internal training courses and promote development plans.

Policymakers, to make evidence-based decisions when setting priorities or adapting education, employment, and other policy areas to future challenges:

The process of recognising a profession can take a long time and must usually go through a formal accreditation by competent bodies. Setting a PDF represents a starting point to discuss the accreditation process of the profession with policymakers. PDFs might thus pave the way for the formal recognition of the profession.

Associations with a Professional Framework

The RMA profession has become more visible and acknowledged in recent years, but there is still a long way to go, as the levels of heterogeneity in the individual RMA definitions are still high. Among the analysed associations, just six developed their own professional frameworks, levels, and services.

As shown in Table 4.4.1, three associations have made their PDFs public on their website: ARMA, ARMS, and SARIMA. The case of the BESTPRAC project can be added to the previous ones because a framework has been developed according to the project cycle management and made available on the website and on a wiki (BESTPRAC, 2017). NARMA also developed its own framework and EARMA utilises the ARMA one. The Italian informal network of RMAs has recently built its own framework and made it available on the website. The Japanese Ministry of Education, Culture, Sports, Science and Technology in Japan (MEXT) is promoting the development of a national framework for RMAs that includes competences as well as the development of training programmes. Five further associations (ARMA-NL,

CARA-ACAAR, DARMA, Finn-ARMA, and FORTRAMA) are developing their own framework.

History and Contents of the Existing Professional Framework

In order to understand the origin of the PDF, to identify common traits, and to evaluate whether they could be considered as the basis or a step forward to the professionalisation of research management worldwide, a brief analysis of the history and contents of the six existing PDFs is provided below.

ARMA is the UK's professional association for research leadership, management, and administration. Founded in 1991, it has over 2,500 members from across the UK, from higher education institutions, research funders, and charities. The ARMA (2011) PDF was developed to help RMAs plan their professional development, assist in mapping their career pathway, and aid managers and institutional staff developers with providing professional development for research managers and administrators. The ARMA PDF was been developed as the result of a 12-month project with input from over 100 ARMA members.

It comprises 21 different functions undertaken by administrators supporting the research agenda. These include developing proposals, managing project finance, knowledge exchange and business development, and supporting postgraduate researchers.

The functions are grouped under seven broader headings: developing proposals, project lifetime, translation, postgraduate researchers, policy and governance, management information and related functions, and service organisation and delivery. Each function is described from three different perspectives – operational, management, and leadership. Detailed pages outline the relevant activities, indicative skills, underpinning knowledge, and professional behaviour for each of the functions.

ARMA promotes two certificates (Foundation and Advanced) accredited by ATHE, a global awarding organisation regulated by the Office of Qualification and Examination Regulation (Ofqual) of the UK government and other UK and international regulators.

SARIMA is a stakeholder organisation formed in 2002 to a felt need by Southern African academics, research management practitioners and their institutions to associate around common research and innovation management concerns (Southern African Research and Innovation Management Association, 2022b).

With the financial support from the Department of Science and Technology, South Africa and the Special Programme for Research and Training in Tropical Diseases at the World Health Organisation SARIMA developed a professional competency framework (PCF) for research managers in Southern Africa, drawing a benchmark for its PCF from ARMA and one for innovation managers. The initial groundwork for the development of the PCF took place between 2010 and 2014 and incorporated surveys that allowed SARIMA to get a better understanding of the capacity needs and professionalisation preferences of the Southern African research management community. The PCF was adopted in 2016 (Williamson et al., 2020).

SARIMA's PCF consists of nine competency areas. The nine competencies are normally acquired progressively or are required from three hierarchical levels of work typically found in the research management environment, namely: (i) administrative/operational, (ii) management, and (iii) leadership/strategic. The framework also covers transferable (crosscutting) competencies which include, but are not limited to: interactive communication, conflict resolution, personal effectiveness, researcher focus, organisational awareness, diversity valuation, technology leverage, and nurturing innovation.

SARIMA promotes three certificates for RMAs: Research Administrator Professional, Research Management Professional (RMP), and Senior RMP (SRMP), accredited by the IPRC, an autonomous body that operates virtually and aims at awarding professional recognition to research managers in Africa.

ARMS is the Australasian association of RMPs. Founded in 1999, the ARMS network involves more than 3,500 members from universities, independent research institutions, and government and health and research organisations from across the Australasian region including Australia, New Zealand, and Singapore (Australasian Research Management Society, 2022). The ARMS PDF aims to identify the knowledge base required to be an effective RMP in the Australasian region, and to map ARMS's range of programmes available or needed to provide this knowledge.

The PDF identifies six core areas of knowledge and three levels for knowledge enhancement – foundation, management, and leadership. Progressing from one knowledge level to another would usually assume familiarity with knowledge at the previous level. Each cell of the framework describes the broad learning outcomes relevant to that core area and knowledge level.

ARMS has three accreditation programmes (Foundation, Established, Advanced) and a Continuing Professional Development.

The Italian RMA network is born within the CODAU (Association of General Directors of Italian Universities), established in 2014. Within this network a Working Group on 'The professional role of RMAs in Italy' was established at the end of 2019. The overall aim of the working group was to endorse the professional role of the RMA profession and community in Italy, in particular through the creation of a model professional framework, which identifies and maps the skills, areas of activity, and training needs of Italian RMAs. A PDF was created in 2021 based on a benchmarking analysis of the above-mentioned PDFs and a survey submitted to the Italian RMA community in 2020 (Romano & Albanesi, 2021). Six key areas of activities of RMAs in universities are identified. Each key area is subsequently divided into tasks/activities and assigned to three different levels as assessed in the existing international RMAs frameworks (leader, manager, and administrator). The framework is available on the network website (Italian Research Managers, 2022b).

NARMA was established in 2013 by UHR, recognising the need for research managers and administrators to have a forum to meet, network, and share their experiences. Its mission is to enhance the profession of research management and administration and give access to professional networks (Norwegian Network for Administration and Research Management, 2022). The network contributes to skills development, career development, and quality within higher education institutions' research administrative services. NARMA currently has 700 active participants.

The NARMA PDF is characterised by a competence development programme for three RMAs target groups: early-career, experienced, and leaders. The programme emphasises skills development (with a focus on soft skills), career development, and quality within higher education institutions' research administrative services. This programme originated, in 2016, from a project aimed at competence development for research administrators. The project was called 'The Path to EU Excellence', and its aim was to develop a collective national Professional Development Programme primarily for Norwegian Research Administrators.

The program's PDF was developed by actors from the NFR (The Norwegian Research Council), NARMA/UHR, FFA (The Norwegian Research Institute's cooperative body), and Innovation Norway. In 2017, NARMA/UHR, NFR, and the University of Agder formed a 2.5-year project to map out, develop, and coordinate

competence development activities and measures throughout Norwegian universities, colleges, and research institutes that can be included as a part of the Professional Development Programme. This Professional Development Programme is not publicly available on the website, nor is a public description of the activities characterising the RMAs profession, but it is possible to contact the Association to receive information.

BESTPRAC was started in 2014 as a COST Targeted Network that gathers administrative, financial, and legal staff at universities and research-driven institutions who are carrying out different tasks to support transnational external competition based (in particular EU funded) research projects. Even though the COST funding ended in October 2019, BESTPRAC is still active and is now a thematic group of EARMA. The network serves as a platform for exchanging experiences, sharing, and developing best practices, encouraging knowledge sharing, knowledge transfer, and increasing efficiency in these fields. That is why active participation of its members is expected and valued greatly in the BESTPRAC community.

With regard to its PDF (BESTPRAC Research Support Staff – RSS – Framework), the framework is structured according to the lifecycle of a project and discriminates between the phase before the preparation of a proposal, the proposal preparation phase, the grant preparation phase and the project phase. Main areas in which, according to BESTPRAC, an RMA is engaged are specifically: administration, finance, and legal. Professional levels are not defined as such. Rather, three types of staff are identified based on the research support offered: Research Administrator, Funding Advisor/Liaison Manager, and Project Manager. Finally, skills and competences are defined, according to the tasks associated with each stage of the project. This information is publicly available both on the website and on wiki.

Table 4.4.2 summarises the information available on the six PDFs analysed.

From analysing these PDF, we see some common traits but also there are many different features among them.

Among the common traits we find:

- All PDFs have been created to contribute to a better understanding of the research support activities.
- All of them identified a set of broad areas of activity, to be considered as the core ones for RMAs. Activity areas in most cases have key and sub-areas. Key or sub-areas are described from different perspective, according to the professional levels.
- All refer to three professional levels: 'Operational/Administrator', 'Management' and 'Leadership'. However there is not a common vision about the belonging to each level. Some refers to the numbers of years of experience and other to the role and activities performed.
- Soft skills are considered very important for each professional level.
- PDFs help identifying learning outcomes for training courses and workshops.

Among the different features are:

- In some cases their creation was sponsored by policymakers, such as Ministries or Funding Authorities, in other cases they have been developed upon the initiative of the RMA community itself. Commitment by policymakers is likely to ensure the further development of PDFs, to be used as a reference for the recognition of the profession.
- Key activity areas are slightly different: ARMA, ARMS, and SARIMA key areas are quite broad, spanning from research strategy to project management and

Table 4.4.2. Overview of Six RMA PDFs.

	PDF		
Name and Country	**Activity Areas**	**Professional Levels**	**Soft Skills**
ARMA (UK)	1. Developing proposals 2. Project lifetime 3. Translation 4. Postgraduate Researchers 5. Policy and governance 6. Management information and related functions service 7. Organisation and delivery Each area has sub-key areas	1. Operational 2. Management 3. Leadership	For each sub-key area and professional level skills, knowledge and examples of behaviours which underpin effective performance are provided
ARMS (AU)	1. Contextual knowledge (relational and technical) 2. The research funding cycle 3. Higher degree by research candidature cycle 4. Ethics and integrity 5. Data and information Management 6. Engagement and impact	1. Foundation 2. Management 3. Leadership	
SARIMA (ZA)	1. Organisation and delivery of a research management services 2. Research planning, strategy and policy development 3. Researcher development 4. Partnerships and collaboration 5. Research funding 6. Research ethics and integrity 7. Managing funded research 8. Research data and research information management 9. Research uptake, utilisation, and impact. Each area has sub-key areas	1. Administrative/operational level 2. Managerial level 3. Leadership level	Transferable competencies are provided for each level, other than general transferable competences across all three levels

Italian PDF (IT)	1. Organisation, management, and monitoring of the research management service 2. Planning and development of research strategies and policies 3. Pre-award phase: partnership, collaborations, fund raising, and research planning 4. Post-award phase: management of funded research projects 5. Open and citizens science 6. Evaluation of research Each area has sub-key areas	1. Administrators 2. Managers 3. Leaders	Activities, technical, and soft skills are provided for each key area
NARMA (NO)	1. Identify funding opportunities and mobilisation 2. Proposal development 3. Project implementation	1. Research administration 2. Research management 3. Leadership in research administration	
BESTPRAC (COST Action)	1. Before the proposal 2. Proposal 3. Grant preparation 4. Project	1. Research Administrator 2. Funding Advisor/Liaison Manager 3. Project Manager	

Source: Authors' elaboration.

organisation. The Italian PDF, that is mainly based on these frameworks, also covers a large number of key areas. BESTPRAC and NARMA frameworks are connected to the different phases of the lifecycle of funded research projects, therefore they specifically focus on the activities related to the projects' support and management.

Reasons for such different approaches could be manifold and could depend on the existence of structured national RMA associations, the rising of RMA communities, the need for job requirements for new professionals, and/or to organise training for early stage or experienced RMAs.

Final Considerations

In light of the analysis of professional associations worldwide carried out, it is possible to make some general reflections.

The path towards the professionalism of research managers worldwide has begun, but there is still not a common approach to the development of the profession. The existing PDFs lay the basis for a better understanding of the research support activities in their countries, but since a clear description of tasks, skills, and competences worldwide is still lacking, job profiles could be heterogeneous within and between countries. Moreover, career development opportunities are not available or are limited.

Steps towards a shared understanding of the profession are undergoing, at least at the EU level. The European Commission is indeed becoming aware of the uneven distribution of research management communities and expertise across the European Research Area (ERA) and the lack of recognition of the profession of research managers, as compared to other policy sectors and the constantly evolving need for new skills. The Commission announced in the European Skills Agenda (European Commission, 2022e) a plan to develop science management curricula, in close cooperation with stakeholders and Member States. The Council in its Conclusions on the new ERA (1 December 2020) recognised the need for the professionalisation of science management at research performing and funding organisations. The ERA policy agenda introduced in Action 17 the Research Management Initiative in order to contribute to improve the European R&I system across the entire ERA (European Commission, 2021a) and several projects have been launched at the national and EU level (e.g. foRMAtion, RM ROADMAP, CARDEA, and EURESTMA[2]).

Additionally, the EC recently developed the European Competence Framework for Researchers to be used as a shared conceptual model that all players in the field of research can refer to (European Commission, 2022c). It should create a shared understanding of the knowledge, skills, and attitudes that researchers need for a successful research career, both inside and outside academia. By making visible what competences researchers need and how these competences could evolve from a foundational to an expert level, competence frameworks provide a valuable tool for researchers' career development. This framework identifies a set of seven competence areas that researchers need for a successful research career. All of them are connected to tasks that according to the above-mentioned PDFs are usually carried out or supported by RMAs. This highlights the importance of the research support staff in contributing to

[2]https://www.formation-rma.eu/; https://earma.org/roadmap/; https://www.ucc.ie/en/hr/research/university-humanresources-research/cardea/; and https://www.kowi.de/en/desktopdefault.aspx/tabid-36/1812_read-8197/.

researchers' career and enhancing the strategic capacity of Europe's research performing and funding organisations.

Along with the researcher's competence framework a unique competence framework for RMAs worldwide could help contributing to the advance of the RMA as a profession. The development of this framework can build on existing competence frameworks. Therefore, key observations regarding a set of best practices should be discussed before the conceptual model for the framework is developed. Scope, target groups, success in terms of content, and applicability of the existing frameworks should be considered. Common traits should be harmonised. Possible connections among different features should be investigated.

The framework should have a bridging function for the sector-specific, national and institutional frameworks, providing a common language to a wide variety of actors across the continent and beyond. Considering the various levels of maturity of the profession in different countries, the framework should also leave freedom and flexibility to national institutions to decide how to use it. Finally, as RMA activities are evolving over time, skills, and competencies need constant updates: the framework will thus need to be adapted over time to reflect those changes.

In her 2022 State of the Union speech, the European Commission President von der Leyen proposed to make 2023 the European Year of Skills[3] so the RMA community should take advantage of it and set the common framework as a future priority.

References

Agostinho, M., Moniz Alves, C., Aresta, S., Borrego, F., Borlido-Santos, J., Cortez, J., Lima Costa, T., Lopes, J. A., Moreira, S., Santos, J., Trindade, M., Varela, C., & Vidal, S. (2018). The interface of science: The case for a broader definition of research management. *Perspectives: Policy and Practice in Higher Education*, *24*(1), 19–27.

ARMA. (2011). *A professional development framework for research managers and administrators*. Association of Research Managers and Administrators. Retrieved October 26, 2022, from https://arma.ac.uk/wp-content/uploads/2018/11/PDF-Final.docx

Association of Commonwealth Universities. (2008). *Research management staff survey*. Global Research Management Network. Retrieved October 26, 2022, from https://www.acu.ac.uk/

Australasian Research Management Society. (2022). *Enabling Global Research Excellence*. Retrieved October 26, 2022, from https://www.researchmanagement.org.au/

Beasley, K. L. (2006). The history of research administration. In E. C. Kulakowski & L. U. Chronister (Eds.), *Research administration and management* (pp. 9–29). Jones and Bartlett.

BESTPRAC. (2017). *Welcome to the BESTPRAC-WIKI*. Retrieved October 26, 2022, from http://www.bestprac-wiki.eu/Main_Page

BESTPRAC. (2019). *Cost targeted network TN1302. Report 2014–2019. Excellent research requires top research support!* Retrieved October 26, 2022, from https://bestprac.eu/fileadmin/mediapool-bestprac/documents/Outputs/Communication_materials/BESTPRAC_booklet_2014-2019.pdf

Chronister, L. U., & Killoren, R. (2006). The organization of the research enterprise. In E. C. Kulakowski & L. U. Chronister (Eds.), *Research administration and management* (pp. 41–61). Jones and Bartlett.

Derrick, G., & Nickson, A. (2014). Invisible intermediaries: A systematic review into the role of research management in university and institutional research processes. *Journal of Research Administration*, *45*(2), 11–45.

[3] 2022 State of the Union Address by President von der Leyen: https://ec.europa.eu/commission/presscorner/detail/ov/SPEECH_22_5493.

European Commission. (2011, July 21). *Towards a European framework for research careers*. Retrieved from https://era.gv.at/public/documents/2309/Towards_a_European_Framework_for_Research_Careers_final.pdf

European Commission. (2021a). *European research area policy agenda – Overview of actions for the period 2022–2024*. Publications Office of the European Union. Retrieved from https://ec.europa.eu/info/sites/default/files/research_and_innovation/strategy_on_research_and_innovation/documents/ec_rtd_era-policy-agenda-2021.pdf

European Commission. (2022e, October 26). *Understanding skills*. Retrieved from https://ec.europa.eu/social/main.jsp?catId=1215&langId=en[

European Commission. (2022c). *Knowledge ecosystems in the new ERA. Using a competence-based approach for career development in academia and beyond*. Publications Office of the European Union. Retrieved November 27, 2022, from https://data.europa.eu/doi/10.2777/150763

Groeninx van Zoelen, A., & Kanters, E. (2023). The profession of research management and administration in the Netherlands. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 715–721). Emerald Publishing.

Italian Research Managers. (2022b). *Homepage*. Retrieved October 26, 2022, from https://www.italianresearchmanagers.eu/

Kerridge, S., & Scott, S. F. (2018a). Research administration around the world. *Research Management Review*, *23*(1), 1–34.

Kirkland, J. (2008). University research management: An emerging profession in the developing world. *Technology Analysis & Strategic Management*, *20*(6), 717–726.

Kulakowski, E. (2023). The establishment and history of the international network of research management societies. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 83–95). Emerald Publishing.

Norwegian Network for Administration and Research Management. (2022, October 26). *Homepage*. https://narma.no/om-narma/english-about-narma-and-contact/

Poli, S. (2018a). Who are today's research managers? Roles, professional development, and evolution of the profession. In J. Andersen, K. Toom, S. Poli, & P. F. Miller (Eds.), *Research management: Europe and beyond* (pp. 1–29). Academic Press.

Ritchie, J., Lythgoe, E., & Donovan, D. (2023). RMA education, training and professional development in North America and Europe. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 177–186). Emerald Publishing.

Romano, V., & Albanesi, A. (2021). *The role of the research manager and administrator – RMA, in Italy: Professional framework and training needs 2020 activity report*. CODAU Research Working Group. Zenodo. https://doi.org/10.5281/zenodo.5513738

Santos, J. M. R. C. A., Varela, C., & Kerridge, S. (2021a). Professionals at the interface of science: Is there more than meets the eye? *Perspectives: Policy and Practice in Higher Education*, *25*(3), 100–105.

Santos, J. M. R. C. A., Varela, C., Kerridge, S., & Fischer, M. (2023). Where do RMAs work? In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 155–166). Emerald Publishing.

Southern African Research and Innovation Management Association (SARIMA). (2022b, October 26). *A handbook for Southern African research management offices*. https://www.sarima.co.za/wp-content/uploads/2019/04/Research-Management-Manual.pdf

Stackhouse, J. (2008). Profiling the profession. *Research Global*, *19*, 8–9, 22.

Williamson, C., Dyason K., & Jackson, J. (2020). Scaling up professionalisation of research management in Southern Africa. *Journal of the Society of Research Administrators. Society of Research Administrators*, *51*(1), 46–72.

Chapter 4.5

RASPerS: Prevalence of Occupational Stress and Associated Factors in RMA Professionals

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Abstract

This chapter explores occupational stress in research managers and administrators (RMAs). Data gathered from RMAs in the USA, Great Britain, Europe, Australasia, and Canada through the Research Administrator Stress Perception Survey (RASPerS) are used to examine factors that are known stressors or outcomes from occupational stress. The purpose of RASPerS is to measure and raise awareness about occupational stress and its impact on health behaviour in RMAs. Using descriptive statistics, factors associated with occupational stress including increasing demands, hours worked, anxiety due to competing demands between work and home, and reported self-neglect due to occupational stress are examined. We also explore what RMAs report as being the top motivating factors for remaining in the profession despite high levels of stress.

Awareness of the impact of occupational stress can aid RMAs in maintaining a healthier lifestyle and assist RMA leaders in building work environments that foster employee retention.

Keywords: Occupational stress; work–life balance; RASPerS; work environment; employee retention; employee morale; sickness presenteeism; research administration

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Prevalence of Occupational Stress in RMAs

According to *The Scale of Occupational Stress*, any occupational group with 20% or more of the workforce reporting high or extremely high stress is considered a high stress population (Smith, 2000; Smith et al., 2000). Occupational stress awareness is important as long-term stress has been associated with chronic disease, injurious accidents, burn-out, family problems, low productivity, and poor mental health (Goh et al., 2015; National Institute for Occupational Safety & Health, 1999; Sohail & Rehman, 2015; Tabakakis et al., 2020).

The RASPerS was first conducted in 2007 in the USA in order to measure the level of occupational stress in the RMA community. Data from the 2007 RASPerS showed that 58.3% of n=652 RMA study participants reported high or extremely high levels of occupational stress (Shambrook & Brawman-Mintzer, 2007). This is far above the threshold set by *The Scale of Occupational Stress* which classifies any occupational group with 20% or more reporting high or extremely high stress as a high stress occupation (Smith, 2000). Data from the subsequent US-based RASPerS in 2010, 2015, and 2020 also showed greater than 50% of participating US-based RMAs reporting high or extremely high occupational stress (Shambrook, 2010, 2020c). However, as over 40% of the US workforce reports high or extremely high work-place stress (National Institute for Occupational Safety & Health, 1999), it was important to determine if RMAs in other parts of the world also reported high levels of RMA occupational stress. This would inform the community if occupational stress was associated with being an RMA or simply a factor in the US work environment.

In 2015, leaders in various RMA professional societies were contacted to query their interest in offering the RASPerS to members of their organisations. The goal was to gather information that could be disseminated to their various members in order to raise their awareness about stress. The aggregated information was shared at the Congress of the International Organisation of Research Management Societies (INORMS) held in Melbourne, Australia, in September 2016.

The European Association of Research Managers & Administrators (EARMA); Australasian Research Management Society (ARMS); BESTPRAC, a European Union network of research administration and management professionals who share best practices (and is now part of EARMA); and the UK-based Association of Research Managers and Administrators (ARMA) participated in the 2016 studies. The Canadian Association of Research Administrators (CARA) delegates at the 2016 INORMS Congress requested that the RASPerS study be conducted for their membership. The Canadian study was conducted in early 2017.

In this chapter, we examine data from each of the studies, with the exception of the 2007 and 2010 US-based studies. As these two earlier studies were less contemporaneous than the non-US studies, they are non-essential for this discussion. All US-based studies showed more than 50% of the RMA population was under high or extreme occupational stress, as previously reported (Shambrook, 2020c). US-based RASPerS data for both 2015 (pre-pandemic) and 2020 (early-pandemic) are made available to inform the community of how various factors were (or were not) affected during that time frame.

All study group participants were asked to rate their perceived level of work-related stress as either minimal, moderate, high, or extremely high. In Fig. 4.5.1, the percentage from each study group ranking their work-related stress as high or extremely high is shown in the table below the chart. The chart shows the combined percentage. As shown in Fig. 4.5.1, the range for the aggregate percentages was 34.8% for ARMA to

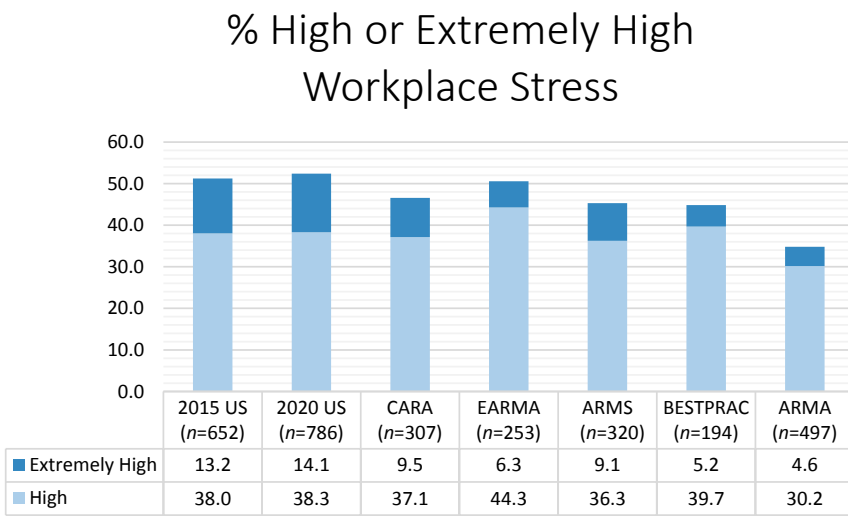

Fig. 4.5.1. Prevalence of Work-related Stress.
Study participants were asked to rate their perceived levels of occupational stress as minimal, moderate, high, or extremely high. Those reporting high or extremely high work-related stress are combined to create the aggregate percentage shown in Chart 1. All RMA groups show more than 20% report having high or extremely high work-related stress, indicating RMA is a high stress occupation.

52.4% for 2020 US. The mean for all RMAs was 46.6%. Both separately as individual groups, or collectively as a mean, the percentages are far higher than the 20% needed to deem RMA as a high stress occupation. From these data, we can conclude that RMA is a high stress occupation, despite the geographical location where it may be practised.

Prevalence of Perceived Increase of Demands on RMA Professionals

Now that we have established that RMA is a high stress occupation, we will consider what makes RMAs vulnerable to occupational stress. It has been well established that one of the major causes of work-related stress is high demands, especially when combined with low decision-making power (Karasek, 1979). The nature of the work being done by RMA professionals frequently is done with low control over workload volume, combined with unmoveable deadlines. With ever increasing regulatory demands from funding sources and research growth at individual institutions, it is not surprising that RMAs report perceptions that work demands are continually increasing.

The 2010 RASPerS data indicated that 90% of US-based RMAs either agreed or strongly agreed that their job was becoming more demanding (Shambrook, 2012). As shown in Fig. 4.5.2, this perception is consistent across all groups with a range of 82.0% for ARMA to 91.5% for 2020 US participants. The mean for all RMAs is 87.8%. Therefore, not only do RMAs feel they are under high or extremely high stress, but there is overwhelming agreement that demands are growing.

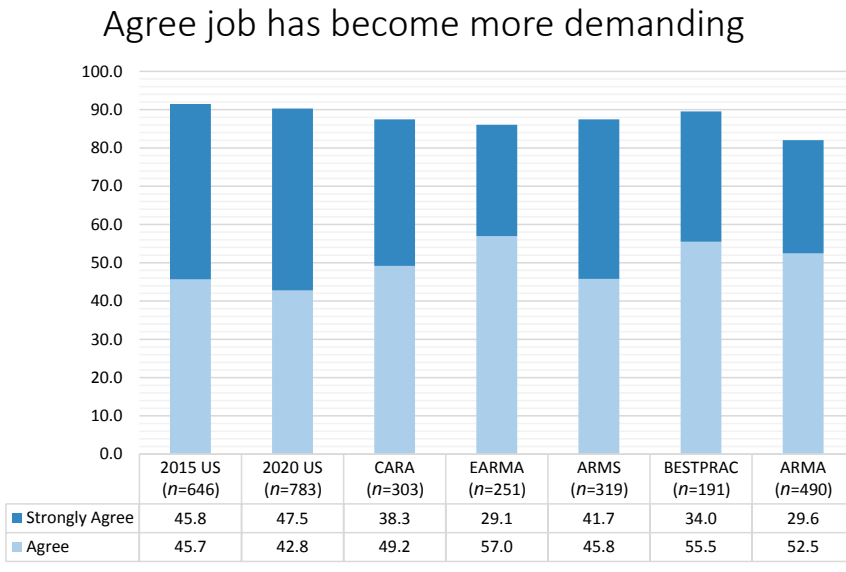

Fig. 4.5.2. RMA Job Demands Are Increasing.
This chart shows the combined percentages of RMAs who indicated they either Agree or Strongly Agree their job has become more demanding over the past few years.

Prevalence of Work–Life Balance Challenges in RMA Professionals

RMAs with high or extremely high occupational stress are more likely to report challenges with work–life balance (Shambrook, 2010). With most RMAs reporting their jobs are becoming more demanding, working additional hours to keep up with those demands appears to be a chosen solution for many RMAs. Participants were asked to indicate the number of hours usually worked in a work-week. The range of responses showed that 31.0% of ARMA participants to 65.2% of 2015 US participants usually worked more than 40 hours per week. Overall, 47.6% of all participants usually worked more than 40 hours per week (Table 4.5.1). For RMAs on fixed salaries, these excess hours are without additional compensation.

Although working more hours to meet increasing demands at work may be a viable option, the hours spent at work are hours that are not spent in meeting other obligations. Increased work time can contribute to increased challenges for work–life balance (Netemeyer et al., 1996). Study participants were asked to indicate the level of stress they experienced due to anxiety from the competing demands of work and home. Participants were asked to rate their level of anxiety as minimal, moderate, high, or extremely high stress from competing demands of work and home. Those indicating high or extremely high stress from competing demand anxiety ranged from 33.8% for ARMA to 43.2% for BESTPRAC (see Fig. 4.5.3).

The 2020 US survey was conducted during the early 2020 COVID pandemic quarantine period, which may be a factor in the increase between 2015 US (41.0%) and 2020 US (42.9%), with many RMAs working from home at that time. It is perhaps

Table 4.5.1. Hours Normally Worked Per Week.

Normal Work Week Hours	Less Than 40	Usually 40	40–50	More Than 50
2015 US (n = 653)	4.3	30.5	52.1	13.2
2020 US (n = 791)	4.8	32.9	46.7	15.7
CARA (n = 312)	26.6	29.8	33.3	10.3
EARMA (n = 259)	18.9	32.8	40.5	7.7
ARMS (n = 325)	28.3	31.1	32.6	8.0
BESTPRAC (n = 203)	19.2	38.9	32.0	9.9
ARMA (n = 516)	42.1	26.9	25.6	5.4

Note: RMA study participants from each group were asked how many hours they normally work each week.

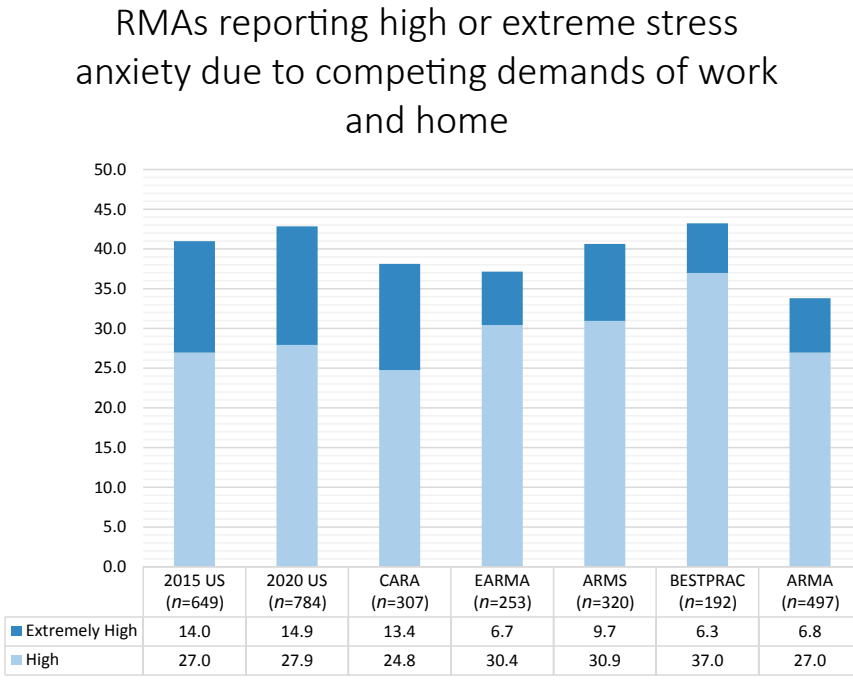

Fig. 4.5.3. High Stress Anxiety from Competing Demands of Work and Home. Study participants were asked to rate their level of stress as minimal, moderate, high, or extremely high due to anxiety from the competing demands of work and home. Shown here are the aggregate numbers of those ranking their stress as high or extremely high. Collectively, over one-third of RMAs experience high stress due to competing demands of work and home.

interesting to note that the BESTPRAC study participants reported the highest levels of stress (43.2%) from competing demands in 2016, prior to the extra strain placed on working parents during the pandemic.

Table 4.5.2. Frequency of Family and Social Relationship Neglect Due to Work Demands.

In Order to Meet the Demands of Your Job, Do You Feel You Have Neglected Your Family or Social Relationships?	Never	Only on Rare Occasion	Yes, But Not Often	Yes, Frequently
2015 US (n = 648)	12.5	26.1	37.4	24.1
2020 US (n = 783)	9.2	29.3	39.0	22.6
CARA (n = 306)	12.1	29.7	37.3	20.9
EARMA (n = 253)	8.7	30.0	40.7	20.6
ARMS (n = 321)	8.4	26.8	38.9	25.9
BESTPRAC (n = 193)	10.4	36.3	35.2	18.1
ARMA (n = 496)	14.7	33.7	35.7	15.9

Note: Level of frequency RMA survey participants felt that in order to meet the demands of their job they had neglected their family or other social relationships.

To better understand anxiety from the competing demands of work and home, RMAs were asked to indicate the level of frequency they felt they neglected their family or social relationships in order to meet the demands of work. The means were again calculated for each group and collectively. An average of about 1 in 10 RMAs (11.0%) collectively report they never neglect family or social relationships in order to meet the demands of work, while about 9 out of 10 report varying levels of neglect. Around 7 out of 10 reported neglect either rarely (30.3%) or not often (37.7%). Around 2 out of 10 (21.2%) reported frequent neglect of family or social relationships in order to meet the demands of work. Thus, on average, looking at all RMAs, twice as many report frequent neglect than those who report never neglecting family or social relationships (Table 4.5.2).

Prevalence of Self-care Challenges in RMA Professionals

Data from the 2010 RASPerS study were analysed to determine the association between level of occupational stress and poor health behaviours. These data show high association between high stress and poor self-care. Poor self-care outcomes were associated with high and extremely high occupational stress such as failure to obtain preventive screenings, unhealthy body weight, poor diet, poor sleep habits, unhealthy levels of alcohol consumption, tobacco use, and reporting to work while sick (Shambrook, 2010).

The importance of RMA self-care has been recognised by many of the RMA professional organisations. The National Council of University Administrators (NCURA) has begun an ongoing series of articles on self-care in the *NCURA Magazine* (Shambrook, 2020a, 2020b, 2020c). US-based organisations, such as NCURA, the Society of Research Administrators International (SRAI), INORMS, and the Florida Research Administrators Conference (FRAC) have provided platforms for the dissemination of RASPerS data, in order to raise awareness of the danger of self-care neglect for RMA professionals working under high stress.

RMA professionals in each group were asked about the frequency they had neglected their physical health in order to meet the demands of their job. As shown

Table 4.5.3. Frequency of Self-neglect of Physical Health Due to Work Demands.

In Order to Meet the Demands of Your Job, Do You Feel You Have Neglected Your Physical Health?	**Never**	**Only on Rare Occasion**	**Yes, But Not Often**	**Yes, Frequently**
2015 US (n = 650)	7.6	21.4	33.5	37.5
2020 US (n = 784)	6.0	19.9	35.8	38.3
CARA (n = 307)	7.8	19.5	36.2	36.5
EARMA (n = 253)	7.9	24.5	34.8	32.8
ARMS (n = 321)	3.1	18.1	37.1	41.7
BESTPRAC (n = 192)	12.5	23.4	31.8	32.3
ARMA (n = 496)	12.5	24.6	32.1	30.8

Note: Percentage of RMA survey participants that felt that in order to meet the demands of their job they had neglected their physical health.

in Table 4.5.3, the range of RMAs reporting frequent physical health self-neglect was 30.9% (ARMA) to 38.3% (2020 US). In looking at the mean for all groups, only 8.2% reported never neglecting their physical health in order to meet the demands of work. This is a stark contrast to the 35.7% reporting that they frequently neglect their own physical health in order to meet the demands of work.

Further evidence of neglect of physical health is shown in Fig. 4.5.4 which shows the frequency RMAs report having gone to work while sick. This health behaviour has been identified as *sickness presenteeism* by Aronsson et al. (2000) and is highly associated with occupational stress (Aronsson et al., 2000; Shambrook, 2020b; Szymczak

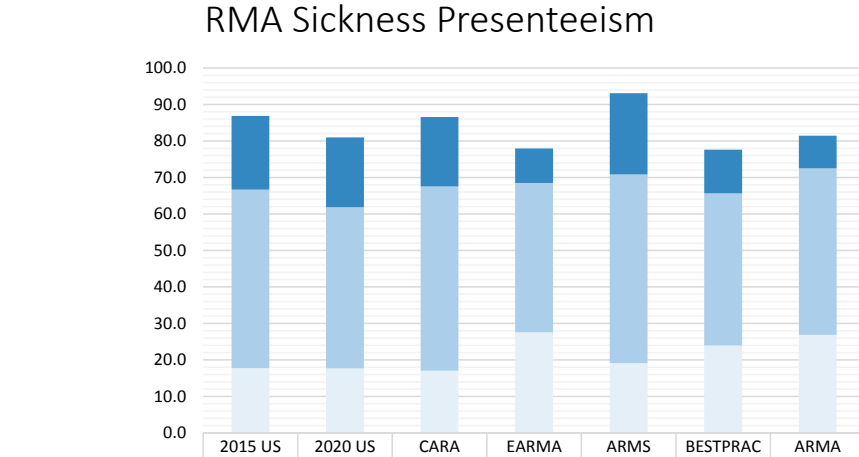

Fig. 4.5.4. Frequency of Self-neglect Evidenced Through Working While Sick. RMAs reporting sickness presenteeism.

et al., 2015). Reporting to work while sick can prolong or worsen illness. Moreover, sickness presenteeism is not only detrimental to the health recovery of the individual reporting to work while sick, but also may expose co-workers to infectious disease.

RMAs were asked to describe how often they reported to work despite feeling they should have taken sick leave due to the state of their health. The choices were: no, never; yes, once; yes 2–5 times; or yes, more than 5 times. The desired choice here is 'no, never'. The range reporting sickness presentism was 78.0% (EARMA) to 93.1% (ARMS) with an overall mean for all groups of 91.8%.

The range for those reporting sickness presenteeism more than 5 times in the last 12 months was 9.0% for ARMA to 22.3% for ARMS, with an overall mean for all groups of 15.9%. One cannot help but wonder if the high frequency of sickness would be lower if neglect of physical health were lower, or exposure from co-workers was less. In comparing the 2015 US and 2020 US, there is a drop from 86.9% in 2015 to 81.0% in 2020 during the height of the pandemic. There is insufficient information to know if the participants were sick less often, or simply engaged in sickness presenteeism less frequently. There has been heightened awareness of the importance of reducing sickness exposure to others as a result of the pandemic. Further data collection for other groups would be necessary to determine if there is also a post-pandemic reduction in sickness presenteeism for other groups around the globe.

Occupational stress in RMAs is also highly associated with neglect of mental and spiritual health (Shambrook, 2010). RMAs were asked to indicate the level of frequency they felt they had neglected their mental or spiritual health due to work demands. They were asked to choose from one of the following answers: never; only on rare occasion; yes, but not often; or yes, frequently.

As shown in Table 4.5.4, the range of RMAs reporting never neglecting their mental or spiritual health in order to meet the demands of work was 5.3% for ARMS to 12.6% for ARMA, with a mean for all groups of 9.5%. As in the data shown for physical self-neglect in order to meet the demands of work, this is in stark contrast to those reporting frequent self-neglect of mental or spiritual health. The range for frequent self-neglect was 24.1% for ARMA to 40.5% for ARMS. The mean for all groups reporting frequent self-neglect was 33.5%.

Table 4.5.4. Frequency of Self-neglect of Mental or Spiritual Health Due to Work Demands.

In Order to Meet the Demands of Your Job, Do You Feel You Have Neglected Your Mental or Spiritual Health?	**Never**	**Only on Rare Occasion**	**Yes, But Not Often**	**Yes, Frequently**
2015 US (n = 650)	9.2	20.9	34.9	34.8
2020 US (n = 782)	7.2	19.7	36.5	36.7
CARA (n = 307)	10.4	18.6	32.9	38.1
EARMA (n = 253)	9.1	25.7	37.6	27.7
ARMS (n = 321)	5.3	18.1	35.8	40.5
BESTPRAC (n = 191)	12.5	23.4	31.8	32.3
ARMA (n = 496)	12.6	25.1	38.2	24.1

Note: Percentage of RMA survey participants that felt that in order to meet the demands of their job they had neglected their mental or spiritual health.

Workforce Retention Motivators for RMA Professionals

Given that RMAs are working under high or extreme stress, which can have serious negative consequences for health and social relationships, it is important to determine why individuals stay in the profession. Do they feel trapped or are they motivated by something else? Are the answers similar when comparing groups from different geographic areas?

RMAs were asked to select the best option to complete the sentence 'I stay in research administration because…'. Possible reasons included positive options such as 'I find it interesting' and negative options such as 'It is too late for me to change careers'.

Table 4.5.5 provides a ranking for the top motivators for remaining in RMA in each group. The percentages for each group were gathered, then ranked by group with the answer choice with the highest percentage being ranked as number 1 and the answer choice with the lowest percentage being ranked as number 13. Finally, the answers were ranked for all groups combined and are displayed by rank in Table 4.5.5.

The most frequent answers were very similar between groups, with the top three answers being enjoyment of the environment, feeling of contribution, and interesting work. It was interesting to see 'I enjoy my co-workers' which was ranked as number 8 of 13 overall rise from 11th in the 2015 US survey to 5th in the 2020 US survey. Heightened co-worker appreciation may be another positive outcome of the pandemic.

Conclusions

From these data, we can conclude that RMA is a high stress occupation irrespective of geographic location. The demands upon RMAs are growing, and this may result in working longer hours in order to compensate for those demands. RMAs report stress anxiety from the competing demands of work and home. RMAs also frequently report feeling they are neglecting family, social relationships, physical health, mental, or spiritual health in order to meet the demands of work. Self-neglect can manifest itself in negative health behaviours, such as reporting to work while sick.

Despite the strain placed upon RMAs by this high stress occupation, these professionals are motivated to stay in the profession by the environment, the contribution they make, and the interesting nature of the work. Few RMAs reported feeling trapped or planning to leave the profession.

The purpose of the RASPerS studies is to raise the awareness in the RMA community so that as individuals, co-workers, or leaders, efforts can be made for positive change. Creation of reasonable personal boundaries fostering good self-care and work–life balance begins with individual RMAs. Setting a positive example for co-workers or subordinates can help facilitate positive change upon the factors associated with a high stress occupation.

High occupational stress is to be expected in a deadline-driven profession with ever-increasing demands. Awareness of the negative effects that can be the outcomes of high occupational stress is the first step towards improved work–life balance, good overall health, and better social relationships for those important to us. We may even find that with those better outcomes, our overall resilience to occupation stress is also improved (Shambrook, 2022).

Table 4.5.5. Top Motivating Factors for Staying in Research Administration in Order of Preference.

Overall Rank	I Stay in RMA Because:	2015 US (n = 618)	2020 US (n = 741)	CARA (n = 284)	EARMA (n = 239)	ARMS (n = 305)	BESTPRAC (n = 182)	ARMA (n =4 55)
1	I enjoy the university environment	2	1	1	3	1	1	1
2	I feel I am making an important contribution	1	2	2	1	2	3	3
3	I find it interesting	5	3	3	6	3	2	2
4	I am constantly learning something new	4	4	4	2	10	4	6
5	I enjoy doing something different every day	7	6	7	4	7	5	4
6	I love the challenge	6	7	5	7	8	7	8
7	I enjoy working with brilliant people	13	8	8	5	5	6	5
8	I enjoy my co-workers	11	5	6	9	12	8	7
9	I don't know how to do anything else for this level of compensation	3	10	10	12	4	12	9
10	Other	8	12	11	8	6	13	11
11	I enjoy working with faculty	12	9	9	10	13	10	10
12	It is too late for me to change careers	9	11	12	11	11	11	12
13	I am not staying, I am looking for another job now	10	13	13	13	9	9	13

Note: Ranking of RMA responses in each study group as how they would complete the sentence 'I stay in research administration because …'.

References

Aronsson, G., Gufstafsson, K., & Dallner, M. (2000). Sick but yet at work: An empirical study of sickness presenteeism. *Journal of Epidemiology and Community Health*, *54*, 502–509.

Goh, J., Pfeffer, J., & Zenios, S. A. (2015). The relationship between workplace stressors and mortality and health costs in the United States. *Management Science*, *62*(2), 608–628.

Karasek, R. A. (1979). Job demands, job decision latitude and mental strain: Implications for job redesign. *Administrative Science Quarterly*, *24*(2), 285–308.

National Institute for Occupational Safety and Health. (1999). *Stress at work*. Retrieved April 16, 2022, from http://www.cdc.gov/niosh/docs/99-101

Netemeyer, R. G., Boles, J. S., & McMurrian, R. (1996). Development and validation of work/family conflict and family–work conflict scales. *Journal of Applied Psychology*, *81*(4), 400–410.

Shambrook, J. (2010). *Health behavior, occupational stress, and stress resiliency in research administrators working in the academic environment* [Doctoral dissertation]. Waldon University (Dissertation Abstract International, AAT 3412291).

Shambrook, J. (2012). Comparison of stress-related factors in the 2007 and 2010 research administrator stress perception surveys (RASPerS). *Journal of Research Administration*, *43*(2), 107–118.

Shambrook, J., (2020a, August). Taking a look under your hood: The importance of preventive screenings in self-care. *NCURA Magazine*, *52*(4), 14–15.

Shambrook, J., (2020b, October/November). Sickness presenteeism in research administrators. *NCURA Magazine*, *52*(5), 24–25.

Shambrook, J., (2020c, December). Stress in research administration: Looking back to set a better path going forward. *NCURA Magazine*, *52*(6), 18–19.

Shambrook, J. (2022, July Supplement). Stress in research administration: Raising awareness, strengthening resilience. In M. Schiffman (Ed.), *Sponsored research administration: A guide to effective strategies and recommended practices* (pp 120:147–120:159). NCURA.

Shambrook, J., & Brawman-Mintzer, O. (2007). Results from the 2007 RASPerS. *Research Management Review*, *15*(2), 41–52.

Smith, A. (2000). The scale of perceived occupational stress. *Occupational Medicine*, *50*(5), 294–298.

Smith, A., Brice, C., Collins, A., Matthews, V., & McNamara, R. (2000). *The scale of occupational stress: A further analysis of the impact of demographic factors and type of job*. Health and Safety Executive Contract Report.

Sohail, M., & Rehman, C. A. (2015). Stress and health at the workplace – A review of the literature. *Journal of Business Studies Quarterly*, *6*(3), 94–121.

Szymczak, J. E., Smathers, S., Hoegg, C., Klieger, S., Coffin, S. E., & Sammons, J. S. (2015). Reasons why physicians and advanced practice clinicians work while sick: A mixed methods analysis. *JAMA Pediatrics*, *169*(9), 815–821. https://doi.org/10.1001/jamapediatrics.2015.0684

Tabakakis, K., Sloan, K., Besch, J., & Quyen, G. (2020). Burnout and its correlates in research administrators. *Research Management Review*, *24*(1), 1–21.

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Chapter 4.6

A Profession in the Making: Insights from Western Balkan Countries

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Abstract

The research management and administrator (RMA) profession in the Western Balkans (WB) has not yet been investigated. In this chapter, we provide a first insight into the current state of the profession, its evolution and existing network of peers within the region and between the region and Europe at large. We focus on the RMAs' opinions about the policy level, on the institutional background and on networking initiatives that allow for the understanding of further development of the profession. Based on the findings of a focus group and a survey with the region's RMAs, we provide insight into the challenges and opportunities as perceived by the RMAs themselves.

Keywords: Research management and administration; research manager and administrator; RMA; RMA profession; higher education; networking; Western Balkans; BESTPRAC

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Introduction

Over the last two decades, higher education institutions (HEIs) and research performing organisations (RPOs) around the world have been fiercely competing for research excellence that propels their global rankings while struggling to cope with declining funding from public sources (Amsler & Bolsmann, 2012; Huther & Krucken, 2016). As a result of constant competitiveness pressure (Vidal & Ferreira, 2020), universities tend to focus on their research priorities and regularly evaluate research productivity. Hence, university departments and researchers are pushed into more complex projects that require multifaceted teams capable of supporting research activities from various angles. This phenomenon has become a driver of emerging non-academic professions that support research activities (Schützenmeister, 2010; Whitchurch, 2008c, 2017) including multiple roles simultaneously that range from covering legal, financial and research aspects to managing projects (Tauginienė, 2009). In this chapter, we use the term 'research manager and administrator' (RMA) to encompass the entire profession.

This chapter looks into the RMA profession as an emerging field in the WB. This politically correct term encompasses economies from South-Eastern Europe that have not yet become members of the European Union (EU): Albania, Bosnia and Herzegovina (BiH), Kosovo, Montenegro, North Macedonia and Serbia.

The chapter is divided into four parts. First, we look into the existing literature. Second, we present the methodology and the combined approach of survey and focus group used to obtain the data from the targeted population. In the third section, we present research findings followed by a discussion encompassing the key challenges and potentials identified through the data analysis. The reader will find the concluding remarks about the emerging RMA profession in the WB and several recommendations for the future in Chapter 5.26 in Part 2.

Literature Review

The existing RMA literature dominantly deals with the profession in affluent Western societies (Collinson, 2006; Kirkland, 2008, 2009, Ryttberg & Geschwind, 2017), while Eastern and Southeast Europe are marginally represented. Virágh et al. (2019) have argued that 'there are hardly any countries in which RMA is a recognized profession by the law or institutional regulations' in continental Europe (p. 12). Even Western and Northern countries where RMA has been advancing more rapidly compared to other parts of Europe have so far failed to recognise the RMA as a separate profession (Santos et al., 2021a; Virágh et al., 2020). The existing RMA literature focussing on Eastern Europe is rather limited, while studies looking into RMAs in the Western Balkans (WB) are practically non-existent.

To ensure that we learn about all research papers related to RMAs we used Google Scholar advanced search. We searched for 'research administrators', 'research managers' and 'research managers and administrators' coupled with each of the region's countries, and the 'Western Balkans' term. This exercise yielded a total of 984 crude results. Apart from sporadic mentions of individual terms or the European Association of Research Managers and Administrators (EARMA), only studies by Virágh et al. (2019, 2020) mention the WB countries as part of the 'Eastern countries' without going into detailed analysis. The present chapter attempts to fill this gap in the literature by providing an overview of the emerging RMA profession in the WB.

The focus of this chapter is twofold. First, we aim to identify the existing macro-level policy framework that enables or discourages the RMA profession's development and recognition in the region. In addition to this, we look at existing initiatives

enabling networking and building the identity of the RMA community. Second, we aim to uncover the RMA professionals' perceptions, challenges and obstacles they face and opportunities for the future recognition of the profession. The following sections present the methodology and this study's findings.

Methodology

Considering that RMA is not a recognised profession in most of the world (Santos et al., 2021a; Virágh et al., 2019, 2020), we hypothesise that the RMA is an unrecognised profession in the WB. Consequently, we argue that policies favouring the RMA at institutional or state levels are scarce. In addition, we contend that RMAs operate in an institutional vacuum without clear roles and job descriptions compelling them to juggle between simple and complex tasks (for an overview of tasks in Horizon 2020 see Andersen et al., 2019). Consequently, we suggest that RMAs confront numerous obstacles and challenges in their daily work. Furthermore, we aim to identify the importance of networking engagement, potential benefits for RMAs and the RMA profession in general and its current maturity level.

The authors used a mixed approach to determine the status of the RMA profession in the WB. We assembled a focus group to learn about the key elements surrounding the RMA profession through a semi-structured discussion. In addition, the authors developed an online questionnaire to survey RMAs from the region who could not participate in the focus group. Due to the Covid-19 travel restrictions, the focus group discussion was organised via the Zoom application in the first half of April 2022. It lasted for about 80 minutes and the respondents' opinions were transcribed after the session. The focus group featured four participants from Serbia (57%), and one each (14%) from Albania, Bosnia and Herzegovina (BiH) and North Macedonia. In addition, the authors developed an online questionnaire to broadly mimic and check the focus group's findings. The authors contacted 108 RMAs from the region to complete the questionnaire between April 14 and April 21. In total, 16 RMAs filled in the questionnaire, six from Serbia (38%), four from Albania (25%), two from each Kosovo and BiH (13%), one from BiH, Montenegro and North Macedonia (6%).

Out of the focus groups' seven participants, six were women (86%) and one man (14%), whereas twelve online respondents were women (81%) and four were men (19%). When asked whether most RMAs in their countries are men or women, half of the online respondents believe that most are women (8, 50%), followed by four respondents (25%) who believe there is a balance between men and women and four (25%) respondents who say they are mostly men. One of the focus group members has a BSc degree, four have completed master's and two hold PhDs. While online survey respondents have not fully provided information about their educational levels, experientially we believe that RMAs professionals in the WB are highly qualified.

Six focus group participants work at public research organisations (86%) and one at a private research organisation (14%). Similarly, 13 online participants (79%) work at public Higher Education Institution/Research Performing Organisation (HEI/RPO) as opposed to 3 (19%) from private HEI/RPOs.

The study tried to reveal how many RMAs are there in each of the region's economies. The offered responses ranged between 5 and 10 press 'space' button and more than 50 per country. Based on the online survey and focus group's responses, we conclude that there are less than 30 RMAs in Albania, Kosovo and North Macedonia, less than 50 in BiH and Montenegro, while in Serbia this number could be anywhere between 30 and more than 50. The size of the RMA community is well explained by Respondent 4 (Serbia): 'I think that I know everyone in Serbia who works as an RMA

professional'. Although the gathered responses range significantly, this finding is very indicative and shows that in the entire WB there are between 150 and 250 RMAs.

Having in mind that some RMAs are simultaneously acting as National Contact Points (NCPs), we wanted to determine how many of them have double roles. For example, some of them are senior associates for research and development, for some, their principal job title is university lecturer while they are assuming additional roles as project managers and NCPs and so forth. The discussion has shown that RMAs in the region feel disadvantaged compared to the EU countries that

> have strong NCP network there, can easily respond to minimum standards for NCPs, and much more. I think that this is a big challenge for the Western Balkans. (Respondent 4)

Two groups of seven respondents (44%) believe that RMAs are simultaneously NCPs in their countries and that only a few of them have both roles. Two respondents (12%) believe that most of them have double roles. These responses indicate that RMAs assume multiple roles occasionally having in mind the seven-year cycles of the EU's research and innovation framework programmes.

Policy and Institutional Frameworks

The second set of questions focussed on identifying policy frameworks in each of the WB economies that encourage the RMA profession. Both, the focus group discussion and the online survey showed no policy frameworks conducive to the development of the RMA profession exist in the WB. Also, there are no systemic policies, neither at the level of RPOs nor at the state level. Respondent 2 (Albania) commented that various governmental agencies designed to build capacities, including those of research managers, mostly fail to fulfil their mission and aim instead to participate in externally funded projects that offer this type of support. Some RMAs mentioned several international instruments (e.g. widening participation and spreading excellence actions under Horizon 2020 and Horizon Europe) that substitute the lack of opportunities at the institutional or national level. As remarked by a few respondents, RMAs from the WB resort to the EU's Horizon 2020/Horizon Europe, or mostly Erasmus +, programmes to access modest funding allowing capacity development for RMAs. This is an indication of external drivers that encourage the expansion of and support for the RMA profession.

In addition, neither of the focus group discussants believe that RMA is a recognised profession in the region. All respondents in the online survey confirmed this finding. The discussion delivered an important insight into the perception of RMAs. In the view of Respondent 7 (Serbia) the

> RMA profession is maybe not just recognized but somehow specific compared to other duties of administrative office workers. So, they are not just RMAs in that sense, they do many other tasks within this job.

In North Macedonia, for example, RMA positions were mainly project based in the past and have not been therefore recognised institutionally (Respondent 3, North Macedonia). Considering that many research projects are externally funded by the EU (and other organisations) we can assume that some HEIs share similar paths.

When asked to define what the RMA profession is, focus group participants provided interesting insights ranging from almost scholarly definitions to emotionally

charged observations. For example: 'a person who helps the academic staff in the pre-award and post-award phase of the management of projects at all stages' (Respondent 5, Serbia) or 'RMAs are people who have so many obligations and not enough time almost for their families' (Respondent 6, BiH). Also, 'they are the ones who have to be a one-man show, they have to do everything' (Respondent 6). There is limited understanding of the profession by RMAs since 'very few identify themselves as research managers' (Respondent 2). A part of the explanation could be that 'RMAs are more or less in offices and nobody knows who they are' (Respondent 4). Yet, the self-appreciation of the importance of the RMA profession has been noted in several cases. As Respondent 4 put it:

> Nobody has the time at the management level to read all those documents, grant agreements, rules for participation etc. but they have to sign everything. And they don't want to do that unless they are not sure that someone has read it carefully. Apart from being research support staff, we are on the other side very important for the management because they can lose a lot of money due to small mistakes of researchers or administration. Because of us, our deans, vice-deans or rectors and management are pretty much safe.

Respondent 7 resonated with this view by highlighting that RMAs are important for researchers because they can use the time for their primary research instead of doing administrative and management tasks. However, there has to be an understanding on the side of researchers that reading documents is not enough per se unless you have the background and skills to understand what is in them. Other discussants reiterated the importance of taking up the administrative burden off the researchers' agendas. Finally, Respondent 3 underlined that the coordination role between research staff from diverse departments that RMAs assume is sometimes critically important for the successful implementation of research projects.

The study also aimed at discovering if RMAs' work is embedded within a dedicated project management office (PMO) or not. A PMO is usually established to provide support to researchers involved in complex research consortia that require the mobilisation of research, infrastructure, and financial and legal resources (see Wedekind & Philbin, 2018). The discussion has shown that the region's institutions have diverse approaches. Respondent 3 explained that RMAs in North Macedonia are habitually embedded in the dean's office, while some other responses mentioned the rector's office or separate departments. The online survey confirmed that some RMAs tend to be employed either by the Rector (3, 19%) or Dean's Office (2, 13%) which depends on a university governance model. One RMA works in the Grant Office, a dedicated RMA Office or a separate centre (such as the technology transfer office, entrepreneurship, etc.). Half of all respondents (8, 50%) say there are no specific names that tend to range between research offices, departments for monitoring, evaluation and analysis of researchers' work, science and innovation agencies, line ministries and research institutes.

Key Challenges and Obstacles

The focus group discussion revealed several important challenges and obstacles that stand in the way of recognising the RMA profession in the WB. For example, Respondents 4 and 7 believe that the lack of knowledge of and awareness about this profession is the main challenge. Respondent 6 finds the lack of understanding and support from

the university decision-makers, particularly following the changes in management, the biggest obstacle. 'If you have to struggle with decision-makers you are wasting your energy and your willingness to continue to work.'

Respondent 7 remarked that, unlike many European countries, Serbia's higher education system is disintegrated, meaning that each faculty (school) of a university represents an independent legal entity. Many faculties have no RMAs which affects researchers who experience various challenges when preparing project applications or during the implementation of projects. However, this is not the case with all universities. Respondent 1 (Serbia) argued that faculties within some universities

> have very strong research managers and very strong support to research development and management as well. Very often the faculties excel and the university's central project office or a similar structure lags behind.

In the view of Respondent 6, institutional decision-makers repeatedly say that 'projects are important and we need to participate in many projects but fail to appreciate the complexities and obstacles RMAs have to deal with during their preparation and implementation'.

The online survey attempted to determine if these assumptions are grounded in reality. The online respondents addressed several groups of challenges and obstacles that RMA professionals confront in their institutions and countries. First, our findings indicate that both, researchers and the leadership of respondents' institutions, have limited understanding and appreciation of what RMAs are doing. On a scale between 0 (not at all) and 10 (very well), we received mixed responses. The overall conclusion is that RMAs are slightly more in favour of believing their fellow researchers and institutional leaders do not understand their roles well (weighted average score of 4.54 where 5.5 is the middle). Similarly, RMAs from the region believe their work is not sufficiently appreciated (weighted average score of 4.94). In addition, the respondents identify several other obstacles RMAs have to deal with. First, there is a sense of inadequate recognition of the profession by institutions' leaders. Second, institutional leaders seem to be unfamiliar with the RMA profession and are not equipped to work with RMAs. Third, some RPOs lack project offices that would naturally embed RMAs. Finally, respondents perceive that there is still the lack of understanding and awareness of RMAs' roles and their true value for RPOs at the level of RPOs management.

Networking Opportunities

Another goal of the present study was to understand how well RMAs are informed about past or existing networking opportunities, the added value of networking and key roadblocks that stand in the way of networking. Therefore, we asked the following question: 'If you are aware of networking opportunities for RMAs in your country, Western Balkans or Europe please provide some examples.' The surveyed RMAs are only partly familiar with networking opportunities. Some participants joined the COST Targeted Network BESTPRAC Action[1] (that most recently turned to EARMA BESTPRAC thematic group[2]) several years ago which led to additional joint actions

[1]https://bestprac.eu/home/
[2]https://earma.org/

over time. Those who participated in RMA-related networks have identified several networking benefits.

The first is the identification of colleagues and organisations that work in the same field. Respondent 4 referred to BESTPRAC as one of the most important networks. It was only after she joined the network that:

> 'I realised that everything I do in my workplace is a profession, recognised by the rest of Europe. And that I'm not alone in this terrible job.' Some other RMAs were not familiar with the RMA concept either before joining their networks. For example, becoming part of the network enabled Respondent 6 to realise that 'research managers and administrators are proper positions', for example, that it is not simply something additional 'you do with everyday work if you are dealing with projects'.

Second, follow-up activities of networking initiatives often contribute to second-tier networking through joint actions. Respondent 3 from North Macedonia explained that attending meetings and participating in alumni projects helped gain connections for future projects, alongside learning about the general project process. Respondent 2, for example, explained that she became a part of the working group and network event on research management ethics and gender through a network of women in STEM. In addition, a respondent from Albania has identified the WB research and innovation (R&I) network supported through the EU's R&I framework programmes focussed on research management. This respondent mentioned trainings, workshops and networking opportunities organised by Horizon NCPs and previously during 2015–2016 the Berlin Process initiative, of the Joint Science Conference by the Leopoldina Academy of Science in Germany that allowed her to expand her initial round of contacts.

The third group of answers was knowledge transfer about 'what the others have done, how they have done it, how they succeeded and what were the main challenges' (Respondent 2). Essentially, new connections allow RMAs to gain new knowledge such as project administration techniques, skills needed to find the right calls and apply for projects, a better understanding of the prospects for project funds and peer-learning on good practices in the emerging profession. In addition, networking allows RMAs to meet people from various scientific disciplines which offer opportunities to see projects from diverse perspectives. Most importantly, networking gives RMAs opportunities to reach out and consult more experienced RMAs about the most appropriate solutions.

Among the online respondents only 1 out of 16 identified past or ongoing networking opportunities, that is, BESTPRAC, while another respondent vaguely mentioned COST Actions, WBC-RRI.NET – Responsible Research and Innovation in the WB (WBC-RRI.NET[3]), Horizon Europe and the HETFA led V4+WB RMA network project[4] funded by the International Visegrad Fund. However, none of them mentioned EARMA. The overwhelming majority of respondents say that participating in projects (81%) constitutes the main benefit of RMA networking, followed by three-quarters of surveyed RMAs (75%) who profit from learning opportunities (trainings, workshops, etc.), and participating in project preparation (50%) and exchanging contacts (44%). Six surveyed respondents (38%) claim that networking builds a sense of belonging to

[3]https://wbc-rri.net/
[4]https://hetfa.eu/international-projects/v4wb-rmas/

a wider RMA community. One respondent has singled out 'professional, straightforward, and immediate help in case of urgent questions/needs' as the key added value through RMA networking.

Participation in Networking Events or Projects

Further, we aimed to identify the main reasons RMAs do not participate in any RMA-related networks or projects. The results indicate three key roadblocks. Three-quarters of RMAs face the issue of limited resources, while half of them either lack institutional support or are not aware of such opportunities.

Typical Set of Tasks in RMA

Finally, we aimed at determining typical tasks RMAs are involved in. Having been unregulated professions we hypothesised that RMAs in the WB do not have a clear job description, instead, they tend to be 'jacks of all trades'. During the focus group discussion, this topic surfaced on several occasions. The online survey results show that RMAs in the region cover two distinct groups of tasks. First, 10 respondents (69%) are involved in the actual project management, closely followed by pre-grant, proposal and post-grant tasks.[5] The other group of tasks include research development training (31%), audit and compliance (42%), project proposal writing training, project implementation training and translation (19%).

Conclusion

Despite many limitations, the present study has shown several important findings that could serve as a stepping-stone to the subsequent studies on RMAs in the WB and the wider region of Southeast Europe. Although widely unconnected, RMAs in the region share a profession that could evolve into a community of practice in the future (see e.g. Agostinho et al., 2020; Arthur, 2016; Derrick & Nickson, 2014). For that to happen, some of the recommendations mentioned in this chapter should be taken into consideration.

This research shows that there is a need for increased networking opportunities between the RMAs both within the WB region and between WB and Europe as a whole. On the other side, there is a need for greater recognition of the RMA profession as such within the WB countries, which corresponds to the overall concerns of the RMA profession at the European level. Furthermore, the research shows that the RMA professionals are yet to discover their belonging to this particular profession, largely due to their participation within the networks, such as BESTPRAC. Thus, it is

[5]This question has mirrored the BESTPRAC's Research Support Staff Framework that defines the following tasks as: *project management* – supporting financial and technical reporting, managing/providing support in project implementation, communication and dissemination, exploitation, functioning as a helpdesk and providing administrative support, and liaison between the coordinator and the European Commission and the consortium; *re-grant* – before the proposal identifying and disseminating funding opportunities, advising and training; *proposal* – supporting and facilitating/managing the submission process, support in the budget framing, advise on and support of writing process, linking to information or advising on IP, ethics, open access and open data; and *post grant* – grant preparation, facilitating/managing the grant preparation process and communicating project success (internal and external).

necessary to work further on networking but also empowering and raising awareness among the RMAs in the region themselves to self-identify with the profession to be able to argue for their recognition at the institutional and country-level as well.

More findings and results from this study will be available in the country specific chapter on WB (see Marčić & Pepić, 2023b; Chapter 5.26).

References

Agostinho, M., Alves, C. M., Aresta, S., Borrego, F., Borlido-Santos, J., Cortez, J., Lima Costa, T., António Lopes, J., Moreira, S., Santos, J., Trindade, M., Varela, S., & Vidal, S. (2018). The interface of science: The case for a broader definition of research management. *Perspectives: Policy and Practice in Higher Education*, *24*(1), 19–27.

Amsler, S. S., & Bolsmann, C. (2012). University ranking as social exclusion. *British Journal of Sociology of Education*, *33*(2), 283–301. https://doi.org/10.1080/01425692.2011.649835

Andersen, P. I., De Craemer, D., Dello, S., Dorić, B., Obradovic Kuzminov, B., Ravagni, V., Rieneck, W., Šola Spasić, M., Zsár, V. (2019). BESTPRAC H2020 coordinator's survival kit: Overview of key coordinator tasks, issues, relevant BESTPRAC products, and other tools and resources.

Arthur, L. (2016). Communities of practice in higher education: Professional learning in an academic career. *International Journal for Academic Development*, *21*(3), 230–241.

Derrick, G., & Nickson, A. (2014). Invisible intermediaries: A systematic review into the role of research management in university and institutional research processes. *Journal of Research Administration*, *45*(2), 11–45.

Huther, O., & Krucken, G. (2016). Nested organizational fields: Isomorphism and differentiation among European universities. In *The university under pressure* (pp. 53–83). Emerald Group Publishing Limited.

Kirkland, J. (2008). University research management: An emerging profession in the developing world. *Technology Analysis & Strategic Management*, *20*(6), 717–726. https://doi.org/10.1080/09537320802426416

Kirkland, J. (2009). Research management: A global profession? *Perspectives: Policy and Practice in Higher Education*, *13*(2), 33–36. https://doi.org/10.1080/13603100902805383

Marčić, S., & Pepić, A. (2023b). Research management and administration in the Western Balkans. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 641–646). Emerald Publishing.

Ryttberg, M., & Geschwind, L. (2017). Professional support staff at higher education institutions in Sweden: Roles and success factors for the job. *Tertiary Education and Management*, *23*(4), 334–346.

Santos, J. M. R. C. A., Varela, C., & Kerridge, S. (2021a). Professionals at the interface of science: Is there more than meets the eye? *Perspectives: Policy and Practice in Higher Education*, *25*(3), 100–105.

Schützenmeister, F. (2010). *University research management: An exploratory literature review*. UC Berkeley, Institute of European Studies.

Smith, J. A., & Torres, L. (2011). The process of establishing a new master of research administration program. *Research Management Review*, *18*(1), 1–18.

Tauginienė, L. (2009). The roles of a research administrator at a university. *Public Policy and Administration*, *30*(1), 45–56.

Vidal, J., & Ferreira, C. (2020). Universities under pressure: The impact of international university rankings. *Journal of New Approaches in Educational Research*, *9*(2), 181–193.

Virágh, E., Zsar, V., & Balázs, Z. (2019). *Research management and administration: A profession still to be formalized*. HÉTFA Research Institute and Center for Economic and Social Analysis. https://doi.org/10.13140/RG.2.2.23699.09765

Virágh, E., Zsar, V., & Balázs, Z. (2020) *Research management and administration: The relevance of specific education and training programmes*. HÉTFA Research Institute and Center for Economic and Social Analysis. https://doi.org/10.13140/RG.2.2.29780.83847

Wedekind, G. K., & Philbin, S. P. (2018). Research and grant management: The role of the project management office (PMO) in a European research consortium context. *The Journal of Research Administration*, *49*(1) 43–62.

Whitchurch, C. (2008c). Beyond administration and management: Reconstructing the identities of professional staff in UK higher education. *Journal of Higher Education Policy and Management*, *30*(4), 375–386.

Whitchurch, C. (2017). Professional staff identities in higher education. In *Encyclopaedia of International Higher Education Systems and Institutions*. Springer.

Chapter 4.7

Key Perspectives for a Long-term Career – Statistical Analysis of International Data for a New Profession

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Abstract

Research managers and administrators (RMAs) face the invisibility arising from the diversified work and ambiguous boundaries. Some reports pointed out the stress of RMAs. Moreover a long-term career is a critical matter for RMAs to succeed. Thus, this chapter aims to identify the relationship between the long-term career of RMAs and relevant factors. The dataset from Research Administration as a Profession 2 (RAAAP-2) allowed regression analysis considering national and regional differences in the analysis. The analysis included 3,235 respondents. The results indicated that job attraction perceived by RMAs and additional acquisition of academic degrees after engagement were positively and significantly related to the total years of experience. Moreover, the linear mixed models showed that country/regional variation and the total years of experience had a significant link even after controlling the other variables. The findings would highlight the attraction of research management and administration as a profession.

Keywords: Long-term career; job attraction; regard for professional qualifications; academic degrees; RAAAP; regression analysis

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Introduction

The unique characteristics of university RMAs include the broader range of roles and tasks required (Shambrook & Roberts, 2011; Shelley, 2010; Tauginienė, 2009). However, RMAs lack deep awareness of their roles and tasks from their direct stakeholders, such as university executives and researchers (Poli, 2018a; Virágh et al., 2019). Moreover, definitions of their roles and functions in many countries are unclear (Virágh et al., 2019). In other words, RMAs are still developing their profession around the world.

Since professional authority depends on the quantity and quality of knowledge (Etzioni, 1969), professionals' work generally needs the knowledge and skills they have developed from long-term work experience and learning from mistakes. Therefore, factors affecting RMAs' years of work experience are remarkable for establishing the RMAs' expertise. However, little statistical and empirical research has focussed on the relationship between years of RMAs' work experience, perspective on the job, and skill development.

This chapter will identify the relationship between the number of years of work experience of RMAs and contributing factors such as individual recognition, skill development, and evaluation of professional qualifications. The international survey RAAAP-2 (Kerridge, Ajai-Ajagbe, et al., 2022) made it possible to incorporate national and regional differences in the analysis. The results of this chapter reduce the invisibility of RMAs arising from the diversity of their work and the blurring of boundaries (Poli, 2018a), provide valuable and practical implications for RMAs themselves and their employers, and highlight the attractiveness of research management and administration as a profession.

Theoretical Background

Factors of Career Longevity

Factors that affect the success of professionals' long-term careers have received extensive attention in a wide range of fields of human resource management. Knowledge and competence (supported by experience) are essential to professional work performance, and friction and stress are inherent in the work process. If young professionals leave the workforce within a short time, capacity building will not progress, negatively impacting organisational capacity and culture.

This difficulty in long-term professional employment may be more pronounced in expanding highly stressful fields such as interpersonal services. For example, empirical studies have been active in nursing, long-term care, teaching, and hospitality. In addition, research has identified job satisfaction (e.g. Marshall, 2019), internal relationships, core practical skills (Bobek, 2002), and job autonomy as long-term career factors.

However, there is little empirical analysis using statistical methods on the factors influencing the long-term engagement of RMAs. The reason likely arises from the invisibility of RMAs due to job diversity and blurred task boundaries (Poli, 2018a). In addition, research administration is an internationally new profession.

Empirical Studies on RMAs

Some reports about stress exist for RMAs (Katsapis, 2010; Shambrook, 2012). For example, Tabakakis et al. (2020) developed a survey of 2,416 RMAs from four countries (the United States, the United Kingdom, Australia, and Canada) which measured the extent of burnout and the workplace factors causing it. As a result, they identified several essential items significantly related to burnout, including work pace, role clarity, quality of leadership, work–family conflict, and justice and respect.

In Japan, the Research Management Skill Standards were created in the profession's early years to standardise skills (University of Tokyo, 2014). Empirical studies using the standards are underway. For example, Ito and Watanabe (2017, 2020) focussed on Japanese RMAs with diverse work experience and balanced professional skills (Lazear, 2003, 2004).

In 2015, they surveyed RMAs from Japanese universities and public research institutions. First, following the procedure of Bublitz and Noseleit (2011), factor analysis was used to generate four factors from 22 different skills. Then, a balanced skills score was calculated from the number of factors in which the skill level was intermediate or higher. Considering previous studies, they used the highest degree and diverse work experiences as explanatory variables. A negative binomial regression analysis of 252 respondents confirmed that master's and doctoral degrees were positively and significantly related to balanced skills. Diverse work experience was also positively correlated with balanced skills.

Materials and Methods

RAAAP Data

The RAAAP is a global survey of research administration professionals (Kerridge & Scott, 2018a). It is endorsed by the International Network of Research Management Societies (INORMS), and supported by member associations. The second edition in 2019, RAAAP-2 (Kerridge, Ajai-Ajagbe, et al., 2022) received 4,324 responses from over 70 countries. The starting dates of research administration systems and employment practices vary by each country, so the country where the respondent works should be considered in the analysis. The survey is conducted anonymously via the Internet, and the data are publicly available.

The dataset for this analysis arose from the RAAAP-2, which consists of 39 main questions. Many questions referred to the respondents' attributes, perceptions of their jobs, and the characteristics of their organisations. This analysis selected the question items that seem to contribute to the long-term career progression of professionals. The sample included 3,235 respondents with no missing values in the relevant items.

Response Variable

As for the career length of RMAs, the researchers used the item, 'Approximately how many years in total have you been employed in the field of Research Administration?'. Response options were set up in one-year increments for years of employment from 1 to 9 and five-year increments for years from 10 to 39, with options for less than 1 year and more than 40 years. Respondents with 'no experience' were exempt from this analysis. If the responses were in one-year increments, the value was left unchanged. For the five-year tiers, the median value replaced the initial value; 0.5 for less than one year; 40 for more than 40 years. These values were used as the 'Total Years as an RMA' for the objective variable. Although this variable is strictly an ordinal scale, it was treated as an interval scale because of the number of years captured in 17 steps.

Explanatory Variables

To explore the factors contributing to RMAs' long-term career success, the question 'Why have you stayed in research administration?' was analysed. This question consisted of 15 branch items, each rated on a five-point Likert-type scale. Exploratory

factor analysis (EFA) using the maximum likelihood method for the 14 items, excluding 'other', produced four factors with eigenvalues exceeding 1.0. For a sharper factor structure, 12 items remained after removing items until the factor loadings of all items surpassed 0.4. Table 4.7.1 shows the 12 items and their factor loadings after Promax rotation.

The last eigenvalue was 3.948 for Factor 1, which trailed Factor 2 (1.789) and below. Factor 1 received a strong factor loading from the items indicating that respondents were attracted to the RMAs' job characteristics.

The researchers then calculated Cronbach's alpha coefficients to confirm if the items related to the obtained factors measured the same concept. Among them, the coefficient of the five items with large loadings on the first factor was 0.788. After removing an item which decreased Cronbach's alpha, the alpha for the four items improved to 0.826, indicating high reliability (internal consistency). According to this result, a new explanatory variable, 'Job Attraction', was created by averaging the scores of the four items.

Prior studies have shown that education links to RMAs' skills. As for education, the RAAAP-2 survey includes a question, 'Level of Academic Qualification Gained DURING your time as an RMA'. The question classified education level by an acquired degree. In this analysis, a dummy explanatory variable, 'Academic Degrees', was created by assigning '0' to no degrees acquired after becoming an RMA and '1' if any degree was acquired.

Each country has introduced a system of professional accreditation for RMAs' skills. The RAAAP-2 asked, 'What is your level of agreement with these statements about professional accreditation in research management and administration?' This question consisted of six items on a five-point scale of agreement.

Table 4.7.1. Factor Loadings in the EFA I.

Questionnaire Item	Factor 1	Factor 2	Factor 3	Factor 4
I like the challenging work	0.866	0.007	0.008	−0.027
I enjoy the profession, it's fun	0.737	−0.083	−0.031	0.036
I like working with faculty/ academics	0.643	−0.024	0.076	−0.041
The work is never boring or monotonous	0.617	−0.042	−0.064	0.159
It's a new profession and I like to help shape it	0.548	0.135	−0.008	−0.127
I do not intend to stay	0.025	0.909	−0.101	0.017
I am looking to change but have not found a new career yet	0.003	0.826	0.076	0.044
No opportunity to change	0.028	0.100	0.671	−0.017
Too late to change careers now	−0.035	−0.166	0.576	0.097
Unsuccessful in trying to move into another field	0.043	0.221	0.568	−0.035
It pays well	−0.049	0.117	−0.090	0.701
Job security	−0.036	−0.072	0.256	0.470

EFA using the maximum likelihood method was conducted on these six items. One factor had an eigenvalue greater than 1.0 (eigenvalue of 3.411), indicating a one-factor structure. Table 4.7.2 shows the factor loadings after the deletion of one item with a low factor loading. Cronbach's alpha coefficient was 0.868, confirming high internal consistency. Finally, the average score of the five items became the explanatory variable 'Regard for Professional Qualifications'.

We partially modified the RAAAP-2 regional classification to create a 'Country/Region' variable for the impact of the respondent's country or region of affiliation. Table 4.7.3 lists the 'Country/Region' categories and frequencies.

Control Variables

Respondents' age and gender were analysed from the RAAAP-2 questionnaire as control variables. The age options consisted of six levels: under 24, 25–34, 35–44, 45–54, 55–64, and over 65. This variable is strictly an ordinal scale, but since the class range is clear at 10 years, we assigned values from one to six in ascending order and treated it as an interval scale.

Table 4.7.2. Factor Loadings in the EFA II.

Questionnaire Item	**Factor 1**
It gives me more confidence in my abilities	0.922
It helps me do my current job better	0.909
It increases my credibility with faculty/academics/researchers	0.773
It helped me gain promotion/a new job	0.654
It has made no difference at all	0.499

Table 4.7.3. Respondents' Region and Total Years as an RMA.

Country or Region of Employment	**Degree**	**Average**	**S.D.**
United States	1,115	12.426	8.763
United Kingdom	432	8.400	6.361
Oceania	409	8.186	6.544
Scandinavia	330	8.508	6.519
Europe (rest of)	279	8.923	5.809
Canada	256	9.666	6.702
Germany	116	8.177	5.664
Japan	106	5.642	4.654
Asia (rest of)	87	5.184	3.862
Africa	73	9.521	5.913
Americas (rest of)	32	8.969	7.541
Total	3,235	9.763	7.485

S.D., standard deviation.

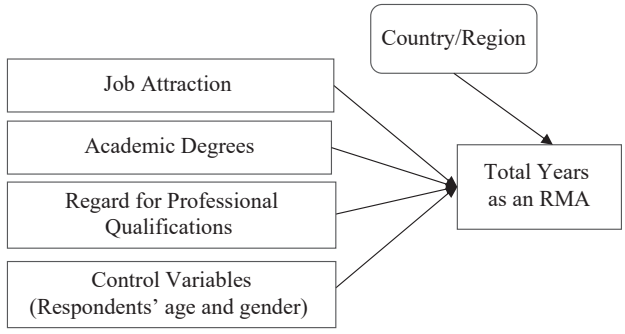

Fig. 4.7.1. Conceptual Model.

The gender question had four options: 'female', 'male', 'non-binary', and 'prefer not to say'. 'Non-binary', which has a low frequency, was merged into 'prefer not to say', and two dummy variables were created for 'female' and 'prefer not to say', with 'male' as the reference category.

Conceptual Model

By reviewing the previous studies above and operating the variables from the RAAAP-2 dataset, the researchers propose a conceptual model shown in Fig. 4.7.1. They intend to validate the relationships in the model.

Results

Regression Analysis

The statistical analysis programme IBM SPSS statistics version 26 was used. No ceiling or floor effects were found for 'Job Attraction' or 'Regard for Professional Qualifications' as measured by the Likert-type scale.

First, an ordinary least squares (OLS) regression analysis was conducted with 'Total Years as an RMA' as the objective variable. The results are shown in Table 4.7.4. Model 1 includes three explanatory variables, 'Job Attraction', 'Academic Degrees', and 'Regard for Professional Qualifications', in addition to the control variables. The variance inflation factor for each variable in Model 1 was less than 1.1, indicating no severe effects of multicollinearity.

In Model 1, 'Job Attraction' had a positive and significant relationship with 'Total Years as an RMA'. 'Academic Degrees' also showed a positive and significant relationship with 'Total Years as an RMA'. On the other hand, contrary to expectations, 'Regard for Professional Qualifications' did not show a significant relationship with 'Total Years as an RMA'.

Linear Mixed Model

Then, 'Country/Region' was put into the regression analysis. As for using a categorical variable like 'Country/Region', converting dummy variables is one of the options. However, since the number of categories in this variable is as much as 11, 10 dummy variables were required. In that case, it would be difficult to interpret the results of regression analysis.

Table 4.7.4. Results of Regression Analysis.

	Model 1				Model 2			
Variables	*B*	**SE**	**95% CI**		*B*	**SE**	**95% CI**	
Job attraction	0.888***	0.128	0.638	1.138	0.857***	0.126	0.611	1.104
Academic degrees	3.289***	0.248	2.803	3.774	3.107***	0.244	2.628	3.586
Regard for qualifications	−0.216	0.151	−0.512	0.080	−0.326*	0.150	−0.621	−0.031
Age range	3.703***	0.111	3.485	3.920	3.535***	0.111	3.318	3.752
Female	0.482	0.266	−0.040	1.004	−0.146	0.267	−0.669	0.378
Prefer not to say	0.698	0.963	−1.190	2.586	0.028	0.943	−1.821	1.876
Constant	−7.362***	0.735	−8.803	−5.921	−6.726***	0.852	−8.412	−5.039
Region (random effect)					1.959*	0.977	0.737	5.206
Adjusted R^2	0.317							
−2 restricted log-likelihood					20,836			

The response variable, Total Years as an RMA. Model 1, OLS. Model 2, maximum likelihood estimation.
B, non-standardised coefficient; SE, standard error; CI, confidence interval.
*P <0.05, **P <0.01, and *** P <0.001.

Therefore, this analysis employed a linear mixed model, which suits data grouped by organisational affiliation. In general, linear regression models estimate the effect (slope) of the explanatory variables on the objective variable and intercept as fixed parameters. In a linear mixed model, the effect of group differences is considered a stochastic variation (random effect) and is estimated as variance in the model equation. The estimation was the restricted maximum likelihood method.

The results of the analysis are shown in Model 2 of Table 4.7.4. Model 2 identified that 'Job Attraction' had a positive and significant relationship with 'Total Years as an RMA'. In addition, 'Academic Degrees' also had a positive and significant relationship with 'Total Years as an RMA'. On the other hand, 'Regard for Professional Qualifications' was not found to have a significant relationship with 'Total Years as an RMA'. The estimate for the random effect of country/region differences was significant.

Discussion and Conclusion

Discussion

First, the results revealed that job attraction was positively significant with the total years as an RMA. RMAs are stressed (Katsapis, 2010; Shambrook, 2012), and burnout is a widespread problem in international research (Tabakakis et al., 2020). Therefore, it is possible that to engage in such a profession for an extended period, one would need to feel a strong attraction to the job characteristics themselves.

Second, 'Academic Degrees' after engaging as an RMA were also positively and significantly related to 'Total Years as an RMA'. This is in harmony with the previous analysis by Ito and Watanabe (2020). In other words, post-employment education could lead to voluntary skill development and long-term engagement as a professional. Furthermore, RMAs have become more highly educated in recent years, and there are even graduate master's programmes dedicated to RMAs in the United States. Therefore, acquiring academic degrees after work engagement may result from the increasing advancement and complexity of RMAs' work.

On the other hand, 'Regard for Professional Qualifications' was not significantly related to 'Total Years as an RMA'. This result does not negate the validity of the RMA-related qualification introduced in various countries. A high evaluation for a vocational qualification does not necessarily mean that an individual has actually obtained a vocational qualification.

In the linear mixed models that considered the differences of country/region, the estimate for the random effect of country/region was significant. Moreover, the relationships between the explanatory and objective variables were similar. The results mean that country/regional variation and total years as an RMA have a significant link even after controlling for age, gender, and the three explanatory variables. Furthermore, the variables 'Job Attraction' and 'Academic Degrees' have a strong relationship with 'Total Years as an RMA', regardless of country or region.

Although researchers have pointed out that one of the challenges for RMAs is that their roles and duties are not fully recognised (Poli, 2018a; Virágh et al., 2019), the present results could imply that RMAs are evolving as a profession.

Conclusion and Limitations

Using the international survey RAAAP-2, this study sought to unveil the relationships between the total years as an RMA of RMAs and the relevant factors. The results emphasise the role of the perceived attractiveness of the occupational characteristics

and the acquisition of new degrees after employment for the career continuity of RMAs. Moreover, this tendency is international.

The results of this study will also provide some insights regarding research management practices in universities. Currently, many universities, regardless of nationality, suffer from inadequate resources. Furthermore, as new professionals, RMAs are often disadvantaged in allocating human and financial resources. However, considering the results of this study, stakeholders could promote improvements in the systems, operations, and workplace culture that affect the behaviour and perceptions of RMAs. More specifically, it would be beneficial to provide opportunities to make occupational characteristics more attractive and to support educational credential acquisition. This insight is meaningful for the career development of RMAs and the policy-making process, where the importance of RMAs is under discussion in the context of strengthening research capabilities.

The dataset arose from the RAAAP-2 public database (Kerridge, Ajai-Ajagbe, et al., 2022). Participation in the RAAAP-2 survey was voluntary, and selection bias is inherent. Furthermore, participants from the United States and the United Kingdom were mass, suggesting that interest in the RAAAP-2 survey was widely different across countries and regions.

The number of years of cumulative experience varied considerably across countries and regions. What makes the difference remains to be clarified. For example, there are remarkable differences between countries with a long history of RMAs, such as the United States and countries where research management systems began relatively recently. The policies of each country and the activities of RMA-related organisations are also possible factors. Future country-by-country analysis based on this analysis may lead to new research questions.

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References

Bobek, B. L. (2002). Teacher resiliency: A key to career longevity. *The Clearing House*, *75*(4), 202–205.

Bublitz, E., & Noseleit, F. (2011). *The skill balancing act: Determinants of and returns to balanced skills* (pp. 1–36). Jena Economic Research Papers, 2011-025.

Etzioni, A. (Ed.) (1969). *The semi-professions and their organization. Teachers, nurses, social workers.* Free Press.

Ito, S., & Watanabe, T. (2017, July). Survey analysis for workplace management of universities' research managers and administrators. In *2017 Portland international conference on management of engineering and technology (PICMET)* (pp. 1–7). IEEE.

Ito, S., & Watanabe, T. (2020). *The relationship between the central role of university research administrators and the size of the institutions* [Conference presentation]. 18th annual conference on the Intellectual Property Association of Japan (online).

Katsapis, C. C. (2010). The incidence and types of occupational role stress among university research administrators. *The Journal of Higher Education Management*, *25*(1), 7–32.

Kerridge, S., Ajai-Ajagbe, P., Kiel, C., Shambrook, J., & Wakefield, B. (2022). *RAAAP-2 datasets (17 linked datasets)* (Version 1). figshare. https://doi.org/10.6084/m9.figshare.18972935.v1

Kerridge, S., & Scott, S. F. (2018a). Research administration around the world. *Research Management Review*, *23*(1), 1–34.

Lazear, E. P. (2003). *Entrepreneurship* [Discussion Paper 760]. Institute for the Study of Labour.

Lazear, E. P. (2004). Balanced skills and entrepreneurship. *American Economic Review*, *94*(2), 208–211.

Marshall, D. R., Dibrell, C., & Eddleston, K. A. (2019). What keeps them going? Socio-cognitive entrepreneurial career continuance. *Small Business Economics*, *53*(1), 227–242.

Poli, S. (2018a). Who are today's research managers? Roles, professional development, and evolution of the profession. In J. Anderson, K. Toom, S. Poli, & P. F. Miller (Eds.), *Research management: Europe and beyond* (pp. 1–29). Elsevier. https://doi.org/10.1016/B978-0-12-805059-0.00001-8

Shambrook, J., & Roberts, T. (2011). 2010 profile of a research administrator. *Research Management Review*, *18*(1), 19–30. Retrieved from https://files.eric.ed.gov/fulltext/EJ980454.pdf

Shelley, L. (2010). Research managers uncovered: Changing roles and 'shifting arenas' in the academy. *Higher Education Quarterly*, *64*(1), 41–64. https://doi.org/10.1111/j.1468-2273.2009.00429.x

Tabakakis, K., Sloan, K., Besch, J., & Quyen, G. (2020). Burnout and its correlates in research administrators. *Research Management Review*, *24*(1), 1–21.

Tauginienė, L. (2009). The roles of a research administrator at a university'. *Viesoji Politika ir Administravimas – Public Policy and Administration,* (30), 45–56.

University of Tokyo. (2014). *Research administration skill standards.* (Japanese). Retrieved January 19, 2023, from https://www.mext.go.jp/a_menu/jinzai/ura/detail/1349663.htm.

Virágh, E., Zsar, V., & Balázs, Z. (2019). *Research management and administration: A profession still to be formalized*. HÉTFA Research Institute and Center for Economic and Social Analysis. https://doi.org/10.13140/RG.2.2.23699.09765

Chapter 4.8

Diversity and Internationalisation: A New Core Competence for Research Managers?

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Abstract

In this chapter, the authors outline some of the history of the role of diversity in research and research management, how this has changed and the consequences it has for a workable definition of diversity. We describe the benefits and challenges when working with diversity as research managers and administrators (RMAs) in international research producing organisations (RPOs). The challenges differ in different parts of the world which brings new complexities to navigate. It is shown how the agendas of internationalisation and diversity do not always work well together due to cultural and political perspectives in areas including race, age, gender identity, sexual orientation and other characteristics. The authors suggest how 'Cultural Intelligence' (CI) can be used as a frame for RMAs working with diversity and internationalisation both in a pre- and post-award phase and outline some specific steps and initiatives RMAs can take to create equitable and inclusive research and research environments based on their practical experience in the sector.

Keywords: Diversity; internationalisation; cultural intelligence; culture; research culture; gender

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Introduction

Internationalisation has, in many ways, become the new normal in research and research management. RPOs recruit from a global labour market, and undertaking international collaborations and/or facilitating mobility is required by many research funders. Parallel to this is an increasing focus on diversity. For many years, the concept of diversity in Europe has been associated with gender and linked to the underrepresentation of women in academia, whereas it is primarily associated with race in the USA. More recently, the definitions of diversity have come to encompass other characteristics as well as gender and race, including people's sexual orientation, gender identity, age, religion, ethnicity, physical ability and neurodiversity, among others.

Ultimately, the successful implementation of the concept of diversity depends on creating a culture of inclusivity. In this chapter, we will show how notions of diversity and internationalisation often work as a double-edged sword. This is particularly the case when inclusive cultures and practices in different parts of the world can clash as a result of different personal characteristics being treated differently. Can you have an inclusive international research environment when working across cultures?

Questions of diversity within RPOs have, until recently, been primarily within the remit of Human Resources (HR) departments. Alongside the emergence of diversity initiatives since the 1980s, the idea of a shared academic culture has continued to develop. This culture, which promotes the idea of uniformity and orderliness within academic practice, has relied heavily on bibliometrics as the key tool for assessment of researchers' success. This approach has put women at a disadvantage because women have traditionally been expected to undertake caring responsibilities and are less likely to have published and been cited (Sewell & Barnett, 2019). Another study has also shown that women are cited less frequently than men across disciplines (Chatterjee & Werner, 2021). Bibliometrics are a blunt tool and can't take account of a researcher's personal attributes and other factors that may impact on publication rates, citations, and careers.

Across the globe, approaches to diversity and shared global academic cultures have been slowly changing. This is a result of a range of factors including new requirements from funders who are requiring a greater focus on diversity issues within research teams and the research they fund, more social minority groups are becoming vocal about the difficulties they face within academic careers and we have also been witnessing an increased voice from the Global South, rightfully insisting on for equity in research collaborations. While these demands are leading to change, we recognise that research is not conducted in a vacuum. Universities are part of national cultures that legally and culturally define their operational context. Responding to global challenges, including making global research collaborations work, must be undertaken within these national contexts.

These rising tensions present a new set of expectations and demands for RMAs. The future successful RMAs will need to have a clear understanding of different approaches to create inclusive cross-cultural consortia, recognise the positive potential of gender and diversity in assessing proposals, and managing cross-cultural international projects which may include researchers with different personal characteristics. As such, successful management of a diverse and inclusive research culture within RPOs will require the awareness and effective management skills of RMAs taking care of various aspects of the research enterprise, ranging from pre- and post-award to compliance, ethics, and integrity, among others.

In this chapter, we will define diversity, show how diversity and internationalisation create challenges for RMAs on different levels, show how different personal characteristics can present challenges cross-culturally, and present a theoretical framework that can be used for creating an inclusive culture in both research management and

research collaborations which RMAs support. The latter is based on the authors' extensive experience delivering consultancy support across international RPOs, predominantly in Europe and the UK.

Definition

RMAs working at RPOs operate within specific national legislative frameworks which impact how diversity is understood in each context. Because of this, it is difficult to define the concept across the whole RPO sector globally. We offer two different definitions which encapsulate the breadth of diversity within research. Narrowly, as defined by the Collins English Dictionary, diversity[1] can be understood as a notion involving 'the deliberate inclusion in a group or activity of people who are, for example, of different races, genders, and religions'. More often, however, definitions of diversity have a greater scope; for example, 'a range of faces in the organisation – people from different demographic groups, such as race, gender, ethnicity, sexual orientation, age, religion, and nationality' (Ely et al., 2001). When thinking about diversity in an international context, we believe it is beneficial to keep the definition broad and include additional attributes such as social class and neurodiversity. By doing this, we recognise the breadth of people's experience and reflect more recent discourses that recognise that diversity is complex and personal characteristics can impact academic careers and working relationships in ways not previously well understood. An example of this is social class and how RPOs remain elite institutions while recruiting from and engaging more broadly with local communities and economies (Grant, 2021). RPOs need to take into account the impact of social class within their staff, student, and community bases, adding further complexity to any definition of diversity.

In practice, working with diversity often has a 'negative' point of departure, understood as policies to avoid discrimination, where the discrimination occurs due to belonging to a social group based on gender, race, sexual orientation, etc. (Antonji & Blank, 1999, Colella et al., 2012; Collins, 2015).

While these definitions have a place, we prefer definitions that conceptually spring from 'diversity', as this focus on initiatives trying to ameliorate the negative effects of discrimination and initiatives trying to capitalise on the benefits of heterogeneous groups (Striebing et al., 2022) while still taking contextual nuances including power and status into account (van Dijk & Van Engen, 2013; van Knippenberg & Schippers, 2007). The authors would suggest a definition that is less static and would apply van Dijk et al. (2017) when defining research on diversity as needing to take into account that '… members of different social groups are likely to be perceived and approached differently because of their membership in a given social category [...] and, in part as a consequence, may behave differently' (p. 518).

This definition moves the attention from the marker (nationality, sexual orientation, etc.) to how these markers are perceived, approached, and their impact on behaviour. This move from cultural essentialism opens for a wider discussion on how to work with these social groups which allows for a more practical and positive approach.

Importance

Within the Global North, many private sector industries and companies have embraced the notion of diversity, inclusion, and equity. Businesses have recognised that despite

[1] Collins English Dictionary – Diversity – Accessed 13 February 2023.

the financial investment needed to ensure diversity is fully integrated into their workforce, product development, and marketing, undertaking this work is good for business with Page (2019) describing how diversity in the workforce and diverse thinking improves profitability.

In contrast, the idea that diversity is valuable for research has not been widely accepted with moves towards more inclusive research environments being driven by policymakers and funders and not RPOs themselves. Invisible Women (Perez, 2020) popularised how the lack of a female perspective skews research and society, sometimes to the extent that solutions are dangerous for women. Face and voice recognition and AI examples have also shown how monocultural research and development groups can produce problematic products for different minority groups (Constanza-chock, 2018; Sun et al., 2020). It reveals a tremendous potential for societal challenges that are not addressed or only partly addressed by the established and current approaches to research.

Finally, understanding cross-cultural issues is critical for implementing an inclusive culture in research management. It is a specialisation many business schools offer, and essential to many international companies. Several business books are published each year exploring this topic. The Culture Map (Meyer, 2016), among many others, helps business leaders acquire skill sets that navigate culture's complexities when working in different parts of the world, see also Lewis (2018), Livermore (2013), and Caligiuri (2021). Yet, these skills are not considered nor practised as part of basic training for researchers or research managers, even though the increasing internationalisation of research necessitates RMAs to have cross-cultural skills. Evidence from private industry and research into academic collaborations has highlighted a range of potential benefits for universities and RMAs working for RPOs (Page, 2017) explaining both the benefits and the challenges in making it work while distinguishing between correlation and causality.

- A more diverse academic staff pool could lead to new and alternative perspectives providing greater depth and quality to research. Evidence shows that publications from diverse authors are cited more highly and published in higher-ranking journals (although this does, of course, feed into the drive towards bibliometric recognition, but this remains the system we operate in, and it may motivate researchers and universities to engage in diversity if they see this as an outcome).
- There are research areas and societal challenges that remain unsolved as they have not been explored and analysed from the perspective of all stakeholders.
- Better management and outcomes from international research collaborations if diversity is understood as navigating differences in national cultures and is considered a skill in research leadership and for RMAs.
- When people can bring their authentic selves to work, they are more likely to be productive, leading to better research. Inclusive, diverse, and psychologically safe environments enable people to be their authentic selves.
- Talent comes from all backgrounds. To attract the best researchers, we need to create research cultures where they thrive and recognise that personal characteristics can add much-needed new perspectives. A diverse base of RMAs will support the creation of inclusive research cultures.

Despite this, in our experience, academia has remained hesitant. This hesitancy has not stopped change altogether with some research funders taking proactive steps to improve gender within their own organisations, their funding portfolios, and their

approach to research. The European Research Council (ERC) provides an interesting case in point.

Europe and Diversity: A Case Study

The ERC has been at the forefront of frontier and innovative research across Europe for over 15 years. It provides significant levels of funding to academic researchers to undertake groundbreaking frontier research over a number of years. Following the ERC's (2020) recent history, it is possible to track how the treatment of diversity, and gender equality, has changed in European research. The changes made were primarily designed to increase opportunities for women and underrepresented groups. Some of these changes include:

- In 2007 and 2010, the ERC changed eligibility criteria to extend the time to apply for grants following the birth of a child.
- By 2014, a model CV template was included to make comparisons between candidates fairer.
- In 2015, the care of a sick relative enabled an extension of scheme eligibility.
- Unconscious bias training and awareness raising for evaluators were introduced.
- 2017 saw the introduction of equal opportunities or gender balance incentive costs being made eligible within schemes.
- Extensions to unconscious bias training were made over the next two years with more people included.
- In 2020, the ERC held an event on gender dimensions in frontier research and their gender equality plan now requests that applicants address questions of gender and sex in research design.

This evolution of activities within the ERC demonstrates the direction of travel which is reflected across other parts of the globe. Within Europe, the introduction of gender equality plans has underpinned this. Despite this, some in the research management community, including the institutions they work for, remain hesitant to tackle questions of diversity, despite funders and policymakers providing a clear direction of travel in that direction. In the following section, we will cover some of the main reasons for this institutional hesitance and define some of the challenges for RMAs working with the topic.

Challenges

The main reason for the hesitation seems to be the politicisation of 'identity politics' and 'political correctness', and RPOs tend to shy away from politics to maintain their perceived independence (Grant, 2021) and to position themselves to receive government research funding. While this approach may make sense to many in the sector, it can leave staff from minority backgrounds without belonging and inclusion as institutions tread the same paths they always have. This has resulted in a monoculture within the sector that many minority groups have found alienating. This insistence on neutrality and adherence to research monocultures can have a negative impact on research.

In recent years, the value of bibliometrics has been contested, and the 'Agreement on reforming research assessment' launched in Europe (COARA, 2022) has already had an impact on funders, policymakers, and research-producing institutions at the time of writing, as they sign up for this process. The intention behind the agreement

is a broader perspective on research assessment and research impact beyond publications, and one of the principles of the agreement is 'Diversity, inclusiveness and collaboration' (p. 4), which indicates that there is an awareness of the importance of diversity and a desire to value it.

We look forward to following the process and the research to ascertain whether the agreement can harmonise the incentive structures from the many different players in the field: public and private RPOs, public and private funders, publishers, rankers, etc. As the European Commission is part of the agreement, the authors expect the agreement to impact Horizon Europe and with its global reach this could have a wide ranging impact.

While there are structural causes for monoculture as described above, there are also causes related to us as individuals. Whether we like it or not, we are all, to some extent, governed by biases and stereotypes. We have ingrained ideas of others (stereotypes) that can be based on our cultural background or personal experiences, and we prefer some traits over others (biases) again based on cultural background and personal experiences. The biases and stereotypes help us navigate a busy workday; if we are unaware of them and accept them without challenging ourselves and our beliefs, we will likely continue to choose what is easy and familiar, leading to our everyday actions supporting the monoculture (Banaji et al., 2016).

Assessment, biases, and stereotypes can become a little abstract. But we should remember that sometimes the challenges of diversity and internationalisation can be very tangible and have real life consequences for our colleagues. An example we often use is if a PhD student who is a member of a research team is openly gay and is part of an international consortium, and a workshop is to be held with a consortium member from a country where being gay is illegal, what is the PhD student supposed to do? Who guides them? Whose responsibility is it to find a solution? And if the PhD student decides travelling there is too dangerous, how can we guarantee this will not impact their career negatively? And if we can't – is research and research management then just for the select few?

There could be many other examples, but the point is to show that while there are many commonalities between internationalisation and diversity, the two agendas don't necessarily go hand in hand very well.[2]

Diversity Around the World

Emerald Publishing released a report in 2020 called *The Power of Diverse Voices*. It is based on a survey sent to 132,241 researchers in 202 countries, with 1,055 responses from 99 countries. Here we will refer to the prioritised parameters of diversity in different parts of the world as described in the report. The report asked respondents to choose what 'societal issues' impact someone's ability to pursue an academic research career. The options available were: ageism older, class, disability, gender, poverty, race, religion, and unemployment.

Participants chose the three biggest barriers of the above mentioned, see Table 4.8.1.

[2] A particular challenge that we often pay too little attention to is indigenous people and culture. There has been some attention to decolonialising the curriculum, but the ideas of decolonisation and respect for and interaction with indigenous people should become a greater point of attention in an increasingly globalised world. While there are no perfect solutions, readers with an interest in this field, can look towards Canadian and Australian research funders that have worked with both including the challenges generally and special programmes for indigenous people (Simpson, 2004; Yunkaporta, 2019).

Table 4.8.1. The Societal Issues that Impact People's Ability to Pursue an Academic Research Career.

Region	Largest Barrier	Second Largest Barrier	Third Largest Barrier
North America	Race (83%)	Gender (59%)	Poverty (56%)
Latin America	Poverty (79%)	Unemployment (47%)	Gender (45%)
UK	Race (69%)	Poverty (69%)	Class (61%)
North and Western Europe	Race (71%)	Gender (56%)	Disability (50%)
South and Eastern Europe	Poverty (53%)	Gender (52%)	Race (50%)
Middle East, Northern Africa, and Sub-saharan Africa	Poverty (71%)	Unemployment (68%)	Gender (46%)
Asia	Poverty (61%)	Religion (47%)	Class (45%)
Australasia	Race (76%)	Disability (48%)	Ageism (47%)

Source: Based on *The Power of Diverse Voices* (Emerald Publishing, 2020, p. 11).

This shows how important the cultural, financial, societal, and political context is for what we consider important. It is not clear why a certain topic, for example, gender, is not present in Asia (the only region where religion is in the top three barriers); is it because the problem is considered solved, or considered irrelevant, or just inferior to other problems? This might suggest an area for research. No matter the reason, it shows the complexity of working with equality, diversity, and inclusion (EDI) globally and the need for future investigation so we can promote more equity in research, and research administration. Even the UK and the two regions within continental Europe show differences in barriers and, therefore, what the priorities for EDI work might be. Given this, RMAs cannot project what is considered important in their own country and institution as being relevant globally when working with diversity and internationalisation in a research proposal or project.

A survey like this is, of course, only a snapshot in time. The survey was completed in March 2020, just before the Black Life Matters protests, following the unlawful killing of George Floyd (*The Power of Diverse Voices*, p. 4). The picture could have been very different if the survey had run a month or two later. The Emerald survey also didn't include Lesbian, Gay, Bisexual, Transgender and Queer (LGBTQ+) as an option which the authors, as openly gay men, would have liked to have seen, given the highly politicised nature of LGBTQ+ inclusion (or exclusion) globally. It would have offered a different perspective again. Nonetheless, the survey highlights the complexity of barriers within research careers, and the breadth of factors highlights the importance of not reducing a person to one identity.

CI – A Frame for Working with Diversity and Internationalisation

Above, we have shown how diversity in an international research setting is not only complex but also structural in nature. Some challenges relate to policies, strategies, and recruitment procedures, but it also shows how this is a challenge in the daily life of RMAs which makes supporting internationalisation and diversity a core skill in the development of the RMA profession.

Many are aware of the challenges and want to make a difference. The main problem we meet as consultants is not a lack of understanding the problem or will to do something, but a lack of tools to move forward. For that, we wish to finish the chapter with a framework for navigating diversity and internationalisation. All challenges and situations cannot be covered, but these are principles that can help RMAs in their daily work.

While a person should not be reduced to their nationality, gender, sexual identity, race, or other defining elements, we believe a productive approach to work with diversity and internationalisation is using the frame of 'CI', as this recognises the structural element of culture and how it forms us individually and as communities. Culture in this context can be understood as the culture that forms us as part of a country, race, religion, sexual orientation, etc. We belong to different groups (including research disciplines, and as such the concept can also be used for interdisciplinary research), and that forms how we see the world and behave. The terminology is widely used, for example, in anthropology and business studies (Earley, 2002; Earley & Soon, 2023) including some of the business literature mentioned above.

One of the mistakes people often make when working with culture is to understand it as an unchanging essence inside us (Plum et al., 2008). But culture is better considered as a filter for understanding ourselves and the world around us, guiding our actions and interactions with others (Plum et al., 2008). Culture is something we do together, and so it changes with time, context, and participants. And as an action, it can be challenged and changed. Respectfully challenged, but challenged.

As such CI creates a frame for understanding, communicating, and creating a shared culture.

Plum et al. (2008, p. 19) defines CI as:

> the ability to act appropriately in situations where cultural differences are important, and the ability to make yourself understood and to establish a constructive partnership across cultural differences. Cultural intelligence is judged on the results of the encounter, not on the participants' intentions or thoughts. An intelligent result of a cross-cultural encounter is the creation of a shared understanding across all the participant cultures – an understanding which will enable the parties to get on with their work.

The final part of the definition is important, as it underscores that culture is not our destiny, it is a part of us that can be negotiated in collaboration with others so that we can all focus on doing our job no matter our cultural background.

Two important aspects for RMAs to consider are that the first responsibility is to make yourself understood, and second that CI is judged on actions and results, not good intentions. This leaves RMAs with a clear role and responsibility of driving organisational change bottom-up when supporting research projects both pre- and post-award. RMAs and researchers can take action by making their own cultural background understood. Often we tend to look into other cultures and want them to change to what we consider 'normal' or 'professional' without acknowledging that our own culture could be what blocks a fruitful collaboration. And the demand for actions over good intentions forces us to translate the intentions into tasks that the minority group considers valuable and meaningful. By moving beyond policy and into daily work RMAs become a key player in developing a CI organisation.

Plum et al. (2008) describe three elements of CI:

- *Cultural engagement*: The emotional and motivational aspect. Not only to learn about others but more importantly to allow oneself to change. How do we handle a difficult situation where we realise that many of the emotions and reactions in the room are defined by culture?
- *Cultural understanding*: Understanding both one's own culture and the culture of minority groups and international collaborators, including the intersectional implications. This includes understanding that what we consider strange about the behaviour of others, they find as normal as we find our own behaviour. And vice versa.
- *Intercultural communication*: This is the ability to turn off our cultural autopilot when interacting with others. It is thinking twice before talking and using more cautious terms, and it is making an extra effort in making oneself understood and going the extra mile to understand others. It is gaining a wide perspective on any situation as a practical way to develop a shared culture of actions, language and behaviour.

This is not to say that CI is easy. Things rarely are when human beings are involved. But understanding culture as action and individuals as containing multitudes of cultures when defining culture broadly gives us different tools and approaches to activate when supporting an international consortium. This helps RMAs support researchers when the communication breaks down in the application process (does everybody have the same idea of what a deadline is? What a meeting is? Saying yes or no to a task?), or managing a project with a large, diverse international team where certain researchers clearly do not thrive and things are going wrong. Or less dramatically if things are okay, but one just wants to make things a little better for minority groups and ensure that all perspectives in a project are heard. The frame allows us to explore the other perspectives, challenge the status quo respectfully, and make room for new ideas, roles, and voices to be activated in research teams, research support offices, and the research itself.

The focus in CI is on the team and collaboration and not the research itself, and as such it will not solve challenges around gender analysis in research proposals. However, CI will lead to broader representation in different ways, and a culture where persons from a minority background can voice their perspectives and these perspectives are taken seriously. CI is a way to learn to think beyond one's own perspective and recognise the importance of a gender analysis or diversity analysis in research. A full gender analysis is more complex, but acknowledging the need is a starting point, particularly at a time when the requirement is new and many researchers and RMAs are struggling to include this in research proposals.

CI creates a set of principles that can define the actions needed in the specific contexts described above. That is not to say that there are no practical advice or steps that can be taken now, but the challenge is that there is no one-size-fits-all solution in this field.

Finally, it is important to remember that many of these steps, tools, and dynamics are as useful for RMAs as for researchers. Representation matters at all parts and levels of RPOs and we want the creative and impactful benefits of diversity everywhere. This is an area that needs more research on barriers to enter the profession, career paths, and the importance of developing relevant services that match the needs of the organisation and the surrounding society.

Conclusions

The role of diversity in research has changed over time and what is considered the most important challenge varies from country to country. The global differences combined

with differences in culture and behaviour makes diversity and internationalisation difficult to make a success within an international work setting like RPOs.

Diversity and internationalisation are a question of developing the content of the research, the team, and the consortium and the patterns of collaboration among researchers and RMAs across national culture, race, gender, sexual orientation, ethnicity, gender identity, age, physical ability, social class, religion, and other factors of identity and cultural belonging.

While dealing with all these factors as one complicates the challenge even further, it also helps in analysing and understanding the challenges and thus to provide an inclusive solution to make diversity and internationalisation work. This is particularly important as the two agendas don't necessarily go hand in hand and might even in some cases work against each other.

Creating inclusive environments ensures RPOs can attract the best researchers at all levels no matter their background; that researchers and RMAs can thrive and conduct the best research and support; that new perspectives are added reflecting all of society ensuring broad societal impact; that international projects are well-functioning collaborations and not parallel silos with a shared acronym.

CI is a set of principles and tools that creates a useful frame for working with diversity and internationalisation. The definition of culture as something we do together and not a constant essence of a person makes it possible to challenge and work with culture as something we create and hence we can develop and change the culture of a research group, institute, or international consortium. This inclusive definition of culture also allows you to consider national cultures and the cultures of minority groups at the same level and to navigate them in parallel when creating a culture for everybody. By using CI, the research itself may not change but it helps to create an inclusive research environment that appreciates diversity and is open to new perspectives. CI helps to create a mindset that analyses a proposal through a lens of not just one facet of diversity but includes an intersectional perspective.

Terms like EDI in research easily become abstract and vague concepts. Therefore, it is important to transform the CI frame into tangible steps, tasks, and principles to guide one's work.

RMAs mainly discuss diversity in research, but as diversity benefits research it also benefits RMAs and it is as important to implement the CI frame in research management and administration.

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References

Altonji, J. G., & Blank, R. M. (1999). Race and gender in the labor market. In *Handbook of labor economics* (Vol. 3). Elsevier.

Banaji, M. R., & Greenwald, A. G. (2016). *Blindspot: Hidden biases of good people*. Bantam.

Caligiuri, P. (2021). *Build your cultural agility: The nine competencies of successful global professionals*. Kogan Page.

Cech, E. A. (2022). The intersectional privilege of white able-bodied heterosexual men in STEM. *Science Advances*, *8*(24), eabo1558.

Chatterjee, P., & Werner, R. M. (2021). Gender disparity in citations in high-impact journal articles. *JAMA Network Open*, *4*(7), e2114509.

COARA. (2022). *Agreement on reforming research assessment. Coalition for advancing research assesssment*. https://coara.eu/app/uploads/2022/09/2022_07_19_rra_agreement_final.pdf

Colella, A. J., McKJay, P. F., Daniels, S. R., & Signal, S. M. (2012). Employment discrimination. In *The Oxford handbook of organizational psychology* (Vol. 2). Oxford University Press.

Collins, P. H. (2015). Intersictionality's definitional dilemmas. *Annual Review of Sociology*, *41*(1), 1–20.

Earley, P. C. (2002). Redefining interactions across cultures and organizations: Moving forward with cultural intelligence. *Research in Organizational Behavior*, *24*, 271–299.

Earley, P. C., & Ang, S. (2002). *Cultural intelligence: Individual interactions across cultures*. Stanford University Press.

Ely, R. J., & Thomas, D. A. (2001). Cultural diversity at work: The effects of diversity perspectives on work group processes and outcomes. *Administrative Science Quarterly*, *46*(2), 229–273.

Emerald Publishing. (2020). *The power of diverse voices*. Global Inclusivity Report 2020. https://www.emeraldgrouppublishing.com/power-of-diverse-voices

ERC. (2020). *ERC gender action* [Presentation]. European Commission. https://erc.europa.eu/sites/default/files/document/file/ERC_gender_actions_and_data.pdf

Grant, J. (2021). *The new power university, The social purpose of higher education in the 21st century*. Pearson Education.

Guyan, K. (2022). *Queer data. Using gender, sex and sexuality data for action*. Bloomsbury Academic.

Lewis, R. D. (2018). *When cultures collide. Leading across cultures* (4th ed.). John Murray Press.

Livermore, D. A. (2013). *Expand your borders: Discover ten cultural clusters (CQ Insight Series)*. Cultural Intelligence Center.

Meyer, E. (2016). *The culture map: Decoding how people think, lead, and get things done across cultures*. PublicAffairs.

Page, S. E. (2019). *The diversity bonus: How great teams pay off in the knowledge economy*. Princeton University Press.

Perez, C. (2020). *Invisible women*. Penguin Publishing.

Plum, E., Achen, B., Dræby, I., & Jensen, I. (2008). *Cultural intelligence. The art of leading cultural complexity*. Middlesex University Press.

Sewell, L., & Barnett, A. G. (2019). The impact of caring for children on women's research output: A retrospective cohort study. *PLOS One*, *14*(3), e0214047. https://doi.org/10.1371/journal.pone.0214047

Simpson, L. R. (2004). Anticolonial strategies for the recovery and maintenance of Indigenous knowledge. *American Indian Quarterly*, *28*(3–4), 373–384.

Striebing, C., Müller, J., & Schrauder, M. (Eds.). (2022). *Diversity and discrimination in research organizations*. Emerald Publishing Ltd.

Sun, W., Nasraoui, O., & Shafto, P. (2020). Evolution and impact of bias in human and machine learning algorithm interaction. *PLOS One*, *15*(8), e0235502.

Van Dijk, H., Meyer, B., van Engen, M., & Loyd, D. (2017). Microdynamics in diverse teams: A review and integration of the diversity and stereotyping literatures. *Academy of Management Annals*, *11*(1), 517–557.

Van Dijk, H., & van Engen, M. (2013). A status perspective on the consequences of work group diversity. *Journal of Occupational and Organizational Psychology*, *86*(2), 223–241.

Van Knippenberg, D., & Schippers, M. C. (2007). Work group diversity. *Annual Review of Psychology*, *58*, 515–541.

Yunkaporta, T. (2019). *Sand talk: How Indigenous thinking can save the world*. The Text Publishing Company.

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Part 2

Section 5: Country Specific Chapters

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Chapter 5.1

Introduction to the RMA by Country Chapters

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Abstract

This section of the book brings together descriptions of the current state of research management and administration (RMA) in individual countries – or in some cases regions. There are over 50 countries included, the first time that such a comprehensive overview of RMA around the world has been brought together.

Keywords: RMA; countries; RAAAP; research management and administration; research administration; regional variation

Structure

Initially, we had hoped that each country chapter would be able to use the same structure, in order to aid with comparisons. While some have been able to adhere to the suggested structure well, many, for various and valid reasons have diverged to provide additional detail in some aspects and less in other areas. Additionally, a few country chapters do not focus on an entire country, or a single country, as appropriate for the region in question.

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Each chapter has been able to give some information about the research ecosystem in the country, cover some of the major research funders, and give an idea of the number of universities and other research performing institutions. Normally, this is followed by a description of the evolution of research management and administration (RMA) in the country. Some can claim this to be a profession (or at least a semi-profession), but others are less able to do so. Where there is an RMA association (or in some cases more than one) then this will also be described. In some areas, there is as yet no formal association, and some looser networks may be included.

Often the reader may find it useful to refer to the appropriate regional history chapter in Section 1 for more detail on the development of the profession in the continent. In some cases, there is an unavoidable overlap between the continental history and the evolution of RMA in individual countries, particularly in Australasia and North America where the country count is small.

The demographics of the RMA community in the country, or at least an indication of it, should then be provided. Some countries have undertaken their own surveys, often through the local RMA association. Others have utilised data from the various Research Administration as a Profession (RAAAP[1]) surveys, ideally the most recent RAAAP-3 dataset (Kerridge, Dutta, et al., 2022). Some countries have been unable to do so due to low response rates, and have perhaps provided a personal perspective. Readers should be aware data provided in these instances may lack robustness due to the small number of responses.

Finally, some authors have attempted to predict what the future will bring for RMAs in their countries and have given some concluding remarks.

It should be noted that while these chapters, and the book as a whole, tend to use the term Research Management and Administration, and the acronym RMA, these terms are not ubiquitous. Each chapter has used its national context and so the reader will observe other monikers being used interchangeably, for example Research Administration is common nomenclature in North America. This divergent identity is explored by Yang-Yoshihara, Poli, et al. (2023, Chapter 3.7) and more briefly by Kerridge (2021a, 2023a).

The chapters are ordered alphabetically by country (or region) name within an overall continental-scale block: Africa; North America, South America, Asia, Australasia; Eastern Europe, Western Europe, and the Middle-East. The chapters from each region were coordinated and corralled by a particular regional editor (and some of the regional editors also contributed to and coordinated other chapters in the book, and indeed the relevant country chapter in this section).

The first three chapters, covering ***African*** countries (Kenya, Nigeria, and South Africa), were overseen by Therina Theron. The following three chapters on ***North American*** countries (Canada, Caribbean*, USA) were managed by Melinda Fischer (*one by Fernanda Oliveira). There are then a pair of ***South American*** chapters (Brazil, Colombia) provided by Fernanda Oliveira. Next are seven chapters from ***Asia*** (China, India, Japan, Malaysia, Pakistan*, Singapore, Viet Nam) that were managed by Makiko Takahashi (*one by Mark Hochmann). Then two ***Australasian*** (Australia, New Zealand) ones were sourced by Mark Hochmann. The grouping of eight chapters from ***Eastern Europe*** (*Baltic States, Belarus, Cyprus, Czechia, Poland, Romania, Slovenia, Western Balkans) was managed by Virág Zsár (*one by Jan Andersen), and the penultimate Western Europe group of 14 chapters (Austria, Denmark, Finland, France, Germany, Iceland, Ireland, Italy, Netherlands, Norway, Portugal, Spain

[1] https://inorms.net/activities/raaap-taskforce/ and https://bit.ly/raaap

[Catalunya], Sweden, UK) was coordinated by Jan Andersen. The final group of three chapters from the ***Middle-East*** (Qatar, Saudi Arabia, and United Arab Emirates) was also managed by Mark Hochmann.

Overall, the 42 geographic chapters in this section provide information on the state of RMA in 52 countries across 6 continents.

Summary

It is hoped that this section will be useful to all readers. Even if the country you are interested in is not to be found within this section, it is likely that there will be a country chapter that matches the state of RMA in the area of your interest. At the end of the section, you will find a short chapter (Kerridge, Andersen, et al., 2023, Chapter 5.44) from the regional editors reflecting on some of the similarities and differences in RMA across and between regions.

Acknowledgements

The author would like to acknowledge the huge effort and experience that all of the 100 contributors brought to this section. Of particular note is the huge organisational and management effort from the book's regional editors that was needed to bring this section to fruition: Jan Andersen, Melinda Fischer, Mark Hochman, Fernanda Oliveira, Makiko Takahashi, Therina Theron, and Virág Zsár.

References

Kerridge, S. (2021a). Research administration around the world. *Journal of Research Administration*, *52*(1), 11–14.

Kerridge, S. (2023a). Is research management and administration (RMA) a profession? *Journal of Research Management and Administration*, *2*(1), 1–5.

Kerridge, S., Andersen, J., Fischer, M., Hochman, M., Oliveira, F., Takahashi, M., Theron, T., & Zsár, V. (2023). Reflections on research management and administration in various countries around the world. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 799–806). Emerald Publishing.

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Yang-Yoshihara, M., Poli, S., & Kerridge, S. (2023). Evolution of professional identity in research management and administration. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 297–307). Emerald Publishing.

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Africa

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Chapter 5.2

Research Management and Administration in Kenya in a Challenging Research Environment

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Abstract

This chapter provides an overview of the current state of research policy and research management and administration (RMA) in Kenya. Although RMA is an emerging field globally, it is not yet fully recognised in Kenya. The main objective of this chapter is to provide an overview of the vibrant research environment in Kenya, its most important challenges in the field of management and administration of research, and how some Kenyan Universities are dealing with them.

The findings in this chapter are based first on a research policy documents analysis and on literature review. In a second phase, qualitative data were collected through desk-based research and informant questionnaires and interviews.

In the conclusions, concrete suggestions are formulated that could support the enrichment of the research environment, find solutions for RMA-related

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challenges, but also lead to the development and establishment of RMA as a profession in the country.

Keywords: Kenya; research management and administration; National Research Policies; universities; South Eastern Kenya University; Moi University

Context

The main document outlining the national programmatic documents of Kenya as well as that of other African countries, is the African Union's (AU) Agenda 2063. The Agenda 2063 is a well-developed comprehensive plan for the structural transformation of Africa into a global powerhouse of the future, which was adopted at the AU's golden jubilee summit in 2013. The heads of states and governments assembled at the summit and declared their resolve to make progress in identifying seven aspirations – within which they identify goals and priority areas – which are to be integrated into national development policies and plans.

Agenda 2063 is the concrete manifestation of how the continent intends to achieve this vision within a 50-year period (2013–2063). The need for such a long-term development trajectory for Africa is important as the continent needs to revise and adapt its development agenda due to ongoing epochal transformations. Science, Technology, and Innovation (STI) is recognised as a key enabler promoting the ability of African countries to achieve their economic transformation and development goals.

In 2022, Kenya ranked 13th among the 36 lower-middle-income group economies on the Global Innovation Index (GII),[1] Dutta et al. (2015), which captures the multidimensional facets of innovation by measuring the innovation capacity of countries across the world and which provides tools to tailor policies for promoting long-term output growth, improved productivity, and job growth (Cornell University, INSEAD, and WIPO 2015). It ranked 4th among the 27 economies in Sub-Saharan Africa.

As one of the signatures to the clear vision set out in Agenda 2063 for the future of Africa, Kenya, as most of the African countries, supported its implementation by adopting the Science, Technology and Innovation Strategy for Africa 2024 (STISA-2024) which is one of a series of 10-year strategies planned as part of Agenda 2063. STISA-2024 provides a focus on improving Africa's STI status in human capital, technical competence, infrastructure, the enabling environment, innovation, and entrepreneurial (AUC 2014). To ensure the effective implementation of STISA-2024, African countries agreed to establish an African Science, Technology and Innovation Fund (AAS, 2018) but this had not yet been achieved.

In this political and programmatic scenario, the importance of higher education for development and the roles of universities in relation to development are widely recognised. Indeed, as the main knowledge-producing institutions in any society, it is assumed that universities are well-placed to leverage their research and education capacities to foster more innovative and dynamic economic growth (Cloete et al., 2011, 2018).

[1]https://www.wipo.int/global_innovation_index/en/2022/

The Kenyan Research Policies and Environment

Despite the challenges Kenya faces as a low-middle income country, its research management system is lacking but not undeveloped as further outlined in this chapter.

Kenya has tried to develop and adopt Science, Technology, and Innovation (STI) policies, as directed by the Kenyan National Research Agenda 2018–2022 that 'recognises the critical role played by research and development in accelerating economic development and proposes to intensify the application of STI to raise productivity and efficiency levels across the economic, social and political pillars of the Vision'. However, according to the African Academy of Sciences (AAS), STI policies in the African continent are predicated primarily on economic growth and competitiveness rationales, rather than on sustainable development. In the last draft of the National Science, Technology, and Innovation Policy (Kenyan Ministry of Education, 2020), what is lacking is the monitoring and evaluation (M&E) mechanisms. These are planned but the procedures and the tools are not clearly implemented.

In 2020, the status of STI policy development in Kenya included policy instruments such as the STI policy, or Science, Technology, and Innovation Policy (revised in 2018 and 2020) (Kenyan Ministry of Education, 2020). other related policies and policy instruments comprise the National Research Priorities 2018–2022 (Kenyan Ministry of Education, 2019), the Science, Technology and Innovation Act (2013), the Third Medium-Term Plan (2018–2022) of Vision 2030 (2008),[2] the National Research Fund (est. 2013), and also the Energy Act (2019).

To understand concretely the commitment of the Kenyan government to implement the STI policies, we must look at the gross domestic expenditure on research and development (R&D) (GERD), a common measure of investment in R&D. Indeed, in 2010, Kenya had one of the highest R&D intensities in Africa, at 0.79% of gross domestic product (GDP). Furthermore, the government has recently committed to allocate 2% of GDP to facilitate research for the advancement of science, technology, innovation, and commercialisation of research products. However, this is yet to be implemented (UNESCO Science Report, 2021).

Kenya's institutional framework for research relies on the role of the National Commission for Science Technology and Innovation (NACOSTI),[3] the National Research Fund (NRF),[4] and the Kenya Innovation Agency (KENIA).[5] Similarly, these national institutions have clear mandates but often lack the financial capacity to implement them effectively. Although funding for research is limited, Kenya's research environment is highly vibrant and productive. Kenya also hosts many international research organisations and intermediary organisations that are well integrated in the national context and make the country a major hub for research in East Africa.

The National Research Priorities 2018–2022, the third of five-year plans to implement the *Kenyan Vision 2030* as indicated by NACOSTI) also align with the national government priorities which are referred to as the Big Four Agenda: food and nutrition security; manufacturing; universal health coverage; and academic R&D and affordable housing.

In this rich policy background and framed institutional structure, the research environment in Kenya is very vibrant with opportunities. An indicator of a positive research

[2]https://vision2030.go.ke/publication/third-medium-term-plan-2018-2022/
[3]https://www.nacosti.go.ke/
[4]https://researchfund.go.ke/
[5]https://www.innovationagency.go.ke/

environment is the number of active research institutions. Indeed, since the introduction of the University Act in 2012, the number of public universities increased from 22 to 32, and that of private universities from 22 to 30 (established and funded mainly by private sponsors). This environment is strengthened by the presence of a large number of specialised think tanks and research institutes (Center for Research and Technology Development, Rift Valley Institute, Agricultural Information Resource Centre, etc.) and around 70 Research Hubs (UNESCO Science Report, 2021).

According to the UNESCO Science Report (2021), the volume of scientific publications from 2011 to 2019 doubled in Kenya. In Central and East Africa countries, Kenya has top five partner countries namely USA, UK, South Africa, Germany, and Uganda with scientific co-authorship of 3,045 papers in the years 2017–2019.

Regarding EU funds, the share of participation from third world countries in FP7 and Horizon 2020 has fallen from 4.9% in the FP7 to 2.4% under Horizon 2020 (Kraemer-Mbula et al., 2018). This is in spite of the efforts to increase the participation of African universities and research institutes in these calls. That notwithstanding, Kenya is among the leading African countries participating in these calls (Kraemer-Mbula et al., 2018). Indeed, Kenya's participation in EU Research Programmes increased from FP7 with 77 projects with 12.5 million euro funding to Horizon 2020 with 82 projects for a total of 32 million euro funding.[6]

Despite the recent policy advances, the rich environment and the active stakeholders at the university, similar overarching obstacles are perceived: lack of mechanism to promote accountability in policy implementation, lack of institutional resourcing and research funding, lack of facilities/resources, and also lack of training/research skills.

The RMA Community

Although Kenya has a clear research framework and numerous Higher Education Institutions (HEIs), professional organisation for the development of research and innovation management is known as is observed in South Africa (SARIMA – Southern African Research & Innovation Management Association) or in West Africa (WARIMA – West African Research and Innovation Management Association). In 2015, the Eastern Africa Research and Innovations Management Association (EARIMA) was also founded, but the attempt to develop EARIMA seems ambitious since EARIMA membership covers several countries including Tanzania, Kenya, Rwanda, Ethiopia, Somalia, and Eritrea. This broad representation in terms of geographical coverage, especially in times of COVID, might increase difficulties for connecting, sharing, and implementing EARIMA's activities.

Thus, it is difficult to determine the profile of a research manager in the Kenyan universities. What appears from the web search analysis, analysed documents and from the interviews collected in the framework of research collaboration among Kenyan and Dutch universities, Kenyan researchers have the dual role of research managers and principal investigators (PIs). The burden and workload due to this double role seem to be perceived differently from the interviewees in this brief study. For instance, Manguro, Director of the International Center for Reproductive Health in Mombasa, who was interviewed underlined the difficulties of research management in difficulties in Kenyan institutions. Indeed, he states that 'grant-writing takes up much of his time

[6]Data from https://webgate.ec.europa.eu/dashboard/hub/stream/aaec8d41-5201-43ab-809f-3063750dfafd.

as there is no research management office at the institution and yet I must also ensure that the institution survives' (Van der Marwe, 2021).

Conversely, other researchers registered no complaint of having little time or too much pressure to fulfil the expected double duties. Instead, the dual role is perceived as an 'exciting opportunity' which offers the possibility 'to interact with other key players in research, establish collaborations, define priority research areas and participate in proposal development for competitive research grants'.

C. Van der Merwe stressed that Manguro thought that

> Kenyan researchers need help to develop the non-technical skills required to win funding, such as budgeting and ability to develop proposals. A further problem, he adds, is that funding is often tied to researchers from the Global North, demoting Kenyan researchers to 'basically a local implementer'.

No specific training, unless offered by private entities or developed through initiatives by universities, appears to be available to develop the needed research soft skills (e.g. science communication, scientific writing and mentorship). One of the few initiatives is offered by Alliance for Accelerating Excellence in Science in Africa[7] (AESA) – a funding, agenda-setting and programme management initiative created through a partnership between the AAS, African Union Development Agency, and global partners. The International Research Management Staff Development Programme[8] (IRMSDP), another organisation, endeavours to develop individual capacity, promote knowledge and culture sharing and the development of tools and resources by research management professionals in respective regions. IRMSDP is implemented by the Research Management Programme in Africa (ReMPro Africa),[9] which contributes to ReMPro Africa's fourth strand on developing the individual capacity of research management staff, is implemented in partnership with ARMA UK,[10] the professional membership association for Research Managers and Administrators in the UK.

Since this initiative is Africa-wide, only 5 Kenyan research institutions have been selected on the 62 universities so far to participate and to facilitate the needs of all universities and research institutes of Kenya. Indeed, several reports stress the need for training on soft skills particularly on research funding and grant writing.

Best Practices: SEKU and MOI University

To implement the national research policies and mitigate research challenges, Kenyan universities foster institutional strengthening by embedding the Research Support Services in their organisation, in order to overcome the emergent problems through extensive use of external consultants.

In the semi-structured interviews conducted implementing a collaborative research project assessment, RMA professionals and responsive communities indicated an awareness in the enhancement of RMAs within some universities. As part of the previously mentioned collaborative effort with Kenyan institutions, we focus on the South

[7]https://www.aasciences.africa/programmes
[8]https://arma.ac.uk/international-research-management-staff-development-programme/
[9]https://www.aasciences.africa/aesa/programmes/research-management-programme-africa-rempro-africa#/aesa/programmes
[10]https://arma.ac.uk/

Eastern Kenya University (SEKU) and Moi University as cases in point, partners in the above-mentioned collaborative project.

Moi University, located in the Western Kenya, was established in 1984 as the second public university in the country. It is a growing multicampus university whose reputation is increasing. It is ranked as the second Kenyan university. Moi University has a fairly well-structured research management administrative office that is run by an Associate Dean, Research & Innovation which coordinates research and innovation activities in the university. The Directorate of Research has the mandate of:

- enhancing the capacity of researchers and dissemination of research outputs,
- improving the management of research funds,
- incubating research innovations/inventions, and
- partnering with industry to commercialise research outputs for the betterment of society.

The office, in collaboration with schools and faculty, implements the research policy on research teams and themes on various activities such as responding to calls for papers, calls for proposals/grants/projects, conferences, seminars, workshops, grants managements, and technology transfer.

To promote a vibrant and productive research environment that positively contributes to national industrialisation and development goals by putting in place appropriate structures for effective research funding and management of research activities, Moi is also paying particular attention to Intellectual Property (IP) having established a specific IP Policy (IPP) which governs the disposition of IP generated in the institution and promotes creativity and innovation. It has also established a department dedicated to Gender Equality issues. In relation to areas of Open Science and Data Management, the university is organising new offices though requires further government interventions and support from stakeholders.

The **South Eastern Kenya University** (SEKU) is a public university with a main science and technological vocation. SEKU is 'making progress in all fronts' as they state

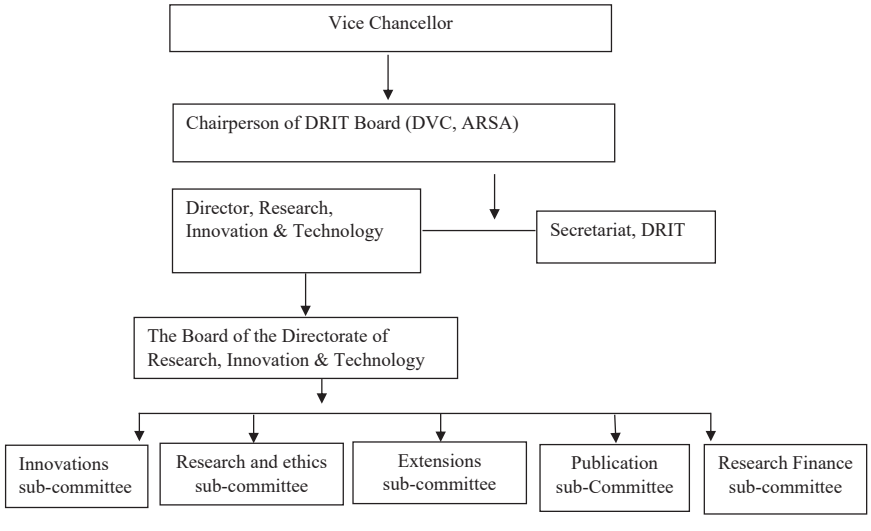

Fig. 5.2.1. Organisational Chart for the Directorate of Research, Innovation and Technology (DRIT) at SEKU.

in their video presentation,[11] taking the lead of the new challenges that society and research have to face. Indeed, SEKU established a well-structured division as Directorate of Research, Innovation and Technology (DRIT), see Fig. 5.2.1.

Responsibilities, duties, and participation in boards are well outlined both at the governance and at the management level. Indeed, the governance level is directly involved in research policy implementation:

- The Vice-Chancellor is the Chief Executive Officer (CEO) of the university. By virtue of this, they are an ex-officio member of the DRIT Board of Management.
- The Deputy Vice-Chancellor of Academic, Research, and Students Affairs (DVC ARSA) is the chairperson of the DRIT Board of Management whose role is to oversee the implementation of the research mandate in the university.
- The Director of Research, Innovation, and Technology is in charge of executing the mandate and duties of DRIT and is therefore the secretary of the DRIT Board of Management.
- The DRIT Board of Management has membership spelt out in the University Statutes.
- The Board of the Directorate of Research, Innovation & Technology is organised in the following subcommittees:

  – Innovations – In charge of the development and implementation of the IP policy.
  – Research and Ethics – In charge of ensuring that research ethics are upheld. The university has established an Institutional and Scientific Ethics Review Committee and is awaiting accreditation by NACOSTI[12] to facilitate the ethical clearance and management of submitted research proposals involving human and animal subjects.
  – Extensions – Promotes community engagement in research activities, training, and sensitisation of the public on matters of research. Currently developing a policy on research extension.
  – Publication – In charge of published works by the university. It is currently developing a publications policy and a proposal to establish the *SEKU Journal of Research*.
  – Research Finance – This committee has membership from the university finance office, university financial audit, and procurement. Its role is to manage research finances/grants and asset disposal, i.e. ensuring proper acquisition and retention of all assets obtained from research activities for sustainable use by the university.

Conclusions

Considering how active and vibrant the Kenyan research system is, and the contribution by several funded collaborative projects and programmes meant/intended to increase the Kenyan universities and other HEIs capacity building, the authors are willing to see ownership[13] from the Kenyan RMA community and stock take all the

[11]https://youtu.be/J-fxxF_CJ3Q
[12]https://www.nacosti.go.ke/
[13]Ownership is used here as a concept of the Global South which claims ownership on goals, concepts, and procedures within the global south context often not recognised by the Western World which proceeds with a colonialist attitude.

findings and suggested solutions to overcome the common highlighted barriers such as limited research funding and institutional support.

Investment in the professionalisation of a Research Manager and Administrator is an integral element for the development of a rich research environment. Whether through independent, national, or international collaborative research or capacity-building programmes, adequate and continuous investment in RMA training and support mechanisms is required to bring on and foster excellence in research, also creating opportunities to establish or reinforce their professional networks. At the same time, it is important that investments in people also strengthen the wider research base of institutions.

The training events provided by the IPD should be held on regular basis not only to train on the basic RMA professional skills, e.g. research funding opportunities, communication, scientific writing including mentorship and data management, but also to build a common knowledge and promote the notion of the research management 'career' pathway in institutions, supported by an appropriate infrastructure of networks. Meeting in training sessions will facilitate the opportunities to establish a RMA community and association.

The necessity to build an independent Kenyan-based RMA association will not only identify common obstacles in developing a rich research environment but will also lobby for common remedies at top management and political levels. This is indicated by the interviewees as the missing key element to improve properly and achieve a rich research environment in Kenya.

References

African Academy of Sciences (AAS). (2018). *Africa beyond 2030. Leveraging knowledge and innovation to secure sustainable development goals*. AAS.

African Capacity Building Foundation. (2017). *Africa capacity report 2017: Building capacity in science, technology and innovation for Africa's transformation*. ACBF.

African Union. (2063). *Agenda 2063*. Retrieved November 27, 2022, from https://au.int/sites/default/files/documents/36204-doc-agenda2063_popular_version_en.pdf

Cherry, A., Haselip, J., Ralphs, G., & Wagner Isabella, E. (Eds.). (2018). *Africa–Europe research and innovation cooperation – Global challenges, bi-regional responses*. Palgrave Macmillan.

Cloete, N., Bailey, T., Pillay, P., Bunting, I., & Maassen, P. (2011). *Universities and economic development in Africa*. Centre for Higher Education Transformation (CHET).

Cloete, N., Bunting, I., & van Schalkwyk, F. (2018). *Research universities in Africa*. African Minds.

Dutta, S., Lanvin, B., & Wunsch-Vincent, S. (2015). *The global innovation index 2015 – Effective innovation policies for development*. Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO).

Fosci, M., Loffreda, L., Chamberlain, A., & Naidoo, N. (2019). *Assessing the needs of the research system in Kenya*. Report for the SRIA programme. Research Consulting.

Kenyan Ministry of Education. (2019). *National research priorities 2018–2022*. https://www.nacosti.go.ke/nacosti/Docs/Information%20Centre/National%20Research%20Priorities.pdf

Kenyan Ministry of Education. (2020). *Science, technology and innovation policy 2020–2030. Revitalizing and harnessing science, technology and innovation in Kenya*. https://www.nacosti.go.ke/wp-content/uploads/2021/Docs/Draft%20Science%2C%20Technology%20and%20Innovation%20%28STI%29%20Policy%202020-2030.pdf

Kraemer-Mbula, E., Vaitsas, C., & Essegbey, G. O. (2018). The dynamics of EU – Africa research and innovation cooperation programmes. In A. Cherry, J. Haselip, G. Ralphs, & I. Wagner (Eds.), *Africa–Europe research and innovation cooperation*. Palgrave Macmillan. https://doi.org/10.1007/978-3-319-69929-5_3

Ministry of Education. (2019). *National research priorities 2018–2022*. https://www.nacosti.go.ke/nacosti/Docs/Information%20Centre/National%20Research%20Priorities.pdf

Njoki Kingiri, A., & Awono Onana, C. (2021). Central and East Africa. In S. Schneegans, T. Straza, & J. Lewis (Eds.), *UNESCO science report: The race against time for smarter development*. UNESCO Publishing.

Republic of Kenya THIRD MEDIUM TERM PLAN 2018–2022. *Transforming lives: Advancing socio-economic development through the "big four"*. http://vision2030.go.ke/wp-content/uploads/2019/01/THIRD-MEDIUM-TERM-PLAN-2018-2022.pdf

Republic of Kenya, Science, Technology and Innovation Act No. 28 of 2013 Revised Edition 2014. (2013). https://www.nacosti.go.ke/nacosti/Docs/Information%20Centre/Science-Technology-and-Innovation-Act-No.-28-of-20131.pdf

Science, Technology and Innovation Strategy for Africa. (n.d.). *Science, technology and innovation strategy for Africa 2024*. https://au.int/sites/default/files/newsevents/workingdocuments/33178-wd-stisa-english_-_final.pdf

UNESCO Science Report. (2021). https://www.unesco.org/reports/science/2021/en/download-report

Van der Marwe, C. (2021, April 29). Soft Skills could help Kenyans win more fundings. *Research Professional News*. https://www.researchprofessionalnews.com/rr-news-africa-east-2021-4-soft-skills-could-help-kenyans-win-more-funding/

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Chapter 5.3

The Profession of Research Management and Administration in Nigeria

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Abstract

This chapter explains the evolution of Research Management and Administration (RMA) in Nigeria with its achievements and challenges arising from the participation of relevant stakeholders and current practitioners from 24 universities in Nigeria. The layout covers the prerequisites for RMA, its development, and its implementations. Nonetheless, the research shows that the non-professionalisation of RMA in Nigeria is not only a barrier but also a challenge to the emergence of a profession which can be resolved by the implementation of approved/not-approved career structures for RMA in Nigeria. Findings from a survey show that a tripartite group is involved in the present-day RMA. Moreover, submissions by participants show that in the next two decades, RMA is expected to attract both academic and administrative staff with leadership by academic staff. The research supported the hypothesis that academic staff is most suitable to pilot RMA, nonetheless, when core research assignments for academic staff increase shortly, RMA will most likely be directed by administrative staff.

Keywords: Research Management and Administration; RMA; professionalisation; Nigeria; professional levels; demographics; WARIMA; SARIMA

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Research Ecosystem in Nigeria

The research landscape in Nigeria is expanding, however, with little or minimum impact engendered by inadequate funding, education, training, and research infrastructure (Odeyemi et al., 2019). The evolution of Research Management and Administration (RMA) in Nigeria is an attempt to improve on the inadequate research infrastructure, which has led to the establishment of dedicated offices for RMA in Nigeria (Aliyu et al., 2021).

To briefly recall the memory lane, RMA started in Nigeria with the development of a National Policy Document on Health Research Ethics that was meant to represent the Government and people of Nigeria in relation to how health research was to be conducted in Nigeria. This document is titled: *National Code of Health Research Ethics*.[1] The document was crafted in 2007 following a meeting held in Accra, Federal Republic of Ghana by the Ministers of Health of all the African continent. The document became a framework for the integration of ethics of health and other research in the national research framework for research institutions, teaching hospitals, and Non-governmental Organisations (NGOs) in the country. In the pre-Nigeria era, it is interesting to note that there was an RMA-related structure named the *West African Council of Medical Research* (WACMR), affiliated with the *Medical Research Council (MRC)* of the UK. When Nigeria came into being, WACMR translated to the *Nigeria Institute of Medical Research*.[2]

Currently, universities employ most RMA staff in Nigeria. Nevertheless, because RMA has no verifiable career structure in Nigeria and no certification, we cannot say we have staff that we can categorise as RMA staff, career-wise. However, universities and other institutions like teaching hospitals, research organisations, and NGOs employ RMAs but it is significant to note that most RMAs are not regulated or certified by Nigeria because there is no verifiable career structure and progression for the evolving profession. Meanwhile, the staff who are deployed, employed, or engaged in RMA are holders of a first degree from a plethora of diverse disciplines. However, some also hold Master's degrees and others use the opportunity of the present light schedules in the RMA to pursue PhD degrees. The difference between the ideal RMA and the evolving RMA are certification, regulation, and recognition as a profession by the law of government and institutions.

As in most African universities, Nigeria is still categorised among countries with more need for RMA structure and presence (Akindele & Kerridge, 2019). Presently, in Nigeria, according to the National University Commission (NUC) website,[3] there are 40 federal universities, 50 state universities, and 111 private universities.

Funding of research in Nigeria is provided by the Nigeria Government, foreign donors, NGOs, and individuals (Baro et al., 2017). The Nigeria Government funds research through Tertiary Education Trust Fund (TETFund),[4] while foreign foundations and philanthropic bodies include (but are not limited to):

> 54gene, African Academy of Sciences, Bill and Melinda Gates Foundation, Carnegie Corporation NY, Dangote Foundation, Family Health International (FHI), Fulbright, Global Blood Therapeutics Inc.,

[1]See http://www.nhrec.net.
[2]See https://nimr.gov.ng/about-us-2/.
[3]See https://nuc.edu.ng.
[4]See https://tetfund.gov.ng/.

Grand Challenges, International Development Research Centre, International Research and Exchanges Board (IREX), Medical Research Council (MRC), National Institute for Health and Care Research (NIHR), National Institute of Health (NIH), Pfizer Global Medical Grants, Population Reference Bureau, Inc., President's Emergency Plan for AIDS Relief (PEPFAR), Royal Society of Science, UK, Silicon Valley Foundation, The Union for International Cancer Control, Tony Elumelu Foundation, UNICEF, USAID, Wellcome, World Bank, World Federation of Haemophilia (WFH), World Health Organization.

The ecosystem of RMA in Nigeria shows great promise, hence the implementation of more RMA activities and involvement is expected to affect Nigeria research institutions positively. One critical focus of all public and private institutions is the improvement of web presence, which was tested for compliance with RMA success parameters (Akindele & Kerridge, 2019). Research success in Health, Social Science, Engineering, and other fields, depends on the viability and involvement of RMA offices in institutions in Nigeria (Aliyu et al., 2021).

Evolution of RMA in Nigeria

The Nigerian market is not yet a place where RMA is currently a profession (Aliyu et al., 2021). Non-professionals are employed and are informally trained to fit into the job descriptions that are supposed to be taken on by experienced and well-certificated RMA professionals. The current crops of staff taking on RMA job descriptions are professionally uncertificated, unrecognised, and unregulated.

In most universities, RMAs are mostly employed as second-fiddle core administrative staff while some are first-class administrative staff. In such places, the RMAs are housed in the Executive Cadre of the administrative structure of the university. They could be named 'Executive Officers' on level 7 and they have the opportunity to progress to become 'Chief Executive Officers' on level 13. By virtue of luck or an act of commission or omission, some core administrative staff at the rank of Administrative Officer on level 8 to the rank of Deputy Registrar on level 14 find themselves doing RMA. Nevertheless, there are some staff designated as project officers that are doing RMA. Moreover, other staff that are employed by individual research projects as RMA Managers are named *Research Assistants* (RA) while very few are named *Consultants*. If we go by the tags put on RMA by the unimplemented career structure in some institutions, we propose a generic structure with suggested qualifications in Table 5.3.1.

Table 5.3.1 is the structure of the proposed RMA Career in Nigeria by the author with a minimum academic qualification of a Bachelor's degree and a maximum of a Master's degree. Nevertheless, all cadre of staff are expected to belong to at least one of the existing professional organisations in or outside the sub-region: for example West African Research Management Association (WARIMA)[5]; South African Research Management Association (SARIMA)[6]; National Council of University

[5]See https://warima.org/.
[6]See https://www.sarima.co.za/.

Table 5.3.1. Structure of Proposed RMA Career in Nigeria.

Level	Position	Responsibility	Minimum Qualification
15	Director (RMA)	Act as the Chief Research Superintendent for the institution to provide planned direction in support of RMA	Master's degree in any field.
14	Deputy Director (RMA)	Provide administrative leadership to cover the plethora of RMA portfolios in support of the Director (RMA) and the RMA Department at large	Master's degree in any field.
13	Chief of Research (RMA)	Provide intermediate administrative leadership in support of the Deputy Director (RMA) and the entire RMA Department	Master's degree in any field.
12	Senior Assistant Chief of Research (RMA)	Provide organisational support to solving recurrent problems in the preparation, submission and execution of research from start-up to close-out	Bachelor's degree in any field.
10	Principal Research Manager (RMA)	Support the Senior Assistant Chief of Research (RMA) to provide organizational support to solve recurrent problems in the preparation, submission and execution of research from start-up to close-out	Bachelor's degree in any field.
09	Principal Assistant Research Manager (RMA)	Coordinate Departmental and Principal Investigators' processes of preparation, submission and execution of research from start-up to close-out	Bachelor's degree in any field.
08	Senior Research Manager (RMA)	Responsible to the Principal Assistant Research Manager (RMA) in completing specific tasks of pre-award and post-award processes	Bachelor's degree in any field.
07	Research Manager (RMA)	Provide day-to-day support for specific Principal Investigators in Pre and Post Award RMA	Bachelor's degree in any field.

Research Administrators (NCURA)[7]; Society for Research Administration International (SRAI)[8]; and Association of Research Managers and Administrators (ARMA).[9]

It is important to note that whenever academic staff are appointed or deployed as RMA Managers in universities, they are given leadership designations like Deputy Vice-Chancellor (Research and Innovation), Directors of Research Management Office, Coordinators of Research, Director of Research and Innovation, Executive Director of the Central Office of Research, and so on. Whereas, the supposedly RMA professional staff that are non-academic/non-teaching staff are given more junior nomenclatures and positions that reflect their services in support of RMA – because of unimplemented career structures.

Current Community of RMA in Nigeria

In respect of the presence of a national professional association for RMA, Nigeria has not established a formal network yet. For this reason, RMAs belong to other associations, for example, WARIMA, SARIMA, NCURA, or SRAI. It is important to note that even the few RMAs that belong to the WARIMA are not consistent financially in their membership and renewal of their membership financially, annually and regularly. Also, the same goes for membership of SARIMA, NCURA, and SRAI whose memberships are problematic because Nigerian members would need to renew their membership with foreign currencies – a heavy financial burden for any Nigerian paid employee.

There is, however, an informal community for RMA practitioners which is a WhatsApp group for 'Directors R & D/TETFUND Directors R & D' consisting of about 74 individuals from various universities in Nigeria. It is important to note that all RMA staff on this WhatsApp group are core universities' academic staff with research-related nomenclatures. Moreover, as there are about 200 universities in Nigeria and the WhatsApp group only has 74 members we can see that the RMA associational community in Nigeria is far from pervasive. Unfortunately, there is no non-academic/non-teaching RMA personnel on that platform because it is a closed group association only for Directors of Research and Development, linked to TETFUND.

Demographics

In order to assess the demographics of RMAs in Nigeria, some questions from the RAAAP-3 questionnaire (Fischer et al., 2022) were adapted, this was needed as the main survey only elicited seven responses from Nigeria. The national survey undertaken by the author received 30 responses from 24 universities across the 6 geo-political zone in Nigeria viz: 63%, South-West; 10%, South-South; 7%, North-West; 7%, South-East; 3%, North-Central; and 3% North-East.

The academic qualifications of the participants are as follows: PhD: 40%, MSc: 34%, MPH: 10%, BSc: 10%, FWACP: 3%, and MMP: 3%. The percentage breakdown of the various academic background categorisations among the participants are as follows: Pure and Applied Sciences, (43%), Social Sciences (20%), Medical Sciences (17%), Agricultural Science (7%), Arts (7%), and Engineering (7%).

[7]See https://www.ncura.edu/.
[8]See https://www.srainternational.org/.
[9]See https://arma.ac.uk/.

There were three age ranges in the instrument. The ranges and percentages were as follows: 41–60 age range, 67%; 25–40 age range, 30%; 61–80 age range, 3%.

Regarding years of experience in RMA, 43% of the participants have 3–5 years, 30% have 0–2 years, and 13% have over 10 years. Among the participants, 40% were leaders in research (heads of offices, responsible for leading strategic functions); 37% were managers, (subordinate to a leader in research but responsible to coordinate a team in a functional specific area); 17% were operational staff (responsible for undertaking specific tasks), while 7% were assistants (who provide support for leader, manager or operational staff).

In response to the question of whether or not RMA is a profession in Nigeria, 50% affirmed that it was, 23% disagreed, while 24% were uncertain. Moreover, 48% submitted that RMA was without a career structure in Nigeria, 33% were hesitant, while 20% opined that RMA has a career structure in Nigeria. In relation to RMA having career structure and the implementation in Nigeria in the next two decades, 70% of participants submitted that it will have a career structure, while 10% opined that it will not. However, 20% were indifferent to the item.

Furthermore, the majority of participants (84%) submitted that mixture of academic, administrative, and ad-hoc staff is likely to be in RMA, once the profession is recognised and a qualification pathway properly set/defined. This group of respondents supported the assertion that for optimal success for the multifaceted and multidisciplinary nature of RMA, the three categories of staff will definitely function in a professionalised RMA.

With regards to the leadership of RMA in Nigeria, 47% of participants submitted that academic staff will lead RMA. To buttress this submission, participants believed that academic staff possessed more understanding of research (related) activities even though they need more training to boost their administrative capabilities to run and support research management activities. Moreover, participants believed that academic staff are trained to develop and discover research problems, which suggests that, if academic staff lead RMA units and services, the leadership could be more impactful. Furthermore, 47% of participants believed that RMA should have both academic and administrative components even though the participants submitted that academic staff were more likely to handle the tasks more competently. Conversely, only 7% submitted that administrative staff will lead RMA in Nigeria. However, 47% opined that both academic and administrative staff will lead RMA in Nigeria.

The Future of RMA in Nigeria

The future of RMA in Nigeria is expected to be propitious. The assumption hinges on the fact that there is already a plethora of RMA activities and staff. This shows that even though Nigeria might not currently show full evidence of RMA as a profession, Nigerian research institutions are already working towards making RMA a full-fledged profession. There is evidence of approved career structure for RMA staff in some institutions in Nigeria even though they have not been operationalised. For instance, at the University of Ibadan, the last but one approved career structure made provision for the entry title into RMA as 'Research Administrator' with the basic qualification of Higher National Diploma Certificate (HND) or a Bachelor Degree in Education or Science. Such RMA staff undertake clerical and administrative responsibilities in support of unit's research programs which may include the organisation of pre-award and/or post-award procedures as well as collection, distribution, and filing of Request for Applications (RFAs), Funding Opportunity Announcements (FOAs) proposals and

associated papers. Moreover, in recent times, there are improved training and retraining opportunities on research funding and support especially from international grantors in some universities in Nigeria. Such training grants include NIH G11[10] and the UASP Fellowship and Alumni grants of IREX[11] and Carnegie Corporation of NY.[12] This underscores the fact that more researchers are applying for international grants that require better compliance with international RMA infrastructure, which can only become a reality in the full implementation of the career structure(s) of RMA in Nigeria. Furthermore, in recent years, TETFUND in Nigeria has committed a large amount of its funds to the establishment of Research and Innovation Offices to enable its vision and mandate to establish globally compliant RMA infrastructures.

Looking critically into the past and the present of RMA, on the one hand, the profession might end up becoming a core academic staff profession in Nigeria, because most academic staff engaged in RMA in universities/research institutions see it as prestigious and exclusive positions that could only be more effectively piloted by the academic staff. On the other hand, some administrative staff see RMA as consisting purely of administrative activities which will release the core academic staff to do justice to their core competencies of intra/inter disciplines research or intra and inter disciplines research. Arising from the explanations recapped above, we can postulate that, in the next two decades, RMA can be predicted to be a profession appealing to both academic and administrative staff in Nigeria. In our opinion, it appears that RMA in Nigeria will lean more towards academic staff until academic staff are willing to let go of professional administrative duties, and administrative staff are willing to take on administrative duties that have a blend with academic assignments.

References

Akindele, A. T., & Kerridge, S. (2019, July 8–11). *Benefits of research management and administration for African universities: The way forward* [Paper presentation]. COREVIP: 2019: The Role of Higher Education Institutions in Promoting the Continental Education Strategy for Africa, Egypt. https://www.researchgate.net/publication/346962911_Benefits_of_Research_Management_and_Administration_for_African_Universities_-_The_Way_Forward

Akindele, A., & Makinde, O. (2019). *Universities in Africa – HEICAT analysis*. figshare. https://doi.org/10.6084/m9.figshare.8307569.v1

Aliyu, M. H., Iliyasu, Z., Ingles, D. J., Cassell, H. M., Lloyd, W. H., Ahonkhai, A. A., Abdu, A., Audet, C. M., & Wester, C. W. (2021). The V-RAMP program: Building research administration and management capacity in Nigeria. *Journal of Global Health Reports*, *5*, 1–8. https://doi.org/10.29392/001c.24355

Baro, E. E., Bosah, G. E., & Obi, I. C. (2017). Research funding opportunities and challenges: A survey of academic staff members in Nigerian tertiary institutions. *The Bottom Line*, *30*(1), 47–64. https://doi.org/10.1108/BL-07-2016-0027

Fischer, M., Kerridge, S., Oliveira, C. I., & Dutta, M. (2022). *RAAAP-3 HIBARMA questionnaire (Version 3)*. figshare. https://doi.org/10.6084/m9.figshare.20459370.v3

Odeyemi, O. A., Bamidele, F. A., & Adebisi, O. A. (2019). Increased research productivity in Nigeria: More to be done. *Future Science OA*, *5*(2), 10–13. https://doi.org/10.4155/fsoa-2018-0083

[10]See https://www.niaid.nih.gov/grants-contracts/g11-sample-applications-and-opportunity-foreign-grant-administrators.

[11]See https://www.irex.org/project/university-administration-support-program-uasp.

[12]See https://www.carnegie.org/grants/.

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Chapter 5.4

The Profession of Research Management and Administration in South Africa

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Abstract

This chapter outlines the circumstances in South Africa (SA) that led to the evolution of the profession of research management and administration (RMA) in the country. The public higher education (HE) sector has undergone significant change since 1994, and the RMA profession has struggled to keep abreast. However, through its national professional society, SARIMA, a concerted effort is being made to facilitate and advance the RMA pipeline.

SARIMA was instrumental in developing the Professional Competency Framework for SA and is now focussed on creating awareness and providing development opportunities for RMAs to meet the requirements.

RMA in SA is proliferating as the public HE sector expands in response to growing demands and deliberate interventions by the government.

Keywords: South Africa; research management and administration; professional competency framework; public higher education; national system of innovation; SARIMA

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The South African Research Ecosystem

In 1994, Apartheid ended with the first democratic elections in April of that year. A new National System of Innovation (NSI) and HE system was introduced, which has been evolving ever since (Lange, 2017). In 1997, the Higher Education Act (Acts Online, 2022) came into being, and in 2001, the National Plan for Higher Education (Asmal, 2001) was released. In 2002, the process of merging institutions of Public HE started (Baloyi, 2015). In 2022, there were 26 public universities, and 2 new universities were announced by the Minister of Higher Education, Science and Innovation. Other Science Councils are publicly funded, although these account for a small portion of the NSI. All public universities are expected to be research active, with only a few considered research-intensive.

The two central units in government responsible for driving the NSI are the Department of Higher Education and Training (DHET)[1] and the Department of Science and Innovation (DSI)[2] (Department of Science & Innovation, n.d.). These departments form part of the Minister of Higher Education, Science and Innovation's portfolio.

The latest official information published in 2022 is for 2020, indicating that there are 19,636 tasked with conducting research in the public university sector resulting in 21,734 research publication units (see Research Policy section below) (Department of Higher Education and Training, 2020a). According to this report, two-thirds of research publications were produced by males. While there has been some transformative progress in the NSI, more needs to be done to ensure inclusivity. Furthermore, only 49.6% of public university academic staff have doctorates, indicating the need for further capacity development in the sector. The target that has been set for SA in the National Development Plan 2030 is 75% (National Development Plan 2030 | South African Government, 2012).

Research Plans

In 2013, the National Planning Commission (NPC) released the National Development Plan 2030, which set ambitious targets for the country (National Development Plan 2030 | South African Government, n.d.). This plan also determines the allocation of the budget by the government. This plan laid the foundation for several other plans, such as the Research Agenda 2020–2023 (Department of Higher Education and Training, 2020b), the 10-Year Global Change Research Plan For South Africa (Department of Science and Technology, 2017), and the Framework for Science Technology and Innovation Decadal Plan (Universities South Africa, 2021). These plans guide the research strategies and plans of all public universities.

Research Policy

In SA, research activities at public higher education institutions (PHEIs) are governed by various DHET policies. These include:

- Research Output Policy (Research Outputs Policy | South African Government, n.d.).

[1]https://www.dhet.gov.za/
[2]https://www.dst.gov.za/

- Policy on the Evaluation of Creative Outputs and Innovations Produced by Public Higher Education Institutions (Department of Higher Education and Training, 2021).
- Health Research Policy in SA (South African Government, 2001).

The NSI in SA is idiosyncratic because research subsidy to public universities is restricted to a list of DHET-approved accredited journals (Sabinet, n.d.). It uses publication output units (POUs) rather than publication outputs (POs) as its primary measure. POUs are calculated based on the number of authors contributing to a publication. For example, if two authors collaborated, each would be allocated 0.5 POUs; if three authors collaborated, each would receive 0.333 POUs. Every year, the DHET decides on a financial value per POU that will then be paid to the author's home institution in the form of a subsidy. This only applies to authors at South African PHEIs. POUs are the subsidy units awarded for each DHET-approved publication according to the criteria set out in the Research Output Policy based on the submissions made in a particular year.

DHET recognised only the following international indices in 2022:

- Clarivate Analytics Web of Science (WoS).
- International Bibliography of the Social Sciences (IBSS).
- Department of Higher Education (DHET) – South African Journal List.
- Norwegian List.
- Scientific Electronic Library Online – SA (SciELO SA).
- Elsevier Scopus.
- Directory of Open Access Journals (DOAJ).

The above indices are reviewed regularly, and new indices are added following a review process by DHET. One of the unintended consequences of this approach is that some of the lists may contain journals that are of low quality or even engage in predatory publishing practices. In such cases, the DHET may withhold funding post-publication despite the journal having been on the accredited list pre-publication (Mouton & Valentine, 2017). It is also possible for a high-impact journal not to be recognised by DHET as it is not listed on one of the approved indexes. While most researchers endeavour to publish in accredited journals, few choose non-accredited journals for strategic reasons. While this may benefit the individual, it denies their home institution from receiving any subsidy.

Research Funders

Funding for research at PHEI is mainly from two sources. The first is from DHET in the form of subsidies and grants. The second is from the National Research Foundation (NRF), part of the DSI. Some universities are also able to acquire additional funding through contract research and donations.

Table 5.4.1 shows the allocation of research subsidies based on actual research outputs to the sector according to the Ministerial Statement on University Funding: 2022/2023 and 2023/2024 (Ministerial Statement, 2021).

Research subsidy is only allocated for publications appearing in accredited journals, as listed above. Subsidy can also be earned for publications in peer-reviewed conference proceedings, scholarly book chapters and books. These submissions are evaluated by the DHET on an annual basis and use an algorithm to determine the subsidy amount.

Table 5.4.1. The Ministerial Statement on University Funding: 2022/2023 and 2023/2024 (Ministerial Statement, 2021).

Budget Category	Budget Totals for the SA University Sector				Increase in Budget From Previous Financial Year		
	2020/2021 (R'000)	2021/2022 (R'000)	2022/2023 (R'000)	2023/2024 (R'000)	2021/2022	2022/2023	2023/2024
Total funding for SA universities	**36 560 858**	**37 833 659**	**39 697 659**	**40 058 531**	**3.5%**	**4.9%**	**0.9%**
Research funding for SA universities	4 847 816	4 986 527	5 226 955	5 313 190	2.9%	4.8%	1.6%

The submission of research publications to DHET for subsidy purposes is made annually. This differs from systems such as the Research Excellence Framework (REF)[3] in the UK or the Excellence in Research (ERA)[4] for Australia, which works in multi-year cycles.

Apart from research publications, the DHET also recognises and subsidises creative research outputs (Government Notices No. 395, 2017). While the volume of these creative outputs is still low, and only a few PHEIs contributing, initial indications are that it will grow with time (Department of Higher Education and Training, 2021).

In 2020/2021, the NRF invested R2.127 billion (approximately $120 million) in grants and bursaries to support students, researchers and research infrastructure (National Research Foundation, 2022). The number of NRF-funded researchers was 3,000, of which 1,320 were female. The NRF also funded 3,984 Master's and 2,789 Doctoral level students (Register of Grants – National Research Foundation, n.d.). During the same period, 8,324 Master's and 3,522 Doctoral students graduated (NRF Annual Report 2020/21, 2022).

Evolution of the Profession

The Southern African Research and Innovation Management Association (SARIMA)[5] celebrated its 20th year of existence in 2022. SARIMA was created as a stakeholder organisation that provides a platform for promoting and facilitating best practices in research and innovation management in Southern Africa. It is funded by the DSI and through voluntary membership.

SARIMA embarked upon developing a Professional Competency Framework (PCF) for research management which was released in December 2016 (Professionalisation – SARIMA, n.d.). The PCF, as discussed in more detail by Dyason and Pillay (2023), focusses on three levels: administrative, management and leadership/strategic. The PCF was then implemented through a partnership with the International

[3]www.ref.ac.uk
[4]www.arc.gov.au/evaluating-research/excellence-research-australia
[5]https://www.sarima.co.za/

Professional Recognition Council (IPRC),[6] which was established in 2016. Three different levels of professional recognition are available:

- Research Administration Professional (RAP).
- Research Management Professional (RMP).
- Senior Research Management Professional (SRMP).

The first professional recognitions were awarded in 2018 and numbers have grown steadily. Total designations awarded up to 2022 are shown in Table 5.4.2.

The professional recognition process is a very rigorous process that is based on the submission of a comprehensive portfolio of evidence. Peer reviewers are appointed to then assess the portfolios and make a recommendation.

A major part of professionalising research management and administration (RMA) is knowledge development, sharing and dissemination. Apart from its own annual conferences, SARIMA also hosted the International Network of Research Management Societies (INORMS) conference in 2010 and will do so again in 2023 (SARIMA, 2022a).

For the 10-year period 2013 to 2022, SARIMA also (SARIMA, 2022a):

- Facilitated 70 exchange/learning visits.
- Hosted 43 regional and national forums.
- Supported 79 individuals to complete university-accredited short courses in research management.
- Supported 154 individuals through travel grants to attend SARIMA and INORMS conferences.
- Supported 17 research managers in applying for professional recognition.

Table 5.4.2. SARIMA Professional Recognitions (SARIMA Celebration Report 2013–2022, n.d.).

Professional Designation	**2018**	**2020**	**2021**	**Total**
Research Administration Professional (RAP)				
Research Management Professional (RMP)		4	5	**9**
Senior Research Management Professional (SRMP)	2		9	11
Honorary Senior Research Management Professionals			1	1
Total	**2**	**4**	**15**	**21**

[6]iprcouncil.com

The Southern African RMA Community

SARIMA is based in SA but also includes members from other Southern African countries. While SARIMA is the predominant professional association for RMAs in SA (84% of membership in 2022), it is not the only one. Many RMAs also join other global societies such as the Society of Research Administrators International (SRAI)[7] and National Council of University Research Administrators (NCURA).[8] This gives them access to international networks and broader exposure to internationalisation and collaboration opportunities.

The only available indicators of the size of the RMA community in Southern Africa are based on the SARIMA membership. The data are dynamic as memberships expire and new members join. The data available are shown in Table 5.4.3.

This shows that the RMA community in Southern Africa is well represented across the sector. There is however a growing interest in other Southern African countries such as Botswana, Kenya, Malawi and Zimbabwe for individual RMAs to join SARIMA as members and explore its wide range of activities.

South African RMA Demographics

The third Research Administration as a Profession (RAAAP-3) survey covered in Oliveira, Fischer, et al. (2023, Chapter 2.2), elicited low response levels from South African RMAs with only 36 (1.0% of n = 3,532) responses (Kerridge, Dutta, et al., 2023). Of these respondents who indicated a gender, 10 (29%) were male, while 24 (71%) were female. This is aligned with the global trend of RMA professionals being predominantly female. The overwhelming majority (34, or 94%) were from universities. Only 5 (14%) indicated a National RMA certification, aligning with the relatively low number of professional designations issued since 2018. Twenty four (69%) respondents indicated that they would recommend a career in RMA.

Table 5.4.3. SARIMA Community.

	FY 2021– 2022 (1 March 2021–28 February 2022)	**FY 2022– 2023 (To Date)**
SARIMA members (Total)	727	617
SARIMA members (SA)	542	521
SARIMA members (Outside SA)	185	96
Countries represented	20	17
Universities represented	40	33
Non-universities (e.g. Science Councils) represented	30	33

[7] www.srainternational.org
[8] www.ncura.edu

The Future of RMA in SA

As the primary funder of research at PHEI, the DHET is putting pressure on universities to increase their research productivity and impact (The Decadal Plan Charts the Way Forward | Universities South Africa, n.d.). This means a steady growth in research activity resulting in more outputs. Based on this, it is clear that the demand for RMAs to support researchers will continue to grow. The support required from RMAs will also expand as funding instruments become more complex, monitoring and evaluation systems require more detailed and comprehensive evidence, and the submission of research publications to DHET becomes more convoluted requiring more information and evidence to be captured.

The role of professional societies such as SARIMA becomes crucial in ensuring an expanding pipeline of RMAs for the NSI. Not only are professional designations vital in advancing professionalism in the sector, but it also creates awareness of RMA as a career. Further efforts are required to establish the adoption and buy-in from the leadership of universities, science councils and other stakeholders, such as Universities South Africa (USAf),[9] an umbrella body representative of the 26 public universities in SA. Professional recognition is not yet a compulsory requirement for employment in the RMA sector.

However, for RMA to further advance as a professional practice requires growing and disseminating the existing body of knowledge and overall engagement of RMAs. A quick survey of RMA journals such as the *Journal of Research Management and Administration* (JoRMA), *Journal of Research Administration* (JRA), and *Research Management Review* (RMR), reveals limited publications on RMA within the Southern African context. RMAs in SA often consider themselves practitioners and do not actively transform their tacit knowledge into explicit knowledge through journal publications or scholarly books such as this one. While participation in national conferences hosted by SARIMA is generally good, the knowledge presented is usually not formalised or disseminated beyond the conference attendees. Unless a concerted effort is made to create and contribute more formal knowledge to the sector, South African RMAs will always remain at a disadvantage.

One of the most significant challenges for those in RMA positions is the absence of a formal career path. Career advancement for RMAs often involves switching employers or leaving the RMA sector. Many RMAs also choose to further their qualifications in the same field as their undergraduate studies rather than pursue qualifications in RMA in the hopes that it will provide other career opportunities such as entering academia. This lack of investment in RMA as a career hinders the progression of the pipeline. The development of a career path can assist in attracting and retaining RMA talent.

Summary

In this chapter, we have seen that the NSI in SA has been constantly changing as it attempts to correct the past. The significant challenge for the sector remains to fund as the government reprioritises its spending.

RMA in SA has a history stretching back around 20 years. Recently, a concerted effort was made to professionalise the practice by developing and implementing a PCF.

[9]www.usaf.ac.za

While the uptake is still low, positive growth is evident. The success thereof is dependent on SARIMA's ability to secure funding.

The future of RMA in SA is promising as the sector is expanding. It is up to the RMAs to decide whether they want to professionalise and get recognised for their work.

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References

Acts Online. Retrieved September 14, 2022, from https://www.acts.co.za/higher_education_act_1997

Asmal, K. (2001). *National plan for higher education.* South African Department of Education. Retrieved September 14, 2022, from https://www.researchgate.net/publication/44827892_National_Plan_for_Higher_Education

Baloyi, M. C. (2015). *Mergers in South African higher education: Realization of policy intentions?* [UNISA]. https://uir.unisa.ac.za/bitstream/handle/10500/20938/thesis_baloyi_mc.pdf?sequence=1&isAllowed=y

Department of Higher Education and Training. (2020a). *Report on the evaluation of the 2020 university research outputs.* http://www.dhet.gov.za/

Department of Higher Education and Training. (2020b). *Research agenda 2020–2023*. Retrieved September 14, 2022, from https://www.dhet.gov.za/ResearchNew/APPROVED%20DHET%20RESEARCH%20AGENDA%20.pdf

Department of Higher Education and Training. (2021). *Creative outputs evaluation report 2021*. Retrieved November 26, 2022, from https://www.dut.ac.za/wp-content/uploads/2022/02/Creative-outputs-report-2020.pdf

Department of Science and Technology. (2017). *10 year global change research plan for South Africa.* Retrieved September 14, 2022, from https://www.dst.gov.za/index.php/resource-center/strategies-and-reports/2318-10-year-global-change-research-plan-for-south-africa

Government Notices No. 395. (2017). *Higher Education Act: Policy on evaluation of creative outputs and innovations produced by South African Public Higher Education Institutions.* Retrieved September 14, 2022, from https://www.polity.org.za/article/higher-education-act-policy-on-evaluation-of-creative-outputs-and-inovations-produced-by-south-african-public-higher-education-institutions-2017-05-09

Lange, L. (2017). 20 years of higher education curriculum policy in South Africa. *Journal of Education*, *68*, 31–57. http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S2520-98682017000100004

Ministerial Statement. (2021). *On university funding: 2022/23 and 2023/24.* Retrieved November 26, 2022, from https://www.dhet.gov.za/Institutional%20Funding/Ministerial%20Statement%20on%20University%20Funding,%20Dec%202021.pdf

Mouton, J., & Valentine, A. (2017). The extent of South African authored articles in predatory journals. *South African Journal of Science*, *113*(7–8), 1–9. https://doi.org/10.17159/SAJS.2017/20170010

NRF Annual Report 2020/21. (2022). https://www.nrf.ac.za/wp-content/uploads/2022/02/NRF-Annual-Report-2020-21-final.pdf

Oliveira, C. I., Fischer, M., Kerridge, S., & Dutta, M. (2023). The research administration as a profession (RAAAP) survey. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 113–123). Emerald Publishing.

Register of Grants – National Research Foundation. (n.d.). Retrieved September 14, 2022, from https://www.nrf.ac.za/information-portal/register-of-grants/

Research Outputs Policy|South African Government. (n.d.). Retrieved September 14, 2022, from https://www.gov.za/documents/research-outputs-policy-11-mar-2015-1027

Sabinet. (n.d.). *Accredited journals.* Retrieved September 14, 2022, from https://journals.co.za/publications-accredited

South African Government. (2001). *Health research policy in South Africa.* Retrieved September 14, 2022, from https://www.gov.za/sites/default/files/gcis_document/201409/healthresearch0.pdf

South African Government. (2012). *National Development Plan 2030: Our future – Make it work.* Retrieved September 14, 2022, from https://www.gov.za/issues/national-development-plan-2030

Southern African Research and Innovation Management Association (SARIMA). (n.d.). *Professionalisation*. Retrieved September 14, 2022, from https://www.sarima.co.za/professionalisation/

Southern African Research and Innovation Management Association (SARIMA). (2022). *Celebration report 2013–2022* (pp. 88). https://www.sarima.co.za/wp-content/uploads/2022/08/SARIMA-20-YEAR-CELEBRATION-REPORT-WEB-FINAL.pdf

The Decadal Plan Charts the Way Forward | Universities South Africa. (n.d.). Retrieved September 14, 2022, from https://www.usaf.ac.za/the-decadal-plan-charts-the-way-forward/

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North America

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Chapter 5.5

The Profession of Research Management and Administration in Canada

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Abstract

In Canada, the profession known as 'research management' elsewhere across the globe, is mostly commonly referred to as 'research administration' and encompasses activities and work associated with developing, administering, accounting for, and complying with sponsor requirements, guidelines, procedures, and laws relating to funded projects. Canada has a robust and active research administrator community through the Canadian Association of Research Administrators. As a result of changes beginning primarily in 2000, research administration has evolved to a complex, multifaceted profession with high demands for skills and expertise. Since 2000, there have been increased calls from research administrators in Canada to look at more formal professionalisation and certification of the research administrator role and to the evolution of the role to a profession. This chapter focusses primarily on those significant changes to the visibility and importance of research, and the subsequent growth of the profession of research administration in Canada.

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Keywords: Canada; research management and administration; professionalisation; research administration; CARA; RAAAP

Research Ecosystem

In Canada, the formal establishment of a professional society, originally the Canadian Association of University Research Administration (CAURA), occurred in 1972 with 56 members from 30 universities, and 21 associate members from various government funders and foundations. The post-secondary landscape at the time was reflective of the expansion and massification of post-secondary education that was occurring throughout the 1960s and 1970s (Monahan et al., 2023, Chapter 1.2).

In the year 2000, there was a marked change around how Canada as a country saw the importance of research in Canada. There were massive increases in research funding to each of the three main funding councils: Social Sciences and Humanities Research Council (SSHRC), Natural Sciences and Engineering Research Council (NSERC), and Canadian Institutes of Health Research (CIHR), as well as the establishment of the Canada Foundation for Innovation (CFI) which funds research infrastructure, and the establishment of the Canada Research Chairs (CRC) programme which included funding for 2,000 research professors across the country. The CRC programme has expanded since to include Canada Excellence Research Chairs (CERC) and the Canada First Research Excellence Fund (CFREF) and the Canada 150 Research Chairs. While support has continued for basic/pure research, there has also been an emphasis and additional support for partnerships and relationships between universities, and with the private, public, and non-governmental organisation (NGO) sectors in areas that provide potential economic benefits. Some funding programmes, such as the CFI, which funds research infrastructure, require partnerships. In cases where proposals are recommended for funding, CFI provides up to 40% of the funding for the project. Provincial governments generally fund 40%, and industry or other partners must be secured for the remaining 20%. As part of the shifts of the early 2000s, knowledge transfer (KT) and knowledge mobilisation (KM) became key for research.

Areas that provide support for the research enterprise experienced considerable change as a result of the shift in the year 2000 and increased focus on research and its importance to the Canadian landscape. New administrative requirements by funders meant increased administrative staff and new tracking, monitoring, and reporting processes. University–industry liaison offices, offices of technology transfer, contract specialists, development coordinators, and research accountants became commonplace in the years following these changes (Rasmussen, 2008). As the Association of Universities and Colleges of Canada (2008) noted, universities now require robust and professional administrative structures to support researchers and provide assistance from the identification of basic problems and developing a research programme through to the application of solutions discovered. The need to measure the impact of research was, and is, increasingly brought to the forefront of discussions – journal impact factors and citations are questioned in terms of how they relate to real world issues and make a difference in society as initiatives like the San Francisco Declaration on Research Assessment (DORA) gain traction. More recently, there have been requirements for Equity, Diversity, and Inclusion (EDI) Action Plans to be in place at institutions for programmes like the CRC programme, and a requirement to include meaningful EDI plans in research proposals. Critical to the success of the research enterprise, these

additional services have expanded in number and scope over the last two decades, further adding to the costs and complexity of the research landscape and the research administration landscape.

In 2015, CAURA changed its name to the Canadian Association of Research Administrators (CARA) to acknowledge the diversity of roles in the Canadian landscape. While the bulk of research administrators are located in universities, there are administrators in the private sector, in colleges, hospitals, and charities across the country. With the change in name, CARA also updated its stated purposes to:

> foster research administration and management expertise in Canada by facilitating a strong and vibrant community; provide and facilitate robust career and professional development programmes and services for members; and enable synthesis and dissemination of information and knowledge on research administration and management with a view to developing individual and organisational excellence. (CARA, n.d.)

CARA's mission is to be the authoritative body of knowledge and expertise on research administration and management in Canada. The stated values of the organisation are: inclusivity; integrity; authentic collaboration; relevance; and sustainability (CARA, n.d.). Priorities from the most recent (2020–2023) strategic plan include: communities of practice; professional excellence; sustainable CARA; and professional development.

The key funders of research in Canada continue to be the Tri-Agencies – NSERC, CIHR and SSHRC – as well as the CFI. In most fiscal years, we have seen an overall increase in research funding. The CIHR for example has seen funding increases from $727 million CDN in 2003–2004, to $1.134 billion CDN in 2019–2020. NSERC has seen an increase from $759 million CDN in 2003–2004 to $1,359 million CDN in 2019–2020 and SSHRC has seen an increase from $242 million CDN in 2003–2004 to $325 million CDN in 2019–2020. Taken together, from 2015 to 2020, the three funding agencies have seen funding grow from $2.36 billion CDN to $2.81 billion CDN. In addition, other funding has been provided for the CRC programme with commitments in 2018 of $210 million CDN over 5 years and ongoing funding of $50 million CDN per year; the Canada 150 Chairs programme in 2017 with a commitment of $117 million CDN; the CFREF with a 2022 committee of $1.4 billion CDN over seven years; and the CERC programme with a commitment in 2022 of $155 million CDN over eight years. Since its inception in 1997, the CFI has committed almost $8 billion CDN towards research infrastructure with those funds being mostly matched by provincial governments.

Universities have been and continue to be the main employer of research administrators in Canada with approximately 75% of 2019 Research Administration as a Profession RAAAP-2 (Kerridge, Ajai-Ajagbe, et al., 2022) respondents noting their place of employment as a publicly funded university. Another 10% identified that they worked in hospital settings, and 8% in the college sector. The remainder of the participants were employed by research funders, charities, government departments, and research institutes. Most recently, 80% of 2022 RAAAP-3 (Kerridge, Dutta, et al., 2022) respondents noted they were employed in a university setting with another 5% in hospital settings, just under 6% in the college sector, and the remainder in charities, government departments, research institutes, and the private sector.

Most research administrators are permanent employees (81%) of their organisations (Kerridge, Dutta, et al., 2022). Canada has 223 public and private universities, and the sector comprises 213 public colleges and institutes, including polytechnic institutes (Council of Ministers of Education, n.d.) and at least 40 research hospitals (Research Info Source, n.d.).

Evolution of the Profession

Within Canada, those working in the profession are generally referred to as research administrators. When CARA was first established (originally as CAURA, focussing on the university sector until the 'U' was dropped in 2015), professional development was not part of the stated purposes of the Association. As research grew in prominence in Canada after the year 2000 and the corresponding establishment of programmes such as the CRC programme and the CFI and increased commitments in terms of government funding, CAURA members turned their attention to professional development and to CAURA as a professional organisation (CAURA, 2007). In 2007, CAURA offered its first regional professional development opportunity at the CAURA West conference. By 2014, the Association had launched an informal professional development programme focussed primarily around webinars. In 2015, now as CARA, the association established a more formal certification programme in partnership with Association of Research Managers and Administrators (ARMA), with the first cohort of students starting in November of 2015. The Association created a mentorship programme in 2015 and ramped up its webinar offerings to members with more than 75 scheduled offerings, garnering more than 1,000 registrants by the midpoint of the year.

While the certification programme with ARMA met the needs of many members, others asked for certification designed in Canada and through a more traditional mode of delivery rather than fully self-directed. In response, in 2017, CARA launched the Certificate in Research Administration[1] in partnership with Mohawk College. There were 40 registrants for the initial course offerings. In 2018, CARA had both the programme with Mohawk College, and continued the certificate programmes through ARMA. By 2019, the certificate programme through Mohawk College had 100 students enrolled and 12 graduates from the inaugural intake. CARA also continued its more informal webinar programme with registrations exceeding 1,000. In 2021, professional development opportunities included webinars focussed on areas of interest with 2,600 registrations; and the Certificate in Research Administration with Mohawk College with 351 registrations and a total of 56 graduates. Going forward, CARA has launched a Graduate Certificate in Research Management and Coordination[2] through Mohawk College with the first intake beginning September 2022.

Current Community

In Canada, CARA is the only national organisation focussed on research administration. While CARA members may also have memberships in other similar international organisations, there are no competing associations. As a result, there is a strong emphasis on communities of practice which focus on collective learning – on sharing ideas and information towards a common goal. CARA supports numerous

[1]https://cereg.mohawkcollege.ca/certificate?certificateCode=CP0988
[2]https://cereg.mohawkcollege.ca/certificate?certificateCode=CP0953

special interest groups (SIGs) and regional groups, all led by volunteer members of the association. In addition, the key funders – NSERC, SSHRC, CIHR, CFI – each have a representative on the CARA Board. CARA also reaches out and works with other organisations such as the Canadian Association of University Business Officers (CAUBO), the Canadian Association of Research Ethics Boards (CAREB), and the Association des Administratrices et des Administrateurs de Recherche Universitaire du Québec (ADARUQ). CARA members are active in various committees through the International Network of Research Management Societies (INORMS) and communicate with colleagues throughout the global research administration and management community.

Keys to the CARA community are the annual national conference and the regional conferences. More than 50% of members attend the annual national conference which includes a day of pre-conference workshops, and 2.5 days of concurrent sessions. Selection of presentations is done by peer review following an open call. The national conference also allows for time to meet new colleagues, renew friendships with existing colleagues, and gather and share information. Conference feedback revealed members repeatedly indicate the benefits of the conference as being, from highest to lowest: the sessions themselves; connecting with federal funding partners; meeting new colleagues; connecting with SIGs; listening to plenary speakers; and attending pre-conference workshops.

Demographics

Since its establishment in 1972 with 56 members, CARA has grown to having around 1,000 members in 2021. CARA members participated in the three Research Administration as a Profession (RAAAP) surveys with data from 2016 (243 Canadian responses), 2019 (337 Canadian responses), and 2022 (177 Canadian responses). Members identify mostly as female, with 81% in 2016 (Kerridge & Scott, 2018b), 85% identifying as female in 2019 (Kerridge, Ajai-Ajagbe, et al., 2022), and 81% identifying as female in 2022 (Kerridge, Dutta, et al., 2022). With regard to age, most research administrators in Canada are between the ages of 35 and 54 (69% in 2016; 71.5% in 2019; 70% in 2022) (Kerridge, Ajai-Ajagbe, et al., 2022; Kerridge, Dutta, et al., 2022; Kerridge & Scott, 2018b).

Data through the RAAAP surveys show that the majority of members note two or three roles before joining research administration. While some survey respondents were very clear regarding what those roles were (e.g. admin support – project manager – research facilitator), others were more focussed on the progression of their career noting a 'promotion to other positions within the research admin landscape'.

When asked why they joined the profession, we see some significant changes from 2014 to 2020. The CARA (2014) members' survey notes that 62% of CARA members said that they had little or no awareness of the profession and only 9% had definite plans to become a research administrator. In the CARA (2015) members' survey, 71% of those who responded said they had no awareness, or 'not really any awareness' of the role and only 7.5% had a high level of awareness. This was echoed in the 2016 RAAAP-1 (Kerridge & Scott, 2018b) survey where research administrators in Canada confirmed that for most, working in research administration was not an intentional choice. Whether these results are connected to the past history/growth of the profession in Canada isn't clear. One respondent in 2016 noted that they 'did not plan to go into research administration'; another noted that it 'just sort of evolved'. In the RAAAP-2 (Kerridge, Ajai-Ajagbe, et al., 2022) survey in 2019, respondents from Canada noted a

more intentional decision to join the profession thereby possibly implying that the idea of 'falling into it' may no longer be the norm. One respondent noted that 'I needed a job and I had just finished my master's degree, so I applied for a job as a Research Coordinator'. Others noted a deliberate shift from conducting research to the administrative support of research. One respondent noted that the 'academic job market had dried up'; and another stated 'after receiving a PhD I worked for a for-profit research and consulting company… I felt more aligned with the values of academic research institutions but was unsuccessful in obtaining a faculty position that was not a temporary contract'. Yet another respondent stated 'I had a long career in basic research, working in both industry and academe. When funding in academe became scarce, I felt my skills were transferable to a research admin job'.

Respondents through the RAAAP surveys focussed on practical reasons (e.g. needed a job, relocation, job security) for getting into research administration, or on the opportunity the role provided. Multiple respondents noted that it was an 'interesting' role that provided a chance for promotion. Respondents from Canada saw their skills as a match for the role, citing legal skills, project management skills, accounting experience, grants experience, writing skills, and considerable relevant prior experience or expertise. In the RAAAP-2 (Kerridge, Ajai-Ajagbe, et al., 2022) survey in 2019, 74% of respondents note a high or somewhat high match of their previous skills to the research administrator role.

When asked why they stay in the profession, survey respondents note there has been, and continues to be, a focus on the bigger picture, the contribution of research to the wider world, the importance of research, and the idea of contributing to society. With regard to the practical reasons, for some, it came down to pieces like: 'close to retirement', 'pays well but I had to fight', 'no choice now' or 'I am now several years into a great pension plan'. A number of respondents talked about the importance of the work and of research, writ large, noting that we 'help researchers address the world's problems' and that we are 'able to reduce the admin burden of PIs'.

There were cautions, however, as well. In the 2016 RAAAP-1 (Kerridge & Scott, 2018b) survey, one respondent noted that 'while I love the work, it is the most stressful job I have ever had, not only due to its complex nature but because of the extremely heavy workload, without a break from constant demands'. Another identified that 'the profession is challenging, engaging and ever changing. Although it can be difficult it is a very rewarding and positive career'. We see these concerns continuing through the RAAAP-2 (Kerridge, Ajai-Ajagbe, et al., 2022) survey in 2019 with respondents noting that 'working for academic senior leaders can be extremely challenging', and that 'changes in the last year or so have increased my workload and responsibilities'.

In response to questions regarding when their skills were developed there was a mix among respondents. Some noted that their skills were a good fit upon joining the profession while others noted the development of skills on the job and their growth with regard to the changing environment. For many, it was a conscious blend of the two – an acknowledgment of what they brought to the role, and their own development since being in the role. Through responses in the RAAAP-1 (Kerridge & Scott, 2018b), RAAAP-2 (Kerridge, Ajai-Ajagbe, et al., 2022), and RAAAP-3 (Kerridge, Dutta, et al., 2022) surveys in 2016, 2019, and 2022, Canadian research administrators noted the importance of ongoing professional development and training, recognising the complexity of the profession and the ever-changing nature of the role. In Canada for example, since 2016 there has been an increased prominence regarding EDI, including the requirement for EDI Action Plans for the CRC programme. Building on the Athena Swan programme, Canada has also launched the Dimensions pilot programme.

In Canada, research administrators are well educated with RAAAP-3 (Kerridge, Dutta, et al., 2022) respondents reporting 30% holding a doctorate as their highest credential before they joined the profession, 33% holding a masters' as their highest credential before they joined the profession; and 28% holding a bachelor's degree as their highest credential before they joined the profession.

Directions/Future

The future of research administration in Canada looks bright. Membership in and support for CARA continues to rise, and the value and importance of both research and research administration is widely acknowledged by post-secondary institutions and governments, nationally, and provincially. One of the areas where the research administration community could and should put more focus is on getting information out more broadly regarding the value and importance of research to society. Stories of the impacts and outcomes of research are not told in ways that reach those not in the post-secondary sector; and often not told at all.

A key opportunity to show the value and importance of research is with regard to graduates – our 'bright young minds' and highly qualified personnel (HQP). Many university graduates, at all levels, are not interested in a career in academia. Instead, they are in the private and public sectors in a range of positions. As institutions, often the only follow up and contact with them is to ask them for donations. Instead, it would be worthwhile to connect with those graduates 3, 5, and 10 years post-graduation to follow up on what they did with the research they conducted and the skills they learned and ask what difference that research and those skills have made in their communities and workplaces.

The role of research administration has expanded exponentially in Canada, particularly since the year 2000. Zornes (2012) notes that the profession has become much more complex in part because of the plethora of different funding opportunities and these different smaller envelopes, programmes that focus on a particular research theme, or programmes that focus on infrastructure, or programmes that focus on specific types of partnerships. There is a further point for research and research administrators globally that illustrates a type of disconnect between the discourse of accountability and the discourse of discovery and inquiry (Zornes, 2012). For some research, the whole point is discovery, about answering a question where you don't know what the outcomes may be, or, at least the very least, where you don't know the implications of the outcomes. The discourse of accountability on the other hand is about standards, reporting, and demonstrating what will be done and its value. Accountability includes assessing risk, costs, and benefits before moving ahead, and these are not always possible to assess when considering research questions. Research administrators are caught in those processes of supporting the discovery nature of research and managing compliance and accountability.

References

Association of Universities and Colleges of Canada. (2008). *Momentum: The 2008 report on university research and knowledge mobilization*.

Canadian Association of University Research Administrators (CAURA). (2007, May 8). *CAURA annual general meeting*. https://cara-acaar.ca/members/documents

CARA. (n.d.). *Canadian Association of Research Administrators*. https://cara-acaar.ca/AboutUs

CARA. (2014). *Member survey*. https://cara-acaar.ca/members/documents (note: accessible only by CARA members).

CARA. (2015). *Member survey*. https://cara-acaar.ca/members/documents (note: accessible only by CARA members).

Council of Ministers of Education, Canada. (n.d.). *Postsecondary education: Number of institutions*. https://www.cmec.ca/299/education-in-canada-an-overview/index.html

Kerridge, S., Ajai-Ajagbe, P., Kiel, C., Shambrook, J., & Wakefield, B. (2022). *RAAAP-2 datasets (17 linked datasets)*. figshare. https://doi.org/10.6084/m9.figshare.18972935.v1

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Kerridge, S., & Scott, S. (2018b). *RAAAP "Research Administration as a Profession" data sets and supporting files.* figshare. Collection. https://doi.org/10.6084/m9.figshare.c.4022284

Monahan, K., Shaklee, T., & Zornes, D. (2023). History of research administration/management in North America. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 27–36). Emerald Publishing.

Rasmussen, E. (2008). Government instruments to support the commercialization of university research: Lessons from Canada. *Technovation*, *28*, 506–517.

Research Infosource. (n.d.). *Canada's top 40 research hospitals*. https://researchinfosource.com/top-40-research-hospitals/2021

Zornes, D. (2012). *The business of the university: Research, its place in the 'business', and the role of the university in society* [PhD dissertation]. University of Victoria, British Columbia, Canada. https://dspace.library.uvic.ca/handle/1828/4249

Chapter 5.6

The Profession of Research Management and Administration in the Caribbean Community

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Abstract

This chapter contextualises and provides an overview of the development and current state of the profession of research management and administration in the English-speaking Caribbean. In addition, the chapter shows that Research Management and Administration is an emerging profession that is beginning to take root in CARICOM countries, especially as demonstrated by the leading HEIs in which it is recognised that research administration functions are important in supporting and adding value to the research agendas of these institutions and their larger mission of contributing to the sustainable development of the region.

Keywords: Caribbean; CARICOM; CabRIMA; Research Management and Administration; RMA; RIMI4AC

The Research Ecosystem in the English-speaking Caribbean

This chapter focusses on research administration in the countries that comprise the 20-member Caribbean Community (CARICOM). Currently, the membership of CARICOM includes Antigua & Barbuda; Bahamas; Barbados; Belize; Dominica; Grenada; Guyana; Haiti; Jamaica; Montserrat; St. Lucia; St. Kitts & Nevis;

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St. Vincent & the Grenadines; Suriname; Trinidad & Tobago, plus all other British Caribbean territories and Bermuda as associate members. Except for Belize in Central America and Guyana and Suriname in South America, all members and associate members are island states. CARICOM is home to approximately 16 million citizens, 60% of whom are under the age of 30, and from the main ethnic groups of Indigenous Peoples, Africans, Indians, Europeans, Chinese, Portuguese, and Javanese. The Community is multilingual with English as the major language complemented by French and Dutch and variations of these, as well as African and Asian expressions. Stretching from The Bahamas in the north to Suriname and Guyana in South America, CARICOM comprises states that are considered developing countries. CARICOM rests on four main pillars: economic integration; foreign policy coordination; human and social development; and security (https://caricom.org/our-community/who-we-are/).

Universities and other higher education institutions (HEIs) in CARICOM involved in post-secondary education and research are strategically important entities for the human capital development needs of the region to support sustainable economic growth, as well as to advance societal welfare in general. Increasingly, urgent demands are placed on Caribbean HEIs by governments and citizens to: (a) produce innovation-capable graduates equipped with problem-solving skills and mind-set, and (b) lead in developing new products and services from research, or improving existing ones for competition in the global economy, or for the public good (Streete et al., 2013). In short, Caribbean post-secondary HEIs are expected to be *innovative-centric*.

Leading research-performing institutions in CARICOM include the following pan-Caribbean and national entities: Caribbean Agricultural Research and Development Institute (CARDI); Caribbean Health Research Council (CHRC); Caribbean Policy Research Institute (CaPRI); Consumers Affairs Commission (CAC); Ministry of Agriculture & Fisheries, Research Division (MoA&F); National Council on Drug Abuse (NCDA); Northern Caribbean University (NCU); Planning Institute of Jamaica (PIOJ); Scientific Research Council (SRC); University College of the Caribbean (UCC); University of Technology, Jamaica (UTech, Jamaica); University of the West Indies (UWI); and University of Trinidad & Tobago (UTT). This list shows that non-HEI state agencies and HEIs do most of the research in CARICOM. Industry research, though minimal, is mainly R&D for product and service development (Streete et al., 2013).

The major sources of funding for research are external international donors, e.g. United States Agency for International Development (USAID), European Union (EU), International Development Research Centre (IDRC), The Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ); other minor sources are government ministries, local foundations, or private sector companies. These sources are complemented by allocations carved out of institutional budgets. For example, the University of Technology, Jamaica (UTech, Jamaica) established a Research Development Fund (RDF) that provides funding specifically for projects and other research-related activities (Ivey et al., 2014).

Research focus areas of the leading CARICOM research entities are: Agriculture and Forestry; Economic Development and Theory; Caribbean History and Culture; Education; Environment (Climate Change); Information Communication Technology/Information Systems; Engineering Technology; Medicine and Health (including natural products and pharmaceutics); and Biochemistry and Marine Biology. These

research focus areas are for the most part aligned with the national development priorities, as well as those of HEIs.

Among the barriers curtailing research output are: limited access to adequate funding mechanisms; time constraints on academic/research staff who are faced with inadequate time to devote to research because of their teaching loads; lack of technological opportunities for conducting research; lack of formal research management structure; lack of national priority on research and innovation. Publicly available data indicate that, as a region, expenditure on research in the Caribbean averages less than 1% of GDP annually. Additionally, the number of patent filings from the region is low. The combined share of patents from offices located in Africa, Latin America and the Caribbean, and Oceania was a mere 3.2% of all filings in 2020 (World Intellectual Property Organization, 2021).

In addition, some of the key issues facing Caribbean research entities are the need to diversify their funding sources, improve their capacity to attract competitive funding, and generate their own income in a variety of ways including sale of expertise, consultancies, industry partnerships, patents and accumulation of intellectual property and fees. Also, some of the initiatives undertaken to increase research productivity include the provision of internal grant funding for research, training, and mentorship for researchers as well as providing incentives and awards for research output, and establishing an institutional research agenda (Streete et al., 2013).

Evolution of the Profession in CARICOM

It is to be noted that whereas the term 'research administration' is used in several other regions and countries, in the Caribbean, the predominant phrase is 'research management and administration'. So, how did research management and administration develop in the Caribbean? The understanding that research output, primarily by faculty members, is one of the indicators that set HEIs, and in particular universities, apart from other kinds of post-secondary institutions (Kirkland, 2008; Leydesdorff, 2008; OECD, 2004) and increasing demands on CARICOM HEIs by their proximate stakeholders to produce 'useful knowledge' and innovation-capable graduates acted as catalysts for them to take deliberate actions; these actions took the form of appointing staff members to undertake administrative assistive functions for researchers. These individuals were, in the main, academic staff members without any formal training or certification in research management and administration (Streete et al., 2013). Corroboratively, Falk (2011) reported that Caribbean research management practitioners expressed 'significant concerns' about the availability of training opportunities and support for the research and innovation management function.

In 2009, the University of Technology, Jamaica became Caribbean partner on the EU/African Caribbean and Pacific (ACP) Science and Technology project, 'The Improvement of Research & Innovation Management Capacity in Africa and the Caribbean for the Successful Stimulation and Dissemination of Research Results (RIMI4AC)'. The RIMI4AC project was funded at €2.6 million under the Science and Technology Programme of the ACP with support from the EU. The specific objective of this project was to strengthen the capacity of research institutions in the regions for sustainability, to effectively manage research and innovation activities, to improve dialogue between researchers and policy makers, and to inform evidence-based national and regional policies feeding into the regional sustainable development agendas of the regions from which project partners were drawn (ACU, 2011).

Within the framework of the RIMI4AC project, Streete et al. (2013) undertook a study of the state of research management in the Caribbean. Among their main findings were:

1. Not all public HEIs had research management/administration offices or offices that performed research management/administration functions.
2. Where offices existed, they were under-staffed.
3. In most cases, Research Managers were mainly Academic Administrators/Managers and/or Researchers/Academics without any formal training in research management and administration; on-the-job training was the primary method of developing their competence.

Streete et al. (2013) also found that three regional universities were embracing the new paradigm. The University of Technology, Jamaica (UTech, Jamaica), The UWI, and the University of Trinidad and Tobago (UTT) have all deliberately engaged in newer models of research and innovation management. These included commissioned research and applied research aimed at solving identified problems and addressing societal needs. In addition, Ivey et al. (2014, 2016) documented examples of positive impactful research initiatives, engagements, and achievements by researchers of the University of Technology, Jamaica who were provided with a suite of supportive actions by the institution's Research Managers.

The CARICOM RMA Community

In October 2010, the initial steps for establishment of the Caribbean Research and Innovation Management Association (CabRIMA[1]) were taken with the formation of a steering committee, chaired by UTech, Jamaica, together with representatives from research and innovation (R&I) organisations across the region. Thereafter, the establishment of the Caribbean Research and Innovation Management Association (CabRIMA) was endorsed by unanimous acclamation during 'Research and Technology Day' at the University of Technology, Jamaica (UTech, Jamaica), in Jamaica, on 7 April 2011, and was followed by a presentation, 'Professionalising Research and Innovation Management in the Caribbean Region: The Context and Case for Establishing CabRIMA', by a staff member from the School of Graduate Studies, Research and Entrepreneurship, UTech, Jamaica (Henry, 2011).

The founding of CabRIMA was a major outcome of the earlier mentioned EU/ACP-funded Science and Technology project, 'The Improvement of Research & Innovation Management Capacity in Africa and the Caribbean for the Successful Stimulation and Dissemination of Research Results (RIMI4AC)'.

The goal of CabRIMA is 'to support systematic improvement in the effectiveness of research and innovation management systems, structures, and processes in regional research & innovation institutions through capacity building and effective networking'. Caribbean Research and Innovation Management Association (2020), and its objectives are to:

1. Professionalise the research and innovation management profession in the region, raise the profile of regional Research & Innovation Managers, identify training needs, and provide opportunities for continuous professional development.

[1]https://www.utech.edu.jm/academics/sgsre/the-caribbean-research-and-innovation-management-association-cabrima

2. Provide a forum for networking, collaborative actions, and the transfer of know-how among Research & Innovation Managers of the region.
3. Develop mechanisms for Research & Innovation Managers of the region to benchmark their activities against best practices in the profession.
4. Stimulate research and innovation, and support the translation of research results into policies, practices, and products beneficial to end-users.
5. Influence national and regional policies that will foster the regional sustainable development agenda of CARICOM member states.
6. Link regional Research & Innovation Managers with the Global Research Management Network.

The secretariat for CabRIMA is the School of Graduate Studies, Research & Entrepreneurship, at the University of Technology, Jamaica.

Since its establishment, CabRIMA's membership reflects the major HEIs and research organisations in Jamaica; for reasons of the geographical realities of the Caribbean islands, pan-Caribbean membership has been mostly members from the UWI. However, to address this challenge, CabRIMA has leveraged the Internet to interact with its members, initially through its now-dormant website, but now primarily through its Facebook page.

In keeping with its mission and objectives, CabRIMA has spearheaded activities aimed at building the capacity of its members to more effectively perform their functions. As well as publishing a monthly newsletter, workshops and seminars undertaken by the association covered topics such as writing effective grant proposals, securing funding, and policy development.

In addition to their participation on the RIMI4AC project, UTech, Jamaica's Research Managers have participated in congresses of the International Network of Research Management Societies (INORMS).

CARICOM RMA Demographics

The Research Management and Administration (RMA) community in CARICOM is relatively small and is more developed and structured in the six leading universities – The UWI; University of Technology, Jamaica; NCU and University of the Southern Caribbean; University of Trinidad and Tobago, and University of Guyana.

The University of the West Indies[2]

The UWI is a regional university and its three main campuses are Mona (Jamaica), Cave Hill (Barbados), and St. Augustine (Trinidad). Each campus has its own RMA office.

The Mona Office for Research and Innovation (MORI) falls under the Principal's Office and is responsible for coordinating research on the Campus. Responsibilities of MORI are:

- Identifying funding opportunities and promoting them to UWI's researchers.
- Liaising with funding sources and partners on behalf of researchers.
- Reviewing and approving all research proposals before submission to external entities.

[2]www.uwi.edu

- Reviewing and signing research proposals on behalf of the university or as a delegate of the Campus Principal.
- Comprehensive application guides.
- Workshops, information sessions, agency site visits, and grantsmanship to help researchers understand policies and requirements.
- Patent applications.

At the St. Augustine Campus, the Office of Graduate Studies and Research (OGSR) works together to nurture research, advance innovations, and promote entrepreneurship. The OGSR is headed by a Pro-Vice Chancellor, who is supported by a staff complement of eight, comprising administrative support and programme officers. The mandate of the University Office of Research (also referred to as the Research Division of the School for Graduate Studies and Research) is to facilitate the development of research capacity and output at The UWI and transform the university into a more research-driven institution. The School for Graduate Studies and Research oversees the administration of the Campus Research and Publication (CRP) Fund. This fund, which covers the costs of research projects and publications, is open to full-time Academic and Senior Administrative and Professional members of staff and Research Students of the campus. The following are some of the key responsibilities/foci of the Office of Research:

- Inter-Campus and International Collaboration.
- Researcher Development and Recognition.
- Intellectual Property Protection and Commercialisation.
- Research Policies and Procedures.
- Research Funding.
- Management of Research Institutes, Centres and Units.
- Research Cluster Development and Management.

At the Cave Hill campus, Research Support, located under the Office of the Campus Principal, provides a single space on the Cave Hill Campus where staff and students can access guidance, information, and other sources of help in the preparation of successful research or project proposals for funding.

University of Technology, Jamaica (UTech, Jamaica) (www.utechja.edu)

The School of Graduate Studies, Research, and Entrepreneurship (SGSRE) is the unit responsible for Research Administration at UTech, Jamaica. The SGSRE is headed by an Associate Vice President, which is supported by a staff complement of five comprising Administrative support, a Technical Officer, and a Manager of Projects and Operations. The responsibilities of the SGSRE are to:

- Provide linkages among Graduate Studies, Research and Entrepreneurship.
- Vigorously promote industrial/professional graduate research degrees at both the master's and doctoral levels.
- Develop a formula for equitable allocation of returns from income-generating research and consultancy ventures.
- Lead inter-disciplinarity for research and consultancy among Faculty Graduate Studies Research & Entrepreneurship Units (FGSREUs).
- Organise a system of mentorship and pastoral care for graduate students.

- Establish a system for the protection of Intellectual Property Rights.
- Develop benchmarking of research activities with respect to: research planning, staff participation in research, graduate students, research income, research outcome, and research impact.

The work of the SGSRE is supported by eight Graduate Studies, Research and Entrepreneurship Coordinators, who serve as the links between the SGSRE and the eight academic units within the university. The 13 research management and administration staff at UTech, Jamaica provide support to some 500 academics and more than 200 graduate students.

Northern Caribbean University (www.ncu.edu.jm) and University of the Southern Caribbean (www.usc.edu.tt)

These are 'sister' universities operated under the aegis of the Seventh-Day Adventist Church. NCU is located in Jamaica and the University of the Southern Caribbean (USC) has its main campus in Trinidad and Tobago (smaller satellite campuses are located in other Caribbean islands). At USC, the Office of Research and Innovation, located within the Office of the Provost, is responsible for Research Administration.

With respect to NCU, the larger of the two, Research Administration is more developed and is overseen by the Office of Research and Graduate Studies (ORGS) under which the Office of Research falls. This office, which is headed by a dean, is the primary agent of the University's current thrust to foster research. Core functions include facilitating faculty members in obtaining external research funding, managing internal research-funded projects, promoting involvement in research among faculty and with students, expediting undergraduate and graduate research, and overseeing the process for the implementation of new graduate programmes.

University of Trinidad & Tobago (UTT) (www.utt.edu.tt)

At UTT, Research Administration falls under the Office of Post-Graduate Studies and Research, which is headed by an Associate Vice President.

University of Guyana (UG) (www.uog.edu.gy)

The School of Graduate Studies and Research is responsible for Research Administration at UG.

University Colleges, Teacher's Colleges, Multidisciplinary Colleges, and Community Colleges

As a group, these institutions are at a lower level with respect to their Research Administration arrangements and research output than the universities mentioned above, although they have expressed interest in undertaking research, which is included in the mission statements and foundation documents of some of them. Most of the Teachers' Colleges in Jamaica have Research Officers (ROs) who are supported by an administrative office; these ROs are primarily involved in organising research days and conferences. With respect to University Colleges, The Mico University College,[3]

[3]MUC – www.themico.edu.jm.

established in 1835, operates an Institute of Technological and Education Research (ITER), which is headed by a director who is supported by a senior research fellow and a research assistant. The mission of the ITER is to build a research culture that enables The Mico University College to undertake high-quality research in areas of educational policy, development, and management, with special reference to Jamaica and the Caribbean.

College of Agriculture, Science & Education (CASE – www.case.edu.jm)

CASE is Jamaica's premier multidisciplinary college that has a tripartite mandate enshrined in its Scheme Order: teaching, research, and service. CASE's predecessor institutions include the Jamaica School of Agriculture that was founded in 1910. The college has a Research Coordinator (RC) in each of its three faculties (agriculture, science, and education); these RCs are provided with administrative support services.

The University College of the Caribbean (UCC – www.ucc.edu.jm)

Research Administration at the UCC is overseen by a Director of Administration and Student Services, College of Graduate Studies & Research. One of the flagship research events of the UCC is its Annual Research Conference. Notably, UCC also has a Director of Innovations.

The Future of RMA in CARICOM

There is no gainsaying that the research management and administration functions performed by Research Managers are value-adding in Caribbean HEIs. The research generated in HEIs – primarily in science and technology – has taken on a new approach in the Caribbean region. Previously, such research was seen as the basis for scholarly achievement and professional advancement (Streete et al., 2013). However, newer models of research generated by HEIs are predicated on the principles of entrepreneurship, combining competencies through collaborations with non-university entities, and are being guided by institutional and national research goals (Frank Heemskerk, Personal Communication, 2010).

Concerning the future of CabRIMA, efforts are currently being made to re-energise its membership and to use the new communication and conferencing technologies that the COVID-19 pandemic had demonstrated to be efficacious, to realise its pan-Caribbean coverage as a community of practice.

Summary

In this chapter, from the overview provided, it has been shown that RMA is an emerging profession that is beginning to take root in CARICOM countries. However, the absence of formal certification of staff in research administration and inadequate resourcing of offices remain key challenges. Additionally, efforts are being made by its secretariat at the University of Technology, Jamaica to re-energise the Caribbean Research and Innovation Management Association (CabRIMA) to achieve its objective 'to support systematic improvement in the effectiveness of research and innovation management systems, structures, and processes in regional research & innovation institutions through capacity building and effective networking'.

References

Association of Commonwealth Universities (ACU). (2011). *Research Global*, *2*(1), 6–7.

Falk, E. (2011). Current research management practice in the Africa and Caribbean regions. *Research Global*, *2*(1), 5. Association of Commonwealth Universities (ACU).

Henry, M. (2011). CabRIMA. *Research Global,* 2(1), 5. Association of Commonwealth Universities (ACU).

Ivey, P., & Henry, M. (2016). Research managers at Jamaica's National University are strategically deploying a modest Research Development Fund in support of impactful research. *Research Management Review*, *21*(1), 26–40.

Ivey, P., Oliver, G., & Henry, M. (2014). Evaluating the impact of research produced by a mission-directed emergent university. *Journal of Research Administration*, *42*(2), 73–88.

Kirkland, J. (2008). University research management: An emerging profession in the developing world. *Technology Analysis and Strategy*, *20*(6), 717–726.

Leydesdorff, L. (2008). Caveats for the use of citation indicators in research and journal evaluation. *Journal of the American Society for Information Science and Technology*, *59*(2), 278–287.

Organisation of Economic Co-operation and Development. (2004). *University research management: Meeting the institutional challenges*. OECD Publishing. http://www.oecd.org

Streete, T., Henry, M., Ivey, P., & Oliver, G. (2013). *Critical case study on the current state of research management in the Caribbean* [Paper presentation]. Thematic paper prepared within the framework of the European Union co-funded project "Improvement of Research and Innovation Management Capacity in Africa and the Caribbean for the Successful Stimulation and Dissemination of Research Results – RIMI4AC". http://www.rimi4ac.net/en

World Intellectual Property Organization. (2021, November). *World intellectual property indicators report*, *2021*.

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Chapter 5.7

Research Administration in the United States

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Abstract

The existence and growth of research administration in the United States has been largely guided by the requirements imposed on recipients of federal funding and it continues to be influenced by those requirements today. What has changed over the past 80 years is how research administrators learn their craft and share their knowledge, how the profession has moved from mostly male dominated to being largely female, and how their roles expanded. The formation and growth of professional organisations has allowed research administrators to take an active role in development of regulations and policy and to advocate for the profession. The challenges faced by research administrators since the turn of the century have served to show the vital role played by the profession in moving the research enterprise forward.

Keywords: US; research administration; research management; NCURA; SRAI; NORDP; COGR, FDP; RACC

US Research Ecosystem

Research has been funded by the US federal government since nearly the beginning of the republic. The Smithsonian Institution, the Morrill Act, the National Academy of Sciences, and the Hatch Act of 1887 all funded research as early as 1846.

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The contemporary version of the government's involvement in funding research came under President Franklin D. Roosevelt when he created the National Defense Research Council in 1940 (reorganised in 1941 as the Office of Science Research and Development) to coordinate research collaborations between federal and civilian laboratories (Beasley, 2006). Data shown in Table 5.7.1 from the 2020 Higher Education Research and Development Report (HERD) Survey reported research and development (R&D) expenditures from more than 900 institutions of higher education, more than one-half of which is supported by the federal government.

Federal funds have historically been, and are likely to remain, the largest source of R&D funds at most institutions. Table 5.7.2 shows the most recently reported federally funded R&D expenditures at institutions of higher education from 1st October 2019 to 30th September 2020.

Historical data for the type of both total and federally financed R&D expenditures at higher education institutions show that since the early 1970s federal R&D expenditures in higher education accounted for about 70% of the basic research expenditures until about 2010 when basic research expenditures dropped to the mid 60% range, although data collected since 2010 includes both science and engineering and non-science and engineering fields and could account for the apparent drop.

Research policy in the United States is broadly set by the Executive Branch. Several groups are involved in the effort. The Office of Science and Technology Policy (OSTP), established by Congress in 1976, advises the President and others in the

Table 5.7.1. US Higher Education R&D Expenditures by Source of Funds Fiscal Year 2020.

	Source of Funds					
All R&D Expenditures	**Federal Government**	**State and Local Governments**	**Institution Funds**	**Business**	**Nonprofit Organisations**	**All Other Sources**
$86,435,054	$46,220,254	$4,605,307	$21,979,735	$5,189,184	$5,758,485	$2,682,089

Source: US National Science Foundation (2021).
Notes: Dollars in thousands.
Institutional funds include institutionally financed research cost share and unrecovered indirect costs.

Table 5.7.2. US Federally Financed Higher Education R&D Expenditures by Agency Fiscal Year 2020.

Department of Defense	$7,080,958
Department of Energy	$2,037,915
Department of Health and Human Services	$25,397,976
National Aeronautics and Space Administration	$1,758,375
National Science Foundation	$5,414,611
US Department of Agriculture	$1,244,633
All other federal agencies	$3,209,721

Source: US National Science Foundation (2021).
Note: Dollars in thousands.

Executive Office of the President on science, engineering, and technology aspects of the economy, national, and homeland security, foreign relations and the environment. OSTP leads the effort to develop and implement sound science and technology policy (White House Office of Science and Technology Policy, 2022). The National Science and Technology Council (NSTC) was established by Executive Order (EO) 12881 in 1993 and is a cabinet-level council of advisors to the President. Council membership includes the Vice President, Director of OTSP, the Secretaries of the Departments of Commerce, Defense, Energy, Health and Human Services, State, Interior, the administrators of the National Aeronautics and Space Administration and Environmental Protection Agency, National Security Advisor, the Assistants to the President for Economic Policy and Domestic Policy and others the President may designate (Executive Order 12881, 1993). The President's Council of Advisors on Science and Technology (PCAST), founded in 2001, is the latest version of Franklin Roosevelt's Science Advisory Board established in 1933 (Executive Order 12882, 1993). Since then, Presidents have had advisors from outside the federal government who are charged with making science, technology, and innovation policy recommendations to the President.

Since the beginning, the United States has understood the need for and the value of research. As stewards of taxpayer dollars, the government must ensure public trust in their investment, by continual review of research, evaluation of research policies and sharing outcomes.

Evolution of Profession

Although it is difficult to determine when research administration was born in the United States, as early as 1941 journal articles and presentations began to appear that referred to 'research administration' but it wasn't clear what a research administrator actually was. Bush's bibliography on research administration published in 1954 contains more than 1,100 references and grew from a reading list originally prepared for a graduate course in research administration at The American University (Bush, 1954). The references are grouped in areas that today we would view as traditional research administration tasks (budget and finance, organisation and management, personnel administration, external relations, and 'research in action') but often focussed on the role of laboratory heads as opposed to professional research administrators. A large number of the references refer to 'men' which is not surprising given the time frame of the bibliography but seems in stark contrast to the current demographic of research administrators, which is predominantly female (Oliveira et al., 2023, Chapter 2.2; Shambrook & Roberts, 2011). It is also notable there are few references concerned with compliance issues such as radiation safety, protection of humans or animals in research.

An interesting, although not a quantitative measure of the shift in the profession from largely male to female was when the first National Council of Research Administrators (NCURA) annual meeting program not made to fit into a man's suit jacket pocket made its appearance in 1987.

There have been efforts made to professionalise research administration for a number of years and while there hasn't been a seismic shift that has occurred, it is clear that each has been an important step. The certification program of the Research Administrators Certification Council (RACC, 2022a) beginning in the 1990s is an important marker in the path towards professionalisation (RACC, 2022b). This trusted third-party credentialing program sends a signal to those outside the profession of an individual's proficiency in research administration and is increasingly seen as either a required or preferred qualification in position descriptions (Cole, 2013; Roberts & House, 2006).

Research administration has been a profession that most entered with training in some other field such as accounting, business administration, management, procurement, law, or even as trained researchers. Individuals in the field were often mentored and trained by senior research administrators in their own institutions. In the United States, research administrators could also receive instruction from others in the field at annual meetings of the large research administrators' associations or at specialised workshops and seminars presented by those organisations.

In 2007, NCURA's Board of Directors, under President Pam Whitlock, approved a major move towards professionalisation. A working group was formed to develop a Request for Proposals (RFP) for feasibility studies in the development of an online master's degree in research administration. The RFP went out to NCURA's membership and NCURA granted four $10K grants. Later, NCURA provided two $40K grants; one to the University of Central Florida and the other to Rush University Medical Center for the development and implementation of online programs. In addition to those institutions funded by NCURA, other institutions including Emmanuel College, Johns Hopkins University, and City University of New York (CUNY) have developed and now provide online degree programs (Roberts et al., 2016). These programs have not only regular faculty members from the institutions, but often also include professional research administrators as members of their teaching faculty as well.

Early research administrators were focussed primarily in the business/accounting realm, taking funds into the institution, tracking expenses, invoicing funders for reimbursement of allowable expenses and completing accounting closeout procedures at the end of projects. Today's research administrator, while still responsible for sound financial stewardship, is also driven by increasing federal regulation and a greater need for transparency. The representations and certifications that are routine parts of proposals and that become part of the award requirements range from export controls, trafficking in persons, environmental protections, civil rights, affirmative action, delinquent tax liability, disclosure of lobbying activity, responsible and ethical conduct of research, and dual use research of concern, are all likely to fall to research administrators to assure the signing official that the institution is in compliance.

Current Community

Integral to the growth of a profession are the professional organisations that are formed to support individuals working in the field. These organisations provide a community for individuals to share best practices, participate in group problem-solving and to advocate for research administration.

In the United States, two large organisations, NCURA and the Society of Research Administrators International (SRAI), are the 'Big Tent' organisations for research administrators. These two organisations have been active for decades (NCURA was initiated in 1958 and had its first annual meeting in 1959, SRAI since 1967) (Roberts et al., 2008; Society of Research Administrators International, 2022) and have grown in scope to accommodate the changing landscape of research administration. NCURA's membership is at about 7,000 worldwide, SRAI's membership is currently about 4,000 worldwide. Both organisations hold annual, national meetings as well as presenting seminars and specialised conferences throughout the year. Each also has an active web presence and produces journals and other publications for their members.

In addition, there are a number of smaller, more specialised organisations. Among these organisations are the Council on Governmental Relations (COGR) formed in 1948 (Council on Governmental Relations, 2022), AUTM (first known as the Society

for University Patent Administrators [SUPA] and formerly known as the Association of University Technology Managers) formed in 1974, the National Grant Management Association (NGMA) formed in 1978, the Federal Demonstration Partnership (FDP) formed in 1986 (Federal Demonstration Partnership, 2022), and the National Organization of Research Development Professionals (NORDP) founded in 2010 (National Organization of Research Development Professionals, 2022).

A third type of organisation that is important in the research administration community, but fits into neither the 'Big Tent' nor the specialised professional groups is RACC. Founded in 1983, RACC awards certifications (Certified Research Administrator [CRA], Certified Pre-Award Research Administrator [CPRA], and Certified Financial Research Administrator [CFRA]) to individuals who sit for and pass certification examinations. Currently, more than 3,000 individuals engaged in research administration hold at least one of RACC's certifications (RACC, 2022b).

Demographics

Prior to its second annual meeting in 1968, SRA charged a research committee with the task of establishing a set of professional standards for research administrators. As the committee began its work it was clear there was no data to support what a research administrator even was and so the committee developed and administered a survey with the goal of establishing what constituted a 'typical' research administrator (Vanderford et al., 2019). The results of the committee's work, published in the first volume of the *Journal of the Society of Research Administrators* (now the *Journal of Research Administration*), determined that the typical research administrator at the time was a male in his early 40s with post-graduate training in business administration, working in an academic setting. His responsibilities included dealing with activities such as budgeting, accounting, salary administration, financial report writing, internal property management, purchasing, maintenance and construction, and employee relations. He administered a budget of less than $1,000,000 in a unit of less than 50 people (D'Agostino et al., 1969; Vanderford et al., 2019).

More than 50 years later we are still unable to accurately describe the typical research administrator. The US Department of Labor (DOL) does not currently track the number of jobs which would fall into the category nor are we able to accurately report on the demographics of those working in the field. Work started in 2022 that will enable DOL to have a job category for research administration and to track those jobs in the United States.

Little demographic data exists about research administrators prior to 2006 when a regional study was conducted using members of NCURA's Region III as study participants (Roberts & House, 2006). Studies conducted after that have expanded to provide better national data. These later studies have used multiple sources of study participants including NCURA members and subscribers to the RESADM-L listserv. Studies conducted over the past 15 years have provided a fairly consistent picture of a 'typical' research administrator, regardless of the affiliation of study participants. Studies continue to report that the profession is largely female, holding university degrees, with an annual income of more than $50,000 (Shambrook et al., 2011; Shambrook & Roberts, 2011). The majority of the workforce is Caucasian, more than 40 years of age, have been with their current employer for more than four years (a perhaps surprising 36% reported being with their current employer for more than 10 years) and most report working more than 40 hours per week (Shambrook et al., 2011; Welch & Brantmeier, 2021). Race and ethnicity questions have not always been part of the surveys so those demographics are the least well characterised.

US generational data presents in a normal curve, with the bulk of membership falling into the Generation X category. As members of the Baby Boomer generation move towards retirement age, it is likely we will see both the Generation X and Millennial/Generation Y categories grow (Smith & Shambrook, 2015). The most current study conducted by Oliveira et al. (2023, Chapter 2.2) shows that the demographic trends reported over the past nearly 20 years are continuing.

Directions/Future

Although the field of research administration in the United States has evolved at a fairly steady pace, there have been some significant events in the 21st century that have impacted the field and that are likely to continue to shape the profession as it moves forward (Minnema, 2011). The profession was born at a time that substantial federal funding was made available in the 1940s. This early funding was largely from the Department of Defense (DOD) and directed primarily towards the war effort. While DOD continues to remain as the largest federal funder of R&D, other federal funders including the National Institutes of Health (NIH) and the National Science Foundation (NSF) are among the most significant sources of R&D funds for institutions of higher education. NSF, for example, reports that it funds about 25% of all federally supported basic research conducted at US colleges and universities (National Science Foundation, 2022a).

Although there had been growth in federal funding throughout the 20th century it was generally at a steady pace, with occasional larger increases at one agency or another. However, significant federal dollars became rapidly available in the aftermath of terrorist attacks on the United States in 2001. At the same time, there was a significant change in homeland security accompanied by a more proactive approach (and accompanying federal regulations) to safeguard research information largely through increased emphasis on export controls, publication restrictions and limits on hiring foreign nationals as graduate students and postdoctoral scholars (Minnema, 2011). Each required additional scrutiny and oversight by awardee institutions, often through research administration offices working in close collaboration with a variety of campus offices including human resources and purchasing. Research administrators either became responsible for or were required to not only understand the applicable regulations but to have a better understanding of research projects far beyond what was required in the past. It was not unusual for research administrators to take full or partial responsibility for an institution's compliance with a variety of export control regulations, a series of regulations which in general universities had previously believed did not apply to their research. Secure research operations, usually involving classified projects, became less unusual at institutions and required a new mindset and compliance with another complicated set of regulations by institutions, researchers, and research administrators.

The recession of 2007–2009 also saw a rapid influx of federal funding via the American Recovery and Reinvestment Act of 2009. The act made nearly $14 billion available through NSF and NIH alone, but also placed a heavy burden on awardees with greater levels of accountability and transparency. Reporting requirements were significantly increased and deadlines for reporting were shortened. The reporting required greater coordination within institutions as information was required from all levels of institutions from departmental to central accounting offices. These dollars became available in a number of different ways, often with very short deadlines for application, that required research administrators to be aware of how agencies were making their

funding decisions (new proposals, via previously submitted but not yet funded proposals, or supplements to existing awards) and to get that information to investigators.

A series of executive orders and Presidential memorandums that were issued by the Obama White House starting in 2009 set the stage for federal grants management reform and led to the eventual release of 2 CFR Part 200 – Uniform Administrative Requirements, Cost Principals, and Audit Requirements for Federal Awards in 2014. Known as Uniform Guidance, these regulations represented the first substantial review and coordinated revision of a series of Office of Management and Budget (OMB) circulars which governed federal assistance awards made to institutions of higher education, hospitals, other non-profit organisations and to state and local governments and Indian Tribal governments. EO13563 ordered a retrospective analysis of significant rules and coordination across agencies to simplify and reduce redundant, inconsistent or overlapping requirements to reduce costs. A working group made up of representatives from Executive Branch agencies, the Council of Financial Assistance Reform (COFAR) was established to conduct the review and analysis. Research administrators from around the nation played a significant role in the multi-year effort that produced 2 CFR Part 200. As guidance was developed to implement the new regulations, both individual research administrators and their professional organisations continued to play a major role in those efforts.

A fourth significant event was the Coronavirus (COVID-19) pandemic. In March 2020, colleges and universities around the United States began to shut down on-campus activities and a large majority of research administrators began to work from home (WFH).

Although most institutions had catastrophe plans formulated and ready to implement, they were usually for one-time, more localised events (i.e. fires, tornadoes, hurricanes, floods, earthquakes, explosions). The plans had not envisioned a fast-moving global pandemic that would necessitate the move to a virtual work environment practically overnight. Research administrators used the informal relationships they had forged over the years to work through the myriad issues that arose. The notion of sharing practices, brainstorming long-term solutions (or quick, temporary fixes) to problems common across the field was one that was longstanding and trusted within the research administration community. These informal personal networks quickly became an important lifeline for many research administration professionals. The formalised interactions facilitated by professional organisations became even more vital to the profession at large and allowed the community to speak with a unified voice when interacting with funders. Not only did research administrators help develop plans to shut down research operations but they were also instrumental in devising plans necessary to restart when institutions began to transition back to more normal operations.

A study conducted by an NCURA Task Force in late July 2021, surveyed current NCURA members about remote working (National Council of University Research Administrators, 2021). Responses were collected from 1,618 members. Prior to the shutdown, no one reported working 100% remotely from their local area and a very small percentage reported working remotely from another location. After the shutdown, less than 25% at any staff level would report working 100% remotely from the local area and an even smaller number to working remotely from anywhere. About one-half indicated they would be willing to change jobs or employers for greater flexibility and more than 82% believe telework will positively impact their organisation.

Comments gathered from the initial survey indicated that not all respondents believed remote working was better or even that employees preferred it, but many did

indicate a preference to being able to continue to work at least part of their schedule remotely. It was often the refusal of organisations to even consider the option to allow for remote work that respondents found most disappointing. Some indicated that they had been told institutions (and in some cases states) were beginning to work on policies and procedures that would allow for remote work, but no firm schedules for the policy development had been published. The decision to allow remote work for research administrators is likely to be a hot topic as policies are discussed, developed, and implemented.

Crises such as the global pandemic shine a light on the importance of research. Those who spend their professional lives supporting it – whether in a sponsored programs office or at a remote location – can be proud of all they did and continue to do to ensure research continues without disruption. These 21st century events highlight the changing nature of research administration and point to the need for research administrators to be well-informed and able to make changes necessitated by changing circumstances, regulations, and public expectation.

Summary

As seen in this chapter, research administration in the United States started as an additional responsibility taken on by one or more members of a laboratory group. Since that time, research administrators have become vital and necessary members of university professional staff and have taken on roles that range from generalist to specialist in areas including regulatory compliance, HR, and contracting. Research administration is a critical and evolving component of the research enterprise.

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References

Beasley, K. L. (2006). The history of research administration. In E. C. Kulakowski & L. U. Chronister (Eds.), *Research administration and management* (1st ed., pp. 9–29). Jones & Bartlett Learning.

Bush, G. P. (1954). *Bibliography on research administration annotated*. The University Press of Washington DC.

Cole, K. W. (2013). University faculty value the CRA – They just don't realize it yet! *Research Management Review*, *19*(2), 1–9.

Council on Governmental Relations. (2022). *History*. https://www.cogr.edu

D'Agostino, R., Lasker, L., Nivin, D. T., Proctor, R., & Stevenson, B. L. (1969). Profile of a research administrator: Report of the Research Committee to the Second National Meeting of the Society of Research Administrators. *Journal of the Society of Research Administrators*, *1*(1), 3–22. https://www.srainternational.org/resources/journal/journal-archives

Executive Order 12881. *Establishment of the National Science and Technology Council*. 58 FR 62491.

Executive Order 12882. *President's Committee on Science and Technology*. 58 FR 62493.

Federal Demonstration Partnership. (2022). *History*. http://www.thefdp.org/default/about/history

Minnema, L. (2011). From 9/11 to recession: Historically significant events in America and their impact on research administration. *Research Management Review*, *18*(1), 31–41.

National Council of University Research Administrators. (2021). *Research administration remote work survey*. https://www.ncura.edu/MembershipVolunteering/RemoteWorkSurvey.aspx

National Organization of Research Development Professionals. (2022). *NORDP home*. https://www.nordp.org

National Science Foundation. (2021). *Higher education research and development: Fiscal year 2020: Data tables: 3 higher education R&D expenditures, by source of funds, R&D field, and survey population: FY 2020*. https://ncses.nsf.gov/pubs/nsf22311

National Science Foundation (NSF). (2022a). *About*. http://www.nsf.gov/about

Oliveira, C. I., Fischer, M., Kerridge, S., & Dutta, M. (2023). The research administration as a profession (RAAAP) survey. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 113–123). Emerald Publishing.

Research Administrators Certification Council (RACC). (2022a). *Introduction*. https://cra-cert.org/introduction

Research Administrators Certification Council (RACC). (2022b). *Research administrator directory*. https://cra-cert.org/find-a-certificant

Roberts, T. J., Compo, D., & Shambrook, J. (2016, January). Starting small and growing: The profession of research administration and graduate higher education opportunities. *NCURA Magazine*, *48*(1), 20–22.

Roberts, T. J., & House, J. (2006). Profile of a research administrator. *Research Management Review*, *15*(1), 41–47.

Roberts, T. J., Sanders, G., & Sharp, W. (2008). *NCURA: The second twenty-five years*. National Council of University Research Administrators. http://www.ncura.edu/Portals/0/Docs/AboutUs/NCURA_history.pdf?ver=OGJ5MxlQHbD2jl-PF0fUw%3d%3d&timestamp=163302586786

Shambrook, J., & Mintzer, O. (2007). Results from the 2007 Research Administrator Stress Perception Survey (RASPerS). *Research Management Review*, *15*(2), 41–52.

Shambrook, J., & Roberts, T. J. (2011). 2010 Profile of a research administrator. *Research Management Review*, *18*(1), 19–30.

Shambrook, J., Roberts, T. J., & Triscari, R. (2011). Research administrator salary: Association with education, experience, credentials and gender. *Journal of Research Administration*, *42*(2), 87–99.

Smith, J. A., & Shambrook, J. (2015, December). Future trends: The growing diversity of research administration observed in a Master of Research program. *NCURA Magazine*, *47*(6), 42–43.

Society of Research Administrators International. (2022). *Who we are*. http://www.srainternational.org

Vanderford, N. L., Taylor, J., & Zink, H. L. (2019). From the editor's desk. *Journal of Research Administration*, *50*(Special Edition). https://www.srainternational.org/resources/journal/journal-archives

Welch, L., & Brantmeier, N. K. (2021). Examining employee retention and motivation trends in research administration. *The Journal of Research Administration*, *52*(2), 70–86.

White House Office of Science and Technology Policy. (2022). *OSTP*. https://www.whitehouse.gov/OSTP.

White House President's Council of Advisors on Science and Technology. (2022). *PCAST*. https://www.whitehouse.gov/PCAST

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South America

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Chapter 5.8

Research Management and Administration in Brazil

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Abstract

This chapter brings an overview of the history of research management in Brazil. Additionally, the main funding agencies for scientific research projects in Brazil are presented and the difficulties faced by researchers with the constant budget cuts for Research, Development and Innovation (RD&I) in the country were also addressed.

Since research management and administration are not yet fully recognised as a profession in Brazil, BRAMA has been working to become a consolidated association, seeking increased recognition by research management professionals through their training, benchmarking, and advocacy for the profession.

The RD&I scenario reinforces the importance of professional management to support researchers and shows the importance of BRAMA and the urgent need for actions to provide training and value to this professional category.

Keywords: Brazil; BRAMA; Research Management and Administration; RMA; demographics; FAPESP

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History of Research Management in Brazil

This chapter brings an overview about the history of research management in Brazil. As a starting point, it is important to observe the economic scenario. According to the Brazilian Institute of Geography and Statistics (IBGE, 2022a), the last decade is known as the 'lost decade', as the country's GDP growth from 2011 to 2020 did not exceed 2.7% – an average growth of 0.26% per year.

Naturally, the budgets of all economic sectors suffered the impacts of the recession. It was no different for public institutions of research and innovation. The efficiency and optimisation of research management processes are at stake in times of budget reduction.

Financial aid institutions, directly or indirectly associated with the Ministries as well as research agencies that are run by the state, are the major stakeholders from which investment in research is made in Brazil. The main funding agencies for scientific research projects in Brazil are presented as follows:

a) National Council for Scientific and Technological Development (CNPq[1]) is a public foundation accountable to the Ministry of Science, Technology, and Innovations (MCTI[2]). Founded in 1951, its main roles are to foster scientific, technological, and innovative research and to promote the training of qualified human resources for research in any area.
b) Created at the same year of CNPq, 1951, the Brazilian Federal Agency for Evaluation and Support of Graduate Education (CAPES[3]) is a foundation accountable to the Ministry of Education (MEC[4]), playing a very important role in the expansion and consolidation of graduate studies (Master's and PhD) in all states in the country, by awarding scholarships, grants, and other forms of financial aid.
c) The Funding Authority for Studies and Projects (FINEP[5]) is a Brazilian public company that promotes science, technology, and innovation in companies, universities, technology institutes, and other public or private institutions. FINEP, created by the government in 1967, selects and provides support to Science, Technology, and Innovation projects, presented by Institutes of Science and Technology (ICTs), with funding from the National Fund for Scientific and Technological Development (FNDCT), the Funds for Technological Development of Telecommunications (FUNTTEL[6]), and cooperation agreements with ministries, agencies, and institutions.
d) The State Research Foundations (FAPs) are state agencies that promote scientific, technological, and innovation research in Brazil, awarding financial aid in all areas. They also provide support to activities related to science, technology, and academia. Each of the 27 Brazilian states has a FAP, which is governed by its own bylaws and funded rules. The first Foundation to be created, in 1960, was the São

[1] National Council for Scientific and Technological Development (CNPq) website: https://www.gov.br/cnpq.
[2] Ministry of Science, Technology, and Innovations (MCTI) website: https://www.gov.br/mcti/pt-br.
[3] Brazilian Federal Agency for Evaluation and Support of Graduate Education (CAPES) website: https://www.gov.br/capes.
[4] Ministry of Education (MEC) website https://www.gov.br/mec/pt-br.
[5] The Funding Authority for Studies and Projects (FINEP) website: http://www.finep.gov.br/.
[6] Funds for Technological Development of Telecommunications (FUNTTEL) webite: https://www.gov.br/mcom/pt-br/acesso-a-informacao/acoes-e-programas/programas-projetos-acoes-obras-e-atividades/funttel.

Paulo Research Foundation (FAPESP[7]). The FAPESP budget is guaranteed by 1% of all state taxes, and represents an annual budget of approximately R$2.2billion (around US$440million).

A study by the São Paulo University (USP), whose goal was to analyse documents published in Web of Science, shows that CNPq, CAPES, and FAPESP were the top-funding agencies for Brazilian research from 2011 to 2018 (Dudziak, 2012). This shows that Brazilian researchers tend to seek financial aid for their research from national or state funding agencies, but the relationship with companies, philanthropic foundations, and others, is still underexplored for this purpose and more research on these issues should be sought.

In recent years in Brazil, the budget for investments in RD&I has been constantly cut. MCTI, for instance, has seen a drastic budget reduction since 2014 (Escobar, 2021). As the search for funding for the development of scientific research becomes quite competitive, an alternative for Brazilian researchers is to seek funding overseas (Andrade, 2021). According to FAPESP annual reports, São Paulo Foundation signed 169 collaboration agreements with international institutions in 2016. In 2012, this number was only 22 (FAPESP, 2012, 2016).

Within this context, Research Management and Administration (RMA) in Brazil can be regarded at its early-stage development and the role of those in this profession is still undervalued or poorly known by Brazilian Universities or funding agencies. In most cases, grant opportunities cannot support management and administration costs. Special for public funds (federal and state) RMAs cost are considered a university or an institution investment.

In very few occasions, this role of RMAs is understood as a highlight in the quest for public resources. Nevertheless, several RMAs work in support activities for scientific, academic, and innovative research, in several sectors; their work is carried out primarily in an effort to operationalise the ideas proposed by researchers in view of the institutions' norms and rules. This allows research managers to operate in universities, research institutions, and funding agencies, playing very different roles, from more operational to more strategic positions. However, in most institutions, researchers and research managers do not have at their disposal the support they need for work development, such as proper training, management software or legal and accounting support.

Despite the fact Brazil had participated in the Research Administration as a Profession Survey – RAAAP, the third edition of an international research survey that provides information about the profession worldwide (Kerridge, Dutta, et al., 2023), the responders' number ($n = 11$) in Brazil was not sufficient to give reliable information regarding RMA formation, possible certification, and specific training.

History of Brazilian Association

Research management in Brazil was still a very embryonic activity, when Prof Dr Carlos Graeff-Teixeira participated in a meeting of the International Network of Research Managers Associations (INORMS) in 2012. This meeting motivated him to create an association of research managers in the country. In the following years, on 24 July 2013, at the Annual Meeting of the Brazilian Society for the Advancement of Science (SBPC), an assembly was held on the premises of the Ageu Magalhães Research

[7] São Paulo Research Foundation (FAPESP) website: https://fapesp.br/.

Center (FIOCRUZ-Pernambuco) to officiate the creation of the Brazilian Research Administration and Management Association (it was ABGEPq at the beginning, and later on renamed to BRAMA[8]). It was only in June 2015 that the Bylaws and Articles of Incorporation took effect, which culminated in the creation of the Association.

According to BRAMA's statement, the objectives of the association are to:

a) promote development and recognition of the research manager and administrator activities, bringing together different areas of knowledge and different backgrounds individuals;
b) encourage studies about RMA, such as: project management; accountability; financial reports; evaluation; good practice; ethics and integrity; interdisciplinary studies; intellectual property and technology transfer; interpersonal relationships;
c) disseminate the importance of RMA profession;
d) encourage the exchange of knowledge and experience between research managers, the scientific community, and the community in general;
e) promote national and regional meetings;
f) promote exchanges of knowledge with other RMA associations worldwide;
g) promote consulting services and trainings; and
h) advise private or public agencies on research management best practices.

In a field of practice that still lacks the offer of training all throughout the country, the association strives to fill the gap. Since its creation, BRAMA has worked in collaboration with other associations in the world on a variety of businesses and also as a disseminator of research management practices to other Latin American countries. In 2014, BRAMA officially joined INORMS[9] (INORMS Council Member) to align with international references, establish a high level of development and play a decisive role in research management discussion in the world. Some BRAMA's members have been attending international annual meetings and congresses of distinct associations and societies as one of the strategies to develop individual and institutional knowledge.

BRAMA's members and audience include stakeholders working for universities, research institutions, and funding agencies. However, these professionals are often not recognised as research managers as they lack specific training, which reinforces the need for support from the association (Oliveira & Bonacelli, 2019). In addition, a major challenge for BRAMA is to establish an active association in a country as big as Brazil. With 27 states, Brazil is the 5th largest country in the world and, within this complex scenario, the socio-economic development between regions shows a great level of disparity. The Southeast region, for instance, represents approximately 45% of the country's GDP (IBGE, 2022b) and naturally concentrates the largest investments in research, innovation, and development.

Currently, BRAMA has more than 100 registered professionals who participate in the association's discussions; of those 27 are active individual members (Fig. 5.8.1). BRAMA's members are mostly females, concentrated in the Southeast, and the largest number of them being from universities.

Since its foundation, BRAMA has been working to become a consolidated association, seeking increased recognition by research management professionals through their training, benchmarking, and advocacy for the profession. For example, in the past two years, BRAMA has promoted seminars and meetings primarily focussed

[8] http://www.bramabrazil.org/
[9] https://inorms.net/

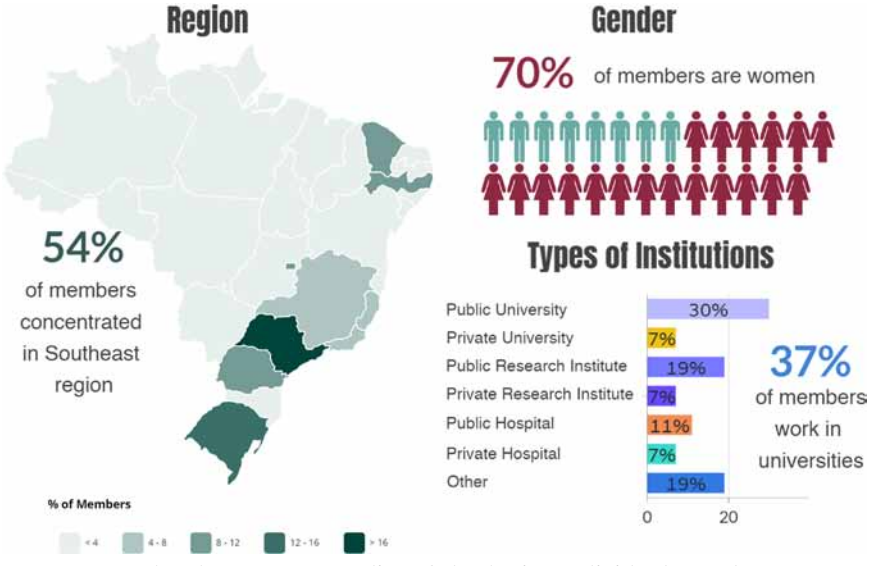

Fig. 5.8.1. BRAMA – Current Reality of the Active Individual Members. *Source*: Authors. Based on BRAMA data collected in May 2022. Charts created with www.visme.co.

on individual skills and experiences, seeking to build and disseminate a network of knowledge. In a more political sphere, BRAMA still seeks to be recognised by strategic leaders, working closely with presidents of universities, research directors and funding agencies, in an effort to raise their awareness to the importance of managing research in a structured and professional way (Oliveira & Bonacelli, 2019).

Current Reality of Research Administrators and Managers in Brazil

As earlier mentioned, RMA is not yet fully recognised as a profession in Brazil, and professionals are more often organised in decentralised support services.

Expenses with management, administration, or indirect cost are not covered on federal and state public research agencies (i.e. FINEP, CNPq, and FAPs). That said, most universities and research institutions invest very little or nothing in research administrators' offices.

Furthermore, the lack of specific training for the management of scientific research is one of the main issues at stake in Brazil; and this issue makes it difficult for researchers to understand the extent of the effective contribution of RMAs on their research.

One more issue refers to the circumstance that these support professionals would not describe themselves as research managers, but rather as accountants, lawyers, pharmacists, etc. This happens even because research managers work in different departments and serve different roles, involving administrative, financial, managerial, and strategic processes.

Additionally, it is not common to find researchers and graduate students vested in the role of administrators and managers. The point is that scientists are not trained to be managers so that they tend to run their research intuitively, and this can easily affect the performance of their projects. This overview of who RMAs

are and of the current population of RMAs in Brazil reinforces the importance of BRAMA and the urgent need for actions to provide training and value to this professional category.

What happened in recent years on climate change and the pandemic proved that science cannot have borders and that collaborative research has never been so important. This also serves to say that to cope with all the issues above, RMAs have to put together a prepared team capable of managing budget, regulations, and compliance.

The points above show how the professionalisation of research management is a step forward in the attempt to bring Brazil side by side to developed countries, becoming recognised as a partner not only for scientific quality, but also for effective management, in line with each sponsor.

Trends

In summary, most agencies in Brazil encourage individual scientific performance in search for productivity, while researchers are responsible for the remaining technical, administrative, legal, and financial aspects of the process of their research projects. In addition, national and state funding agencies are of the opinion that the costs of research management should be paid by the housing institution and so they leave these expenses uncovered. As a consequence, expenses of this nature (on personnel) are not usually included in the project budget but paid by the host institutions, as an operational regular cost, in research and research support.

Thus, Brazilian researchers face a lot of bureaucracy and lack of administrative support, which strongly impacts their availability for research (CONFIES et al., 2012); additionally this lack of support is also a waste of public money and a delay for the whole society (Oliveira & Bonacelli, 2019). An article from USP online magazine suggests that the cost of the bureaucracy is R$9billions per year, the equivalent of approximately US$2.2billion, considering the exchange rate (in 2019) of the article (Escobar, 2019).

However, some Brazilian agencies have already begun changing this scenario. In fact, some institutions are already aware that the offer of professional support in research management is a strategy to attract researchers and financial resources. Thus, these two initiatives can strengthen and drive the development of the activity.

The first initiative refers to the FAPESP, one of the most important research agencies in Brazil, that in 2010 established a working group to provide training to the administrative staff of institutions to support researchers (Marques, 2011; Oliveira & Bonacelli, 2019). This initiative encouraged the opening of research support offices in the state of São Paulo, and supported the development of project management activities, related to the foundation rules and regulations, in a more professional feel, as it freed researchers from bureaucracy related to RMA potentially allowing them to dedicate more time to research and student advising (Marques, 2014).

The second initiative refers to the State University of Rio de Janeiro that in 2017 established a Center of research support – Research Support Center at the Health Complex of the State University of Rio de Janeiro – CAPCS. Its aims include promoting, planning, guiding, elaborating procedures, and supporting the formalisation of projects; disseminating the culture of research and innovation in Health; strengthening the practice of innovative actions, and advising researchers regarding regulatory, economic-financial and contractual fields. Furthermore, they provide training, consulting, and infrastructure for projects developed at the university (CAPCS, 2022).

Like the FAPESP initiative, the Pan American Health Organization (PAHO[10]) promotes workshops to prepare researchers and administrators on how to manage PAHO funds.

Although a series of initiatives have already been identified in Brazil, regarding RMA offices in institutions (Oliveira, 2020), there is still room for development in the country, mainly North, Northeast, and Center regions. The professionalisation and organisation of the Brazilian workforce of RMAs shown in the examples above, widely encouraged by BRAMA, aim to support researchers and make them free from administrative workloads; thus, the efforts set above have drawn the attention of Brazilian institutions (Garcia et al., 2013). In view of the drastic reduction of national resources for research and innovation, the initiatives above reinforce the importance of professional management to support researchers in the design of well-structured and planned projects, They enable the projects to make good use of financial resources, to have adequate accountability, to rely on the publication of ethical and coherent results and, last but not least, to connect their research with society (Junqueira et al., 2015). Thus, the efforts depicted above seek not only efficient management, but also strive to attract international resources.

In addition, BRAMA's efforts are in line with the trends that have been observed all over the world, as in recent decades, academic research management has become an attractive career prospect for researchers around the world (Kerridge & Scott, 2018a; Reardon, 2021). It is desirable that, in the near future, the offer of training programs for research managers will meet the demand for more qualified and resourceful professionals with experience in open science, equality and diversity, ethics, and public engagement.

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References

Andrade, R. O. (2021). Ciência à Míngua. *PESQUISA FAPESP*, *304*(June), 34–40.

CAPCS – Research Support Center at the Health Complex of the State University of Rio de Janeiro. (2022, September 20). http://www.capcs.uerj.br/capcs/

CONFIES, MCTIC, & SEBRAE. (2012, May 27). *O que pensa o pesquisador brasileiro sobre a burocracia?* http://confies.org.br/institucional/relatorio-o-que-pensa-o-pesquisador-brasileiro-sobre-a-burocracia/

Dudziak, E. A. (2012, May 27). *Quem financia a pesquisa brasileira? Um estudo InCites sobre o Brasil e a USP*. SIBiUSP. Retrieved May 27, 2022, from https://www.aguia.usp.br/noticias/quem-financia-a-pesquisa-brasileira-um-estudo-incites-sobre-o-brasil-e-a-usp/

Escobar, H. (2019, July 25). Quanto custa a burocracia na ciência? R$9 bilhões por ano. *Jornal da USP*. Retrieved September 20, 2022, from https://jornal.usp.br/universidade/politicas-cientificas/quanto-custa-a-burocracia-na-ciencia-r-9-bilhoes-por-ano/

Escobar, H. (2021, May 27). Dados mostram que ciência brasileira é resiliente, mas está no limite. *Jornal da USP*. https://jornal.usp.br/?p=425214

FAPESP. (2012). *2012 Annual Report*. https://fapesp.br/publicacoes/relat2012_sintese.pdf

[10] Pan American Health Organization, https://www.paho.org/en.

FAPESP. (2016). *2016 Annual Report*. https://fapesp.br/publicacoes/relat2016_sintese.pdf

Garcia, J. E. M., Visco, M. A. L., & Bernardes, R. C. (2013). Escritório de projetos aplicado a PD e I: O caso do hospital Albert Einstein. *Gestão e Saúde*, *4*(3), 1063–1083.

IBGE. (2022a, May 27). *Instituto Brasileiro de Geografia e Estatística*. https://www.ibge.gov.br/estatisticas/economicas/contas-nacionais/9300-contas-nacionais-trimestrais.html?=&t=series-historicas&utm_source=landing&utm_medium=explica&utm_campaign=pib#evolucao-taxa

IBGE. (2022b, May 27). *Instituto Brasileiro de Geografia e Estatística*. https://www.ibge.gov.br/explica/pib.php

Junqueira, M. A. D. R., Bezerra, R. C. D. A. R., & Passador, C. S. (2015). O escritório de gestão de projetos de pesquisa como uma inovação organizacional nas universidades. *Revista GEINTEC*, *5*, 1835–1849.

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2023). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Kerridge, S., & Scott, S. (2018a). Research administration around the world. *Research Management Review*, *23*(1), 1–34.

Marques, F. (2011). Mais tempo para a pesquisa. *PESQUISA FAPESP*, *184*(June), 29–31.

Marques, F. (2014). Suporte sofisticado. *Revista Pesquisa Fapesp*, *225*(Nov.), 32–35.

Oliveira, F. S. D. (2020). *Administração e gestão de projetos de pesquisa e sua contribuição às atividades de pesquisa, desenvolvimento e inovação: estudo de caso da Embrapa* [Master dissertation]. Institute of Geosciences of the University of Campinas.

Oliveira, F. S. D., & Bonacelli, M. B. M. (2019). Institutionalization of research administration in Brazil: Some evidences. *Journal of Technology Management & Innovation*, *14*(2), 69–80.

Reardon, S. (2021). 'We're problem solvers': Research administrators offer guidance to working scientists. *Nature*, *595*, 321–322. https://doi.org/10.1038/d41586-021-01829-8

Research Managers are Essential to a Healthy Research Culture. (2021). *Nature*, *595*, 150. https://doi.org/10.1038/d41586-021-01823-0

Chapter 5.9

Maturity in the Professionalisation of the Research Managers and Administrators in Colombia

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Abstract

This chapter presents a narrative description of the evolution in the building capabilities in the process of professionalisation of the research manager and administrative roles in higher education institutions (HEIs) in Colombia. The descriptive approach takes into account the consolidation of the Colombian Science, Technology and Innovation policy to explain the ways that research managers have been setting up their activities to adapt and respond to the challenges that research management has imposed on them. The chapter also includes analysis of results derived from the Research Administration as Profession (RAAAP-3) survey in 2022 for Colombian participants to describe as the roles of research managers and administrators that have grown up in the country, and it considers the future and perspectives to look forward in the professionalisation process in HEIs.

Keywords: Research management and administration; higher education institutions; RAAAP; COREMA; Colombian Science, Technology and Innovation policy; professionalisation

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Colombian Research Ecosystem

Colombian Science, Technology and Innovation Policy

For more than 50 years, the national system for science, technology and innovation – SNCTI in Colombia has been evolving based on the definition of regulatory frameworks, technical assistance, international financing and the role played by actors, especially universities, which have generated scientific and human capacities for the generation, use, transfer and appropriation of research and development activities.

At the regulatory level, in the 1960s, the establishment of the National Council for Science and Technology – Colciencias (today the Ministry of Science, Technology and Innovation) and the Colombian Fund for Scientific Research and Special Projects, through Decree 2869/1968, laid the foundations for the country to have a leading entity to advise and finance the development of science and technology activities in the country.

In subsequent years, the creation of postgraduate programs in higher education institutions (HEIs) was promoted (Decree 80/1980), Colciencias was given the responsibility of directing and coordinating the SNCTI through the definition of the National Science and Technology Policy (Law 29/1990), universities had to include research as one of their missionary functions, and also train students in scientific skills (Law 30/1992). Entering the 21st century, Colciencias was transformed into an Administrative Department, granting that entity institutional autonomy for the consolidation of the SNCTI (Law 1289/2009), 10 years later this department becomes the ministry (Law 1951/2019) achieving a seat at the national budget decision table, and finally the approval of the current public policy for Science, Technology and Innovation – STI in Colombia (CONPES 4089/2022). This new policy raises the need to address problems linked to the disconnection of STI indicators from the country's social, economic and territorial development needs, the lack of legitimacy in the results of the impact assessment processes derived from STI activities or the low communication between the actors involved in the national science, technology and innovation systems (Chalela, 2020; Salazar, 2013; Soto, 2009).

Main Funders of the National System for Science, Technology and Innovation in Colombia

During the second half of the 20th century, and in the beginning of the 21st century, the technical assistance and international financing by the Inter-American Development Bank (IADB) and the World Bank was the main fund in Colombia to foster and strengthen the research and development capacities in universities, public research institutes and companies in Colombia, as well as generating articulations between these actors to address challenges from sectors such as agriculture, health, renewable resources, among others (Salazar, 2013).

In the most recent years, with the establishment of the General Royalties System, allocated 10% of taxes on mining and oil extraction investment for ST&I (Law 1530/2012), and another loan from the World Bank in 2017 for US$160,000,000, the Colombian Government has built the basis to support the maturation of regional and national research systems in the country. Despite the above, the percentage of the national GDP in investment in Research, Development and Innovation is low (close to 0.3% of GDP in 2021), which has generated the most competition for those funding (OCyT, 2021). Figs. 5.9.1 and 5.9.2 show the evolution of the investment and the type of funding. An increase in the capacity of the SNCTI actors to attract international

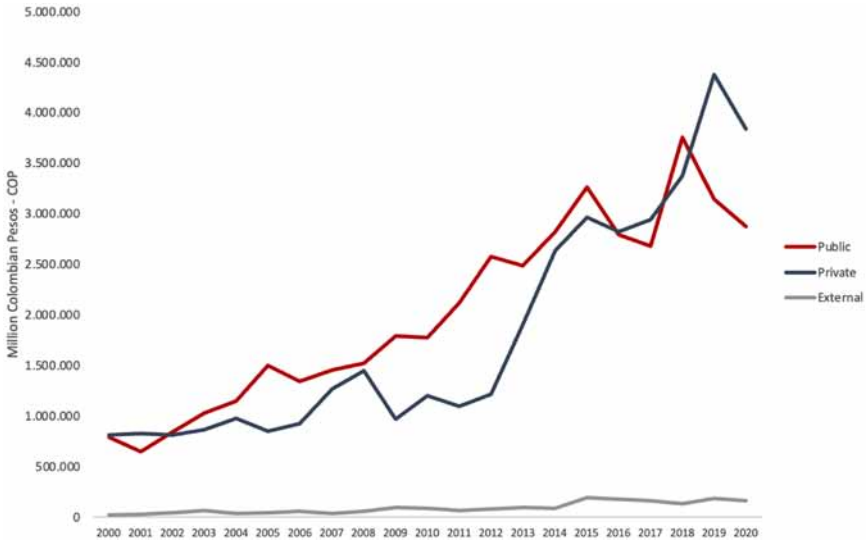

Fig. 5.9.1. Evolution of the Colombian Investment for Science, Technology and Innovation Activities (2000–2020). Million Colombian Pesos.
Source: Colombian Observatory of Science and Technology OCyT – 2022.

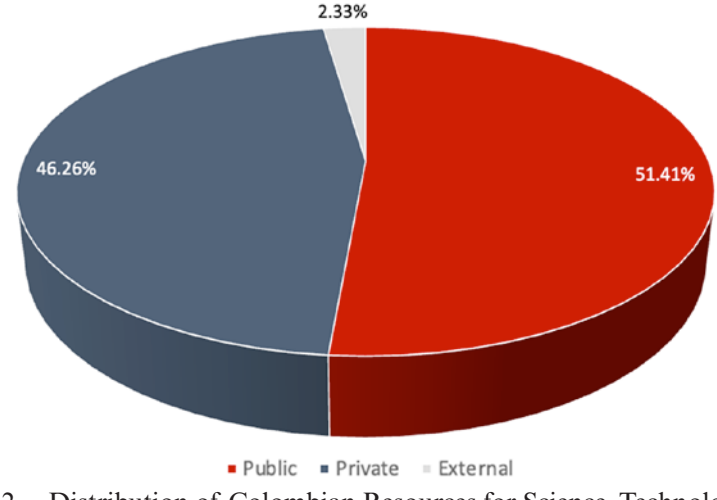

Fig. 5.9.2. Distribution of Colombian Resources for Science, Technology and Innovation Activities (2000–2020). *Source*: Colombian Observatory of Science and Technology OCyT – 2022.

resources to finance their research and development activities has also been evidenced, as well as the gradual decrease in the own resources allocated by HEIs to finance the research.

STI Ecosystem Where RMAs Are Working

At the meso-structural level, the maturation of the SNCTI led to the fact that, at the end of the 1990s and the beginning of the 21st century, most universities in Colombia

would create organisational academic units for research (Croucher & Woelert, 2016), like Vice President for Research Offices, considering that their management and processes became an essential part of the managerial functions of this type of institution (Poli, 2018a). The foregoing has led to changes in the organisational structure of these institutions to adapt to the transformations of the context and compete for resources that allow them to finance research, link a greater number of professors with PhD, expand postgraduate programmes and generate a greater production of high-level knowledge (CESU – Consejo Nacional de Educación Superior, 2014).

The growing of the number of actors in the national system of science, technology and innovation has led to the management of university research being configured in an isomorphic manner, that is, under standardised criteria of efficiency and quality that allow them to compete for sources of information: public, private or international financing to continue strengthening their scientific capacities (Chalela, 2020). These units have been in charge of directing and coordinating the nearly 300 HEIs that currently exist in the country, according to the National System of Information on Higher Education – SNIES (2022) and the activities of science, technology and innovation of the nearly 5,900 research groups and 20,930 researchers, who are today recognised by the National System of Science, Technology and Innovation (Ministerio de Ciencia, Tecnología e Innovación, 2022), and the number of master degree and PhD students has been growing as a result of the government efforts to increase the scientific capabilities in the country. In that sense, the STI ecosystem nurturing poses great challenges that are associated with the need to professionalise the role played by researcher managers and administrators of research in these institutions.

Evolution of the Profession

The creation of institutional dependencies for strengthening of research in the different HEIs of the country has been marked by the need to consolidate an organisational culture for research (Evans, 2011). This responsibility has been assigned to professionals dedicated to RMA who support researchers and academics in each of the activities that make up the cycle of research projects – from the search for funding to the transfer of results derivatives of the projects (Kerridge, 2021b).

In the six semi-structured interviews conducted by Colombian Research Management and Administration Association (COREMA) chair members, between January 2022 and February 2022, with RMAs working on public and private universities in Colombia, we found that this role has evolved slowly, and empirically. The RMA profession in Colombia has been characterised by being carried out by professors and administrative professionals in different areas of knowledge, who have had to learn and develop their skills by solving the day-to-day situations (specially, pre- and post-award processes, transfer of knowledge and management of intellectual property) that have been generated from the pressures of the knowledge economy over the Colombian national education system (Altbach, 2013; Altbach & De Wit, 2018).

On the other hand, it is important to mention that these professionals have faced labour obstacles for the development of their functions such as temporary employment contracts, little access to specific training in RMA, little clarity in the definition of their specific functions, informality in the process of communication with departments or faculties within their university and the lack of knowledge or negative (bureaucratic) perception from researchers, as people mentioned during the interviews.

Current Community

Faced with the aforementioned challenges, the motivation of attending the call for funding research programs by the World Bank loan in 2017, an informal network of RMAs from different universities was created to support researchers on the pre-award processes. The main challenge of this group was to meet the requirements for the formation of the consortia and to comply with the development of the budgets in accordance with the call.

Between 2018 and 2021, this network of RMAs grew organically through an informal channel, 'Whatsapp', focussed on sharing information about common interests, best practices and funding opportunities, among other important information for research management for performance roles within HEI. The growing need for dissemination and support in best practices for RMA, at the end of 2021, the network of research managers was formalised in a Colombian Research Managers and Administrators Association (COREMA[1]), whose objective is focussed on the professionalisation and nurturing capabilities for the management of research in HEIs, and to promote changes that strengthen the Colombian STI policy.

Demographics

The socio-demographic characterisation of the RMAs in Colombia was possible through the RAAAP-3 survey that was actively distributed for the first time in Colombia. These results enabled the analysis of the gender, age, experience and professional background, the level of maturation of the profession, the differences with people dedicated to these same activities in different parts of the world, as well as the opportunities to strengthen the professionalisation processes in Colombian HEIs. This survey (Fischer et al., 2022) had the participation of 74 RMAs that are working in public and private universities in the country (Kerridge, Dutta, et al., 2022).

Regarding the gender of the participants, unlike most of the rest of the world in which the management and administration of research are female dominated, in Colombia there is a certain gender balance among the people who are linked to this type of activity. In Colombia, the gender gap in RMA is lower than the world average. While in the world 78.5% (n = 2,764) reported female gender, in Colombia it was only 55.4% (n = 41).

Regarding age and the experience as RMAs in Colombia, the majority of the RMA population is young, unlike the world average (Fig. 5.9.3). Despite the fact that the RMAs in Colombia are mostly younger, when comparing the number of years that people have been carrying out these activities with the rest of the world it is similar, showing that the majority of people who dedicate themselves to this type of activity in everyone has been doing it for less than 10 years (Fig. 5.9.4).

Considering the academic background, while in Colombia only 41.8% (n = 28) reach a master's or doctorate degree, around 61.8% (n = 2,107) of the professionals dedicated to this type of activity in the world have this profile. However, in contrast to the above, in Colombia, there is a higher proportion of people who declared that they have dedicated themselves to research management and administration activities after having trained as researchers compared to the rest of the world. When RMAs from Colombia were asked about if they moved from research to research management,

[1] COREMA web page: https://gestorescorema.wordpress.com/.

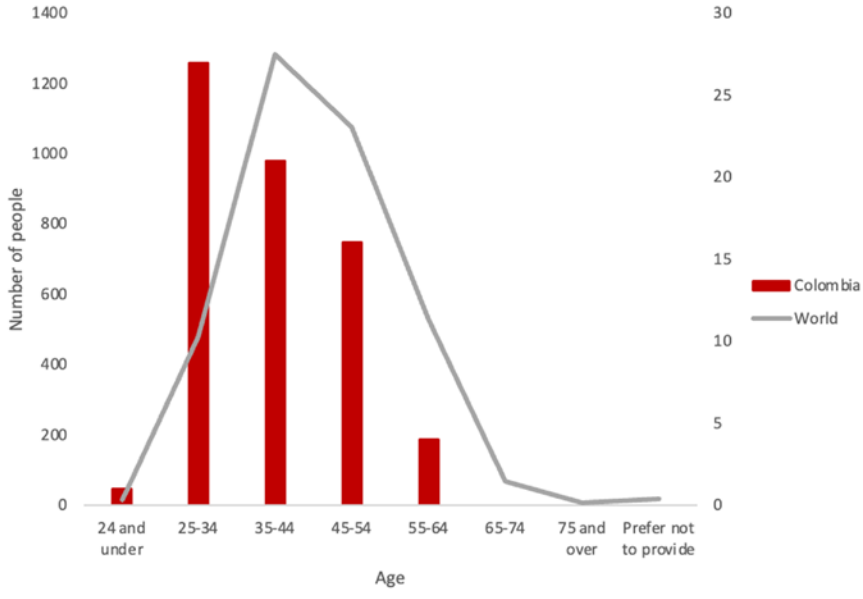

Fig. 5.9.3. RMAs Age Range Profile in: Columbia and the World. *Source*: RAAAP-3 (Kerridge, Dutta, et al., 2022).

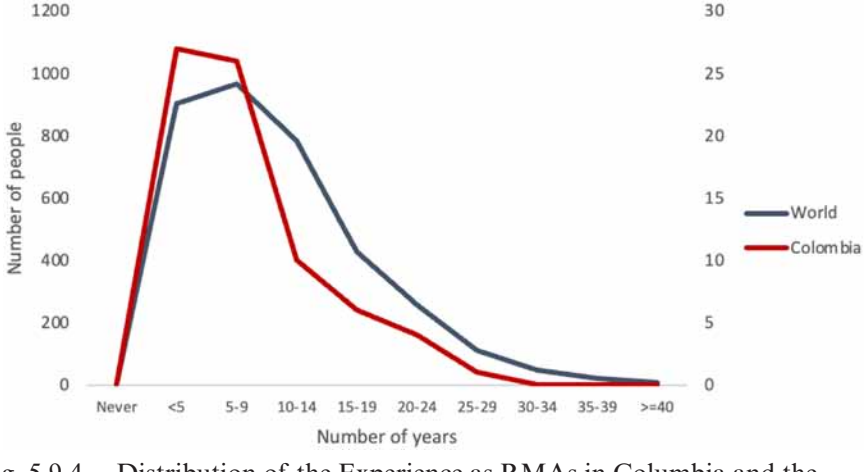

Fig. 5.9.4. Distribution of the Experience as RMAs in Columbia and the World (Number of Years). *Source*: RAAAP-3 (Kerridge, Dutta, et al., 2022).

surprisingly 59.1% (n = 39) picked from 3 to high at the scale, on the other hand in the world 39.1% (n = 1,300) people are distributed in the same scale (3 to high).

Finally, about employment type, in Colombia less than half of the people who participated in this survey stated that their role as RMAs is a permanent position 48.6% (n = 34), in contrast to the worldwide data in which the vast majority of professional's present permanent contract conditions for the development of their functions 81.4% (n = 2,789). It is a relevant situation in Colombia, due to the lack of stability in the labour conditions of the RMAs has generated uncertain in people, and it's could

produce a negative effect in their decision to develop a career as RMAs, as one of the participants in the interview mentioned:

> It is a reality that we are all temporary workers, that is to say, this area does not have any professionals or staff, or transitory (fixed-term or permanent) so it would also be left to the political will of whoever is going to arrive, in case there is any change in the management team, let's say that it would be up to the free will of whoever arrives to define if they consider that they will continue betting on this process or if they will have other priorities. So, well, it's not like a day-to-day uncertainty, but at least I am very aware of that scenario, that is, obviously those of us who are contractors for professional services, then we don't have anything safe.

Colombian RMAs Identity

At the same time, in Colombia, a differentiation between 'research management' and 'research administration' has not been built. It has become more and more common that institutions create positions with the name 'research manager', we consider that it is given by the affinity with the position 'project manager', as shown in Fig. 5.9.5, the majority of RMAs in Colombia identify themselves as 'research managers'. Additionally, a significant percentage is also identified as 'research and innovation manager' given that the public policy of STI in Colombia has promoted the processes of technology transfer and innovation in the last 15 years[2] (Fig. 5.9.5).

The aforementioned issues cannot be isolated from the characteristics and type of institutions to which the managers and administrators of the research are linked. In particular, the results of the survey show that the majority of Colombian professionals dedicated to this type of activity declare that they work in institutions active in research 51.4% (n = 38), while in the rest of the world the largest proportion of professionals is linked to universities that are intensive in research 47.6% (n = 1,678). Additionally, it is evident that while in the world most of these professionals are linked to public-type organisations 76.2% (n = 2,689), in Colombia the proportion of professionals linked to public and private organisations is balanced at 48.7% (n = 36) and 47.3% (n = 35), respectively, which marks an important difference in the management and administration processes of investigation.

Finally, the survey also offers pertinent information concerning the challenges involved in professionalising research management and administration in Colombia. It addresses the potential for ongoing training to enhance career growth across diverse organisational contexts, alongside the opportunity to promote this profession and thereby increase engagement in such activities.

In the first place, when consulting people in Colombia about the certifications they have obtained to train as managers and administrators of research, it is identified that about 79.7% (n = 59) do not have any certification, which represents a great opportunity for improvement considering the existence of a training offer of this type that has been developed by some associations in the world such as the European Association

[2] The stakeholder's recognition policy of the Ministry of Science, Technology and Innovation (STI) in Colombia has nine types of stakeholders, of which seven are closer to technology transfer and innovation processes than research. https://minciencias.gov.co/portafolio/reconocimiento_de_actores.

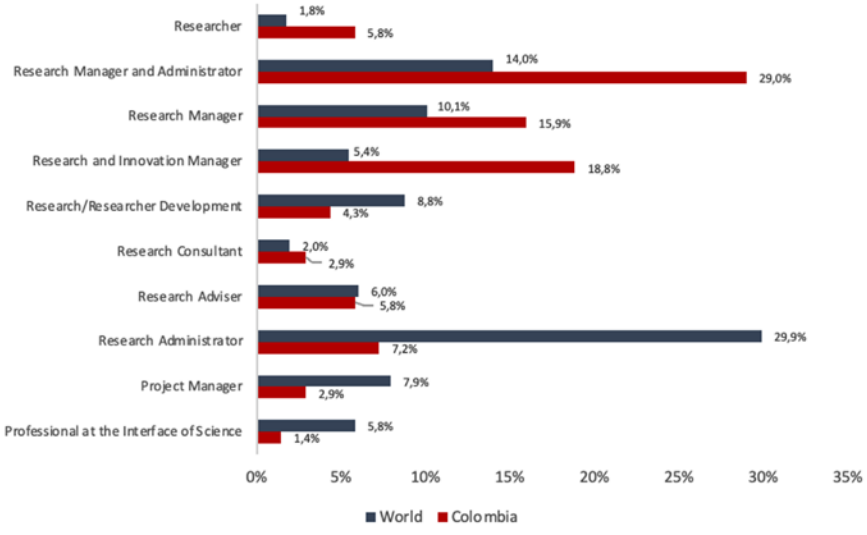

Fig. 5.9.5. Distribution of the RMAs Identity in Colombia and the World. *Source*: RAAAP-3 (Kerridge, Dutta, et al., 2022).

of Research Management and Administration – EARMA, National Council of University Research Administrators – NCURA, among others.

In addition, when asked about the possibility of recommending to other people the development of a professional career as research managers and administrators, in the case of Colombia it is identified that the majority 72.9% (n = 51) would do so, whereas unlike what happens in the rest of the world where 56.4% (n = 1,954) state that they would recommend this career path, suggesting which means that there is satisfaction in professionalising these roles and a great opportunity to continue consolidating the management and administration of research in this country.

Directions/Future

It is concluded that according to the sociodemographic analysis of the RMA population in Colombia there are several possibilities of action. The most urgent will be to start courses and certifications for the professional development of RMA because the group is young and has basic training levels. In the medium term, it is possible to think about encouraging RMA to take postgraduate courses. Likewise, in the medium term, it is possible to motivate HEIs and research centres to offer greater job stability to RMAs (fixed-term or permanent contracts).

COREMA plans to be strengthened through six lines of work fronts with the goal of making more professional the research management in Colombia. (1) Professionalisation and capacity building: professionalise the activities and knowledge of RMAs through training and certifications. (2) Knowledge management: design strategies to share good practices, lessons learned, standardisation and optimisation of processes through guides and repositories, among others. (3) Communication and networking: develop activities that build trust among the members of the network and with other national and international stakeholders related to STI activities. Design information systems and platforms to share information and create channels for network members to communicate. (4) Influence on science, technology and innovation policy, laws and regional alliances.

To carry out social control activities on the administration and management of the STI. (5) Research in research management: generate new knowledge from the data and experiences of the network dynamics. Document activities, experiments and their results. Design methodologies and practices and generate publications as a result of this research exercise. (6) Internationalisation: seek relationships and participate in activities related to the management and administration of research at the international level.

Also, regarding the implementation of research management in HEIs, initiatives such as 'MIMIR ANDINO (Modernization of the institutional management of research and innovation in the Andean region and Latin America)[3]' have recently launched a new model: 'Institutional Management Model for Research and Innovation in Higher Education Institutions in Latin America', this model was the result of a project co-financed by the European Commission, within the framework of the Erasmus+ CBHE program (capacity development in the field of higher education). Spanning three years, the MIMIR ANDINO project was primarily designed to help and encourage partner universities in South America (and specifically Andean) countries to better understand the status quo of their research management approaches, from performance and evaluation to management structures and effectiveness, the model was published in October 2022 (Gamboa et al., 2022).

Another relevant initiative is the one promoted by the I2LATAM project,[4] co-financed by the Erasmus+ program of the European Commission, which is focussed on developing Research and Innovation capacities in HEIs in Latin America to support their regional engagement. Inspired by the Smart Specialisation Strategy and the role of Higher Education in regional competitiveness, the I2LATAM project has enabled Latin American research and innovation managers from Colombia, Mexico, Argentina and Peru to implement the classes with a high-level official of the university, we are referents, I think that for a student it is very satisfactory and if we can transmit not only our disciplinary specialty, but also some of the administrative experience, it can be very useful.

Finally, COREMA seeks to increase the legitimacy of RMAs among the academic community and STI policymakers. The strategy is to create standards with clarity and coherence, to formalise and make more agile the process related with science, technology and innovation activities. Our goal is to make visible the knowledge, communication, access to information, collaboration, efficiency and good practices of the RMA in Colombia and to be a reference for RMAs in Latin America.

References

Altbach, P. G. (2013). Advancing the national and global knowledge economy: The role of research universities in developing countries. *Studies in Higher Education*, *38*(3), 316–330. https://doi.org/10.1080/03075079.2013.773222

Altbach, P. G., & De Wit, H. (2018). Too much academic research is being published. *International Higher Education*. https://doi.org/10.6017/ihe.2019.96.10767

Chalela, S. (2020). *La gestión de la investigación en universidades colombianas* [Doctoral dissertation]. Universitat Autònoma de Barcelona.

Consejo Nacional de Educación Superior – CESU. (2014). Acuerdo por lo superior 2034. Propuesta de política pública para la excelencia de la Educación Superior en Colombia en el escenario de paz.

[3] MIMIR ANDINO web page: https://mimirandino.org/.
[4] I2LATAM web page: https://i2latam.com/.

Croucher, G., & Woelert, P. (2016). Institutional isomorphism and the creation of the unified national system of higher education in Australia: An empirical analysis. *Higher Education*, *71*, 439–453. https://doi.org/10.1007/s10734-015-9914-6

Decree of the Establishment of the Higher Education System in Colombia (Decree 80/1980). Colombia. https://www.funcionpublica.gov.co/eva/gestornormativo/norma.php?i=67073

Decree of the Establishment of the National Council of Science and Technology (Decree 2859/1968). Colombia. https://minciencias.gov.co/sites/default/files/upload/reglamentacion/decreto-2869-1968.pdf

Evans, L. (2011). Developing research capacity in social sciences: A professionality based model. *International Journal for Researcher Development*, *1*(2), 134–149. https://doi.org/10.1108/1759751x201100010

Fischer, M., Kerridge, S., Oliveira, C. I., & Dutta, M. (2022). *RAAAP-3 HIBARMA questionnaire (Version 3)*. figshare. https://doi.org/10.6084/m9.figshare.20459370.v3

Gamboa, E. B., Falla, D. G., & Pallares, C. (Eds.). (2022). *Modelo de Gestión Institucional de la Investigación y la Innovación en Instituciones de Educación Superior de América Latina*. ASCUN, Editorial UPTC, Fondo Editorial Universidad Antonio Nariño y Universidad de Manizales, Bogotá, Colombia. https://doi./10.19053/9789588481562

Kerridge, S. (2021b). Research management and administration – A profession? [In Japanese]. *Hitotsubashi Business Review*, *69*(2), 62–72.

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Law of Higher Education System in Colombia (Law 30/1992). Colombia. https://www.mineducacion.gov.co/1621/article-86437.html

Law of Scientific and Technology System Promotion in Colombia (Law 29/1990). https://www.mineducacion.gov.co/1621/articles-184681_archivo_pdf_ley29.pdf

Law of the Colciencias Institutional Transformation (Law 1289/2009). Colombia. https://minciencias.gov.co/node/302

Law of the Establishment of the Ministry of Science, Technology and Innovation in Colombia (Law 1951/2019). Colombia. https://www.funcionpublica.gov.co/eva/gestornormativo/norma.php?i=90308

Law of the Structuration of the General Royal System in Colombia (Law 1530/2012). Colombia. https://www.funcionpublica.gov.co/eva/gestornormativo/norma.php?i=47474

Ministerio de Ciencia, Tecnología e Innovación (MinCiencias). (2022). *Resultados finales de la convocatoria 894 de 2021 para el reconocimiento y medición de Grupos de investigación, desarrollo tecnológico e innovación e Investigadores en Colombia.* https://minciencias.gov.co/sistemas-informacion/modelo-medicion-grupos

Observatorio Colombiano de Ciencia y Tecnología – OcyT. (2021). Indicadores de Ciencia, Tecnología e Innovación en Colombia. Versión Preliminar. https://ocyt.org.co/wp-content/uploads/2022/12/informe-indicadores-CTeI-2021-MA.pdf

Poli, S. (2018a). Who are today's research managers? In *The European research management handbook* (pp. 1–29). Elsevier. https://doi.org/10.1016/B978-0-12-805059-0.00001-8

Public Policy on Science, Technology and Innovation in Colombia (CONPES 4089/2022). Colombia. https://colaboracion.dnp.gov.co/CDT/Conpes/Econ%C3%B3micos/4089.pdf

Salazar, M., Barón, V., Bonilla, R., Cantor, N., Cárdenas, F., Chavarro, D., Daza, S., Durán, M. F., Fog, L., Galvis, M., González, R., Jaramillo, H., Lozano, M., Lucio, D., Montoya, J. S., Nupia, C. M., Orozco, L. A., Pallares, C. O., Pérez, P., … Villaveces, J. (2013). Colciencias cuarenta años. Entre la legitimidad, la normatividad y la práctica (M. Sálazar, M. Lozano, L. Fog, & F. Sagasti, Eds.). Observator.

Soto, D. (2009). *Los doctorados en Colombia. Un Camino hacia la transformación universitaria*. Historia de La Educación Latinoamericana.

Asia

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Chapter 5.10

Development of RMA in China

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Abstract

With the government's increased investment in sci-tech and the requirement of scientific research management, RMAs have gradually flourished in China after the 1980s. However, there is no professional qualification specifically for RMA in China and RMA professionals are from various departments. With the arrival of the 21st century, the rapid development of sci-tech has led to the strengthening of the position and role of RMA in research activities. The profession of RMA has made great progress, and a professional contingent of RMA has gradually been formed. This chapter will review the history and development of RMAs in China. Specifically, it includes the evolutionary history of China's sci-tech policy, how RMAs developed as a profession, current state of RMAs, the size and nature of the RMA profession (taking the academic community CASSSP as an example), and future trends of RMAs in China.

Keywords: Research Managers and Administrators; professional qualification; The Chinese Association of Science of Science and sci-tech Policy Research (CASSSP); China; government; sci-tech

The Emerald Handbook of Research Management and Administration Around the World, 505–510

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Research Ecosystem

China's global rise as the world's second largest economy has led to increasingly complex and socialised science and technology activities, with a tendency towards deep integration of scientific resources with national goals (Xu, 2002). Since its founding in 1949, China has been optimising its science and technology policy to keep up with the rapid national and social development, and the policy is now more focussed than ever. It involves the macro-management of the country's sci-tech resources and understanding the impact of new sci-tech developments on government policies. It also involves determining the direction of sci-tech advancements, budgeting and investment, allocation of research funds, systemic reforms, the selection and management of major scientific projects, training and use of personnel, and the application and promotion of scientific and technological achievements.

From a macro perspective, the developmental pattern of China's sci-tech policy matches the global trend. In terms of strategic focus, its evolutionary history can be classified into four stages: national defense (1949–1977), economy (1978–1994), science and education (1995–2005), and national innovation (2006–present). Its objectives and focusses have expanded from building national defense capabilities to industrial (economic) development and ultimately social construction (Jin, 2015). The developmental trend of China's sci-tech policy is characterised by the following four features: from a supply-led policy to a demand-led policy; from a single supply system to diversified, multiform, and society-wide collaborative input; from rationalised development to equal emphasis on both rationality and scientific value; from governmental directives to both government-led and market-based regulation; and from tracking and imitation to an emphasis on independent innovation (Jin, 2015).

Since China began its sci-tech reform in 1985, its system of funding research has gone through multiple stages of establishment, improvement, and reform. In line with the science and technology evaluation reform document (MOST, 2014) released at the end of 2014, five new sci-tech programs were proposed: the National Natural Science Foundation of China (NSFC), National Science and Technology Major Project, National Key R&D Programs, Technology Innovation Guidance Special Projects (Funds), and Base Talent Special Projects. Among them, the NSFC is the main funding agency for basic research in China. It promotes basic research in natural sciences and basic disciplines, aiming to discover and cultivate outstanding scientific and technological talents. In 2019, NSFC's annual funding project expenditure totalled about 30.6 billion yuan (Li, 2020). The funds were allocated to 1,783 dependent units and nearly 105,000 projects. The funding expenditures are large, involving a wide range of people and evoking much social concern.

With the implementation of an innovation-driven development strategy, China's sci-tech innovation capacity continues to grow. According to the report released by the National Bureau of Statistics (NBS, 2022), China's gross expenditure on social research and experimental development (R&D) was estimated at 2.78 trillion yuan in 2021 (roughly US $400 billion), up by 14.2% over the previous year. China's R&D expenditure accounted for 2.44% of the GDP, an increase of 0.03% over the previous year. A report from the Ministry of Science and Technology shows that during the 13th Five-Year Plan period (2016–2020), the number of FTE R&D personnel (FTE) increased rapidly, with an average annual growth rate of more than 7%. The number increased from 3.878 million in 2016 to 5.092 million people in 2020, ranking first globally for consecutive years in terms of the number of FTE R&D personnel (MOST, 2021).

In China, scientific research is mainly carried out by research institutions represented by national research institutes and universities, and scientific and technological enterprises. Universities, which are an important part of the sci-tech innovation system, have entered a period of rapid growth driven by the policy. As of 2020, the number of regular higher education institutions had reached 2,738, with an average year-on-year growth rate in the number of institutions of 1.34% since 2014. There are 1,270 institutions offering degree programs and 1,468 are higher vocational colleges (MOE, 2021). With the status and role of scientific research activities in universities growing continuously, managing scientific research has become an important aspect of university management. A questionnaire survey in a study shows that nearly 70% of universities have a research management system (Tang & Wang, 2019).

Evolution of the Profession

With the government's increased investment in sci-tech and the requirement of scientific research management, RMA as a profession has gradually evolved in China after the 1980s. Professionals with backgrounds in science and technology management, public administration, personnel management, financial management, and other related fields are engaged in specific tasks that are considered research management and administration. These tasks include science and technology project management, personnel management, financial management, intellectual property management, research facilities management, scientific research, academic exchange, and cooperation management in universities and research institutes. Upon the arrival of the 21st century, the rapid development of sci-tech has led to the strengthening of the position and the role of RMA in research activities. In this context, RMA as a profession has made great progress, and a professional contingent of RMA has gradually been formed. The RMAs in China are more professional than ever. Up until now, there is no certification system nor professional qualification system specifically designed for RMA in China. However, RMAs in China are involved in studies on policy research at the national and even international levels. The Chinese Association of Science of Science and sci-tech Policy Research (CASSSP), a nationwide group of professionals engaged in sci-tech policy research, serves as a typical example. With a large number of well-known experts and scholars engaged in science and science policy research, the association carries out various activities for the development of China's sci-tech policy and management as well as the promotion of scientific and democratic decision-making.

Current Community

Today, universities, research institutions, and enterprises in China have set up research management departments. Their personnel sizes range from a few dozens to hundreds of employees. With the progression of the sci-tech reform, responsibilities of scientific research management departments have been increasing, with intellectual property management, scientific research integrity, and scientific research ethics being added to the traditional scientific research project management (Wu, 2020). The Chinese education system has not yet set up a degree called Research Management and Administration, and those who serve in the research management and administration generally do not come from a 'professional degree'; but diverse academic backgrounds (Li & Hu, 2020). In research institutions, some of the existing research managers are management professionals, while others have been transferred from areas such as research,

administration, finance, legal affairs, etc. (Wu, 2020). Meanwhile, CASSSP has developed more than 20 professional committees in 29 provinces of China, with a total of more than 2,000 registered members so far. Growing its influence, an increasing number of scholars and managers are joining academic events of CASSSP, which allow them to exchange ideas regarding research management and administration each year. Compared to 20 years ago, current members who actively engage in RMA work have rich research experiences.

Demographics

There is no comprehensive data available for RMAs in China, and data from RAAAP-2 (Kerridge, Ajai-Ajagbe, et al., 2022) is used for our discussion in this section. The CASSSP was responsible for the data collection in China. The CASSSP sent a link for filling out the questionnaire to its members through the WeChat group and reminded them to actively fill out the questionnaire. After data screening, a total of 132 respondents were obtained. The number of people in China who are truly engaged in RMA far exceeds this number, but due to the difficulty in obtaining data, this chapter only selects the survey data for analysis.

Types of RMAs: RMAs mainly come from universities, research institutions, research funding agencies (government or non-government), hospitals, and other government departments. The highest proportion responded to the survey are from universities (73.5%), of which the majority come from public universities (94.8%). In universities, nearly half of the RMAs work full-time, mainly in the academic departments, central research administration offices, and non-central research administration offices. A total of 15.2% of respondents come from research institutions, with most of them being from public research institutions. As many as 85.0% of RMAs also do part-time jobs related to research or other fields, primarily in the academic departments. According to the survey results, at funding agencies (governmental or non-governmental), all RMAs also do part-time work related to research or other fields in academic departments and the central research administration offices. In other government departments, RMAs work full-time, with just a few exceptions. Data from hospital RMAs are not available and will not be analysed here.

In terms of roles, 36.4% of RMAs undertake operational positions, responsible for undertaking specific duties, 34.1% are managers, and 20.5% are leaders. In terms of the research areas, more than half of RMAs are in the field of social science, followed by 28.0% in science and engineering. 47.0% of RMAs work in policy and governance, followed by program support (40.9%), service delivery (40.2%), proposal development (25.8%), training/communications (22.7%), research students (10.6%), research management systems (10.6%), audit and compliance (9.8%), other (4.5%), and translation (2.3%). In fact, RMAs can work in more than one of these sub-areas.

Make-up of RMAs: According to the survey results, the male-female ratio of RMAs is 56:44. In terms of age distribution, the highest percentage (43.9%) of RMAs are between 35 and 44, followed by 23.5% between 45 and 54, and 22.0% between 25 and 34 years old. The highest percentage (34.1%) of the respondents have worked in the research management field for over 10 years. Educational background plays a crucial role in the career development of RMAs. According to the survey, RMAs in China generally have high academic qualifications. More specifically, the vast majority of RMAs have a bachelor's degree or higher, with nearly 50% of RMAs holding a doctoral degree and a further 42.0% holding a master's degree. Among them, more than 1/3 of RMAs have obtained the doctoral degree before engaging in research

management and administration, and 9.8% of them obtained their doctoral degree during the time as an RMA. As for the areas of academic training, 39.4% of RMAs majored in social sciences, followed by science (18.9%), engineering (18.2%), business (12.9%), general/all (6.1%), medical and health sciences (2.3%), and others (2.4%). When asked if their educational background is aligned with the subject areas that they support, more than 90% of RMAs responded that their educational background is more or less related with the area that they support.

In addition, nearly half of RMAs in China have a positive attitude towards professional certification in research management and administration. 35.7% of RMAs believe that professional certification of RMA 'helps them to get promoted/get a new job'. Nearly 50% of RMAs believe that professional certification of RMA 'helps them to do their job well', 'makes them believe more in their abilities', 'makes their colleagues/scholars/researchers trust them more', and 'does not have it now and it would help his career if he had it'.

Directions/Future

RMAs in China are closely following global development trends, while retaining local characteristics. In general, the trends of RMA in China can be clarified in three aspects. First, the management model adopts a service-oriented concept of putting people first. In order to reduce the burden on researchers and create a more relaxing research environment, the Chinese government advocates that 'management' be eased and the concept of 'service' be adopted. For example, in recent years, the Chinese government has issued a series of policies in reducing the frequency of science and technological evaluation, optimising the use of research funds, and expanding the autonomy of scientific research personnel. Second, various methods and means are explored to improve the efficiency of RMA by promoting informatisation construction. Academic Resource Planning (ARP) as an information system project is a great example that establishes scientific resource planning of Chinese Academic of Sciences (CAS). Third, the RMA professionals have continued to expand in scale and structure. Their diverse professional backgrounds and understanding of research management have contributed to the development and innovation of the RMA industry while making the management more scientific.

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References

Jin, S. (2015). Evolution and tendency of Chinese science and technology policy. *Forum on Science and Technology in China*, (10), 5–9. https://doi.org/10.3969/j.issn.1002-6711.2015.10.002

Kerridge, S., Ajai-Ajagbe, P., Kiel, C., Shambrook, J., & Wakefield, B. (2022). *RAAAP-2 datasets (17 linked datasets) (Version 1)*. figshare. https://doi.org/10.6084/m9.figshare.18972935.v1

Li, F., & Hu, J. (2020). Status and training strategy of scientific research managers in basic scientific research unites. *China's Health Industry*, *17*(06), 30–32. https://doi:10.16659/j.cnki.1672-5654.2020.06.030

Li, J. (2020). Thoughts on the performance evaluation of the department budget of NSFC. *Budget Management & Accounting*, (05), 14–16.

Ministry of Education of the People's Republic of China. (2021). *Overview of education in China – National education development in 2020*. http://www.moe.gov.cn/jyb_sjzl/s5990/202111/t20211115_579974.html

Ministry of Science and Technology of the People's Republic of China (MOST). (2014). *Circular of the state council on deepening the management reform of central finance science and technology program (special projects, funds, etc.)*. https://www.most.gov.cn/xxgk/xinxifenlei/fdzdgknr/fgzc/gfxwj/gfxwj2014/202107/t20210701_175618.html

Ministry of Science and Technology of the People's Republic of China (MOST). (2021). *Report on the development of scientific and technological talents in China 2020 was released*. https://www.most.gov.cn/kjbgz/202109/t20210907_176742.html#

National Bureau of Statistics. (2022). *Statistical bulletin of the People's Republic of China on national economic and social development in 2021*. http://www.stats.gov.cn/tjsj/zxfb/202202/t20220227_1827960.html

Tang, Y., & Wang, C. (2019). Analysis on the current situation of scientific research management in universities and suggestions for improvement. *Technology and Innovation Management*, *40*(1). https://doi.org/10.14090/j.cnki.jscx.2019.0107

Wu, Y. (2020). On the career development strategy of scientific research managers. *Science, Technology and Innovation*, *6*, 98–99. https://doi.org/10.15913/j.cnki.kjycx.2020.06.03

Xu, Y. (2002). *A review of the evolution of science and technology policy of The People's Republic of China*. Tianjin University. https://doi.org/10.7666/d.y539320

Chapter 5.11

The Profession of Research Management and Administration in India

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Abstract

Research and innovation are a major national priority in India and are conducted across a diverse group of institutions. While Research Management (RM) activities were previously integrated into researcher and other roles in India, there is now recognition that RM services rendered by professionally trained staff can reduce the administrative burden on researchers, thereby enhancing the ease of doing research. This chapter provides context on the complex higher education and research ecosystem in India, outlines the circumstances leading to the development of RM support at Indian institutions, and highlights the contributions of the India Research Management Initiative in creating a community of practice for RM. The chapter concludes with some projections for the future of RM in India.

Keywords: India; Research Management and Administration; IRMI; India Research Management Initiative; community of practice; network

The Research Ecosystem in India

India is now accepted as a major contributor to knowledge generation in the world. India's research achievements build upon several decades of consistent investments in higher education institutions (HEIs), research, infrastructure, international collaborations, and scientifically trained personnel (Department of Science and Technology,

The Emerald Handbook of Research Management and Administration Around the World, 511–518

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2020; National Science Foundation, 2022c). While the current Science Technology and Innovation Policy for India (STIP 2020) sets out the vision of the Government of India (GoI) for Research & Innovation, the new National Education Policy (NEP) stipulates improving education in India to make it inclusive at all levels (Government of India, 2020a, 2020b). Recent UGC guidelines on the creation of Research and Development Cells at Universities offer a framework for boosting research at Universities through strategic inputs and the requisite administrative support (University Grants Commission, 2022). These major national policies and initiatives set the expectations for Research Management and Administration (RMA) at Indian institutions.

The higher education and research system in India is complex and comprises nearly 7,000 entities engaged in research, including central, state, and private universities, autonomous government institutes, medical research units, and NGOs[1] (Government of India, 2021). These varied educational and research institutions have evolved in India over a period of nearly seven decades. Each of these institutions offers unique opportunities for research and requires specific administrative structures. Indian HEIs are increasingly seeking to be recognised through national and international rankings. The National Institutional Ranking Framework (NIRF) approved by the Ministry of Human Resource Development, GoI includes a list of India's top research-performing organisations (*National Institutional Ranking Framework*, n.d.). The National Assessment and Accreditation Council (NAAC) conducts assessment and accreditation of HEIs, to determine academic standards (*National Assessment and Accreditation Council*, n.d.). The requirement for high-quality data for these ranking exercises has made the development of information management systems such as IRINS timely (*Indian Research Information Network System*, n.d.).

The Government of India continues to be the major funder of research in India. Additional contributions are made through philanthropy, business enterprises, HEIs, private non-profit organisations, international funders, and others. India's Gross expenditure on Research & Development (GERD) as a percentage of GDP has remained at less than 0.7% in recent years. Increasing the GERD to 2% of GDP has been a national goal, and it has been suggested that this target could be achieved if the private sector were to increase its contribution (Department of Science and Technology, 2020; National Science Foundation, 2022c; PRS Legislative Research, 2022).

Researchers across India raise external funding for research from several sources. Some prominent GoI funding agencies and partnerships supporting R&I projects include the DST,[2] DBT, ICMR, ICSSR, DBT/Wellcome Trust India Alliance, and

[1] India has 54 central universities, 444 state universities, 403 private universities, and 126 'Deemed-to-be-Universities', recognised by the University Grants Commission (UGC). Furthermore, there are 132 Institutes of National Importance in India, including the 23 Indian Institutes of Technology (IITs), 20 Indian Institutes of Management (IIMs), and the 7 Indian Institutes of Science Education and Research (IISERs). India has several GoI-funded research-intensive autonomous institutions including the 16 Autonomous Institutions of the Department of Biotechnology (DBT), 20 Autonomous Science & Technology Institutions of the Department of Science and Technology (DST), 31 institutions of the Indian Council for Medical Research (ICMR), and the 38 laboratories of the Council of Scientific & Industrial Research (CSIR).

[2] Some major research funders for India include the Department of Science and Technology (https://dst.gov.in/), Department of Biotechnology (https://dbtindia.gov.in/), Indian Council of Medical Research (https://www.icmr.gov.in/), Indian Council of Social Science Research (https://icssr.org/), Biotechnology Industry Research Assistance Council (https://www.birac.nic.in/), Human Frontiers Science Program (https://www.hfsp.org/), and European Molecular Biology Organization (https://www.embo.org/).

BIRAC. India is a member of the HFSP and an Associate Member of EMBO, enabling access for Indian researchers. There are other funding and collaboration opportunities available via international sources, as well. Philanthropy plays an important role in supporting research in India, with notable research funders including the Bill and Melinda Gates Foundation and Tata Trusts. Navigating these diverse funding systems successfully requires commensurate research management (RM) support at Indian research institutions.

Evolution of the Profession in India

While some Indian institutions such as the IITs, CSIR laboratories, and select research institutions have developed key research support services over a sustained period[3, 4] there are still large gaps in research support services (Ayyar & Jameel, 2019; Mehta & Puri, 2022; Nukala et al., 2020). In the recent decade, several new research offices have been added at Indian institutions, driven in part by the growth of life sciences research. This period has additionally witnessed the development of national guidelines and administrative support for the ethical conduct of life sciences research (Jotwani, 2017). Since 2018, the DBT/Wellcome Trust India Alliance has led the development of the India Research Management Initiative (IRMI), aimed at RM role creation, capacity building and nurturing a community of practice for RMAs (*India Research Management Initiative (IRMI)*, n.d.).

The Indian RMA Community

IRMI is a focal point for the Indian RMA community, supporting RMAs through webinars, a conference series and networking sessions (Gottipatti, 2022). A collaboration between IRMI and NCURA Magazine has resulted in a series of blogs on RM in India through 2020–2022 (Bagani, 2022; Baral, 2021; Dutta, 2020; Gottipatti, 2020; Krishnamoorthy, 2021; Pillai & Raghavan, 2021). These blogs are among the first published accounts of RM support at Indian institutions.

In parallel, IRMI has facilitated interactions between RMAs in India with their global peers, by providing funding support for attendance at international conferences. Indian RMAs participated in INORMS 2018 and 2021 (Ayyar, 2021a, 2021b), NCURA Annual Conference 2020, SARIMA Annual Conferences 2020 and 2021, VICRA Conference 2022 and EARMA Conference 2022. Indian RMAs participated in the global RAAAP-2 and RAAAP-3 surveys, facilitated through the IRMI initiative.

The NCURA and INORMS experiences motivated the curation of the first edition of the IRMI Annual Conference in 2021. A dedicated Conference Planning Committee was created to guide the event; a first for Indian RMAs to work together towards a national project (Joshi, 2021). The Conference provided much-needed visibility for RM in India and has led to the launch of a call for the second edition.

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[3] The IITs were among the first HEIs in India to create research support units. In 1971, IIT Kanpur set up an Office of Research and Development (DORD) within the IIT system. This system has extended across the IITs, with similar research offices being set up at other IITs.

[4] In 2010, the National Centre for Biological Sciences (NCBS) created a Research Development Office to support the growth of the institution. Within a short span, several other biomedical research institutions including the Translational Health Science and Technology Institute (THSTI) in Faridabad and the Indian Institute of Science Education and Research (IISER) in Pune set up their research offices.

Indian RMA Demographics

A key goal of the IRMI initiative is the building of a community of practice for RMAs in India. The existence of the initiative has encouraged individuals in RMA roles such as partnership building, pre- and post-award services, and statutory compliance management to come forward to join an evolving group. While there is significant variation in the job titles for RMAs in India, there are now several individuals in the IRMI network with job titles such as Grant Adviser, Grants Administrator, Grant Manager, Research Manager, Program Manager, Research Management Consultant, Head, Grants Management and Director, Research and Development. The IRMI community has been created to be distinct from other groupings in India for practitioners of science communication and public engagement and innovation management. IRMI awardees are part of the IRMI network.

Demographics for IRMI network members, based on data available publicly on the LinkedIn platform in 2022, was analysed [Fig. 5.11.1(a)–(d)]. These analyses provide an indication of current trends for the group. As of April 2022, IRMI network members are employed at a diverse set of institutions. The single largest grouping (47%) of RMAs currently work at research institutions supported by the Government of India, such as autonomous institutions of the DAE, DBT, MHRD, and CSIR [Fig. 5.11.1(a)]. 70% of the IRMI network are from the Life Sciences [Fig. 5.11.1(b)]. A few members of the network have MBA qualifications in addition to their core degrees from science or public health research. 75% of the network members hold a PhD degree, while 24% are trained to the Masters level. This high degree of educational training for RMAs in the IRMI network reflects the fact that in India, RMA is viewed as a science-related career [Fig. 5.11.1(c)]. Finally, in keeping with global trends, a large proportion (64%) of IRMI RMAs are female [Fig. 5.11.1(d)]. These insights correlate well with similar conclusions drawn from responses from Indian RMAs for the RAAAP-3 survey, particularly with respect to trends in the gender of RMAs in India and their background specialisations (Kerridge, Dutta, et al., 2022).

During the IRMI pilot in 2018, the author interacted with a set of RMAs primarily across cities such as Bengaluru, New Delhi, Pune, and Hyderabad [Fig. 5.11.2(a)]. The intervening years have seen a clear change in the numbers and distribution of RMAs associated with the IRMI initiative [Fig. 5.11.2(b)]. While Bengaluru and the Northern Capital Region (including New Delhi, Faridabad, Sonepat, and Noida) continue to contribute the largest numbers of RMAs in the network, there are newer members based at other locations in India [Fig. 5.11.2(b)]. At an institutional level, the new members of the IRMI network include colleagues based at private and other universities, which was not the case in 2019. This group includes both full-time RMAs and researchers who spend a part of their time on RM activities. The expansion of the IRMI network reflects both the creation of new research offices (in part through the IRMI awards) and increasing numbers of individuals joining the network (*India Research Management Initiative (IRMI)*, n.d.).

The Future of RM in India

RM is an evolving profession in India and can grow further through the following interventions:

1. **Sustainability of research offices and careers**: A significant proportion of Indian RMAs are currently recruited on fixed-term contracts, which poses a risk to RMA careers and to employing institutions. New national policies are required to enable the recruitment and promotion of RMAs.

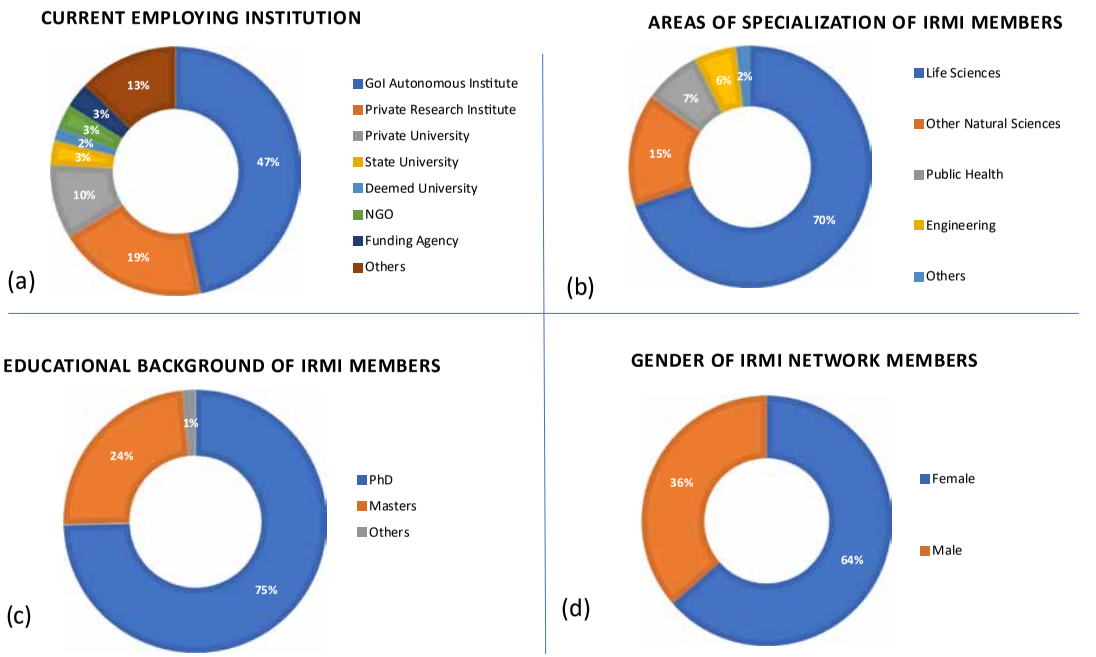

Fig. 5.11.1. Demographics of Members of the IRMI Network (Data Courtesy India Alliance).
(a) Current employing institution for RMAs in the IRMI network (assignments based on data on IRMI network members available publicly via the LinkedIn platform, $n = 62$). Inclusions: GoI institutions of DAE, DBT, MHRD, DST, CSIR; Other institutions: Include self-employed, industry and Indian missions of international organisations.
(b) Area of specialisation of RMAs in the IRMI network (assignments based on data on IRMI network members available publicly via the LinkedIn platform, $n = 53$).
(c) Educational status of RMAs in the IRMI network (assignments based on data on IRMI network members available publicly via the LinkedIn platform, $n = 63$).
(d) Gender distribution of RMAs in the IRMI network (assignment of male and female based on names of individuals, $n = 85$).

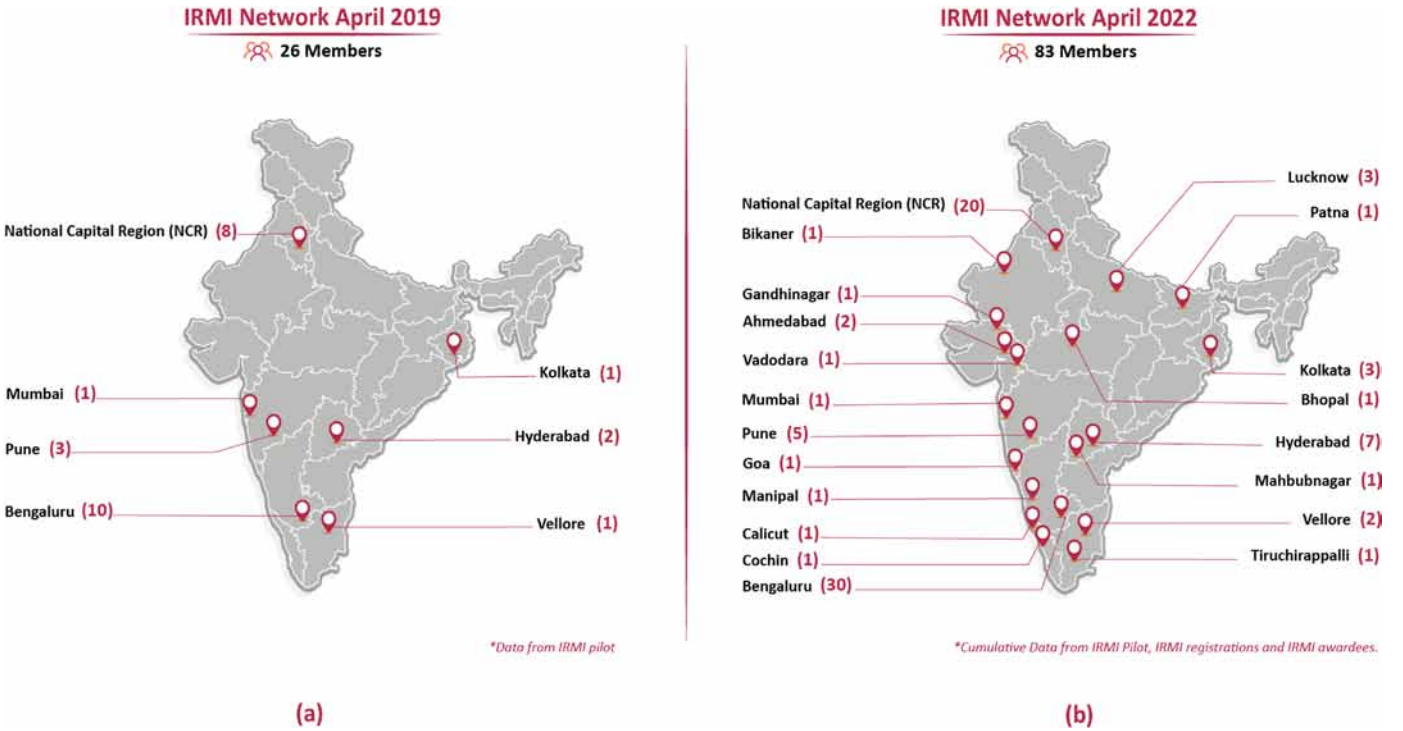

Fig. 5.11.2. Expansion of the IRMI Network (Data Courtesy India Alliance).
IRMI network members in roles relating to partnership building, pre- and post-award grant management, program management, research evaluation, statutory compliance management, international activities, development and RM leadership are included.
(a) Data from IRMI Pilot Phase Concluding April 2019.
(b) Cumulative Data from IRMI Pilot, IRMI Registrations, and IRMI Awardees, as of April 2022.

2. **Training programs for RM**: Research offices at Indian institutions require staff with appropriate professional backgrounds. In-country training opportunities such as internships and certification courses recognised by employers are a clear way forward to enable this.

Summary

R&I at Indian HEIs requires dedicated RM support for maximum impact. The process of developing RM as a professional support service has begun in India, through concerted action from multiple stakeholders. Several initiatives over the last decade have raised awareness of RM as a profession in India. However, a persistent challenge has been the actual shortage of RM roles. This situation is evolving and there are now increasing instances of motivated individuals gaining fixed-term employment in RM roles at institutions. While this process continues, the next challenge would be for intuitions to create longer-term employment opportunities for Indian RMAs. In parallel, these RMAs would need to be supported through appropriate training and a community of practice that are aligned with the policy and funding landscape in India. These early steps are necessary for paving the way for RM to become a sustainable profession in India.

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References

Ayyar, S. (2021a). *First Indian delegation at the congress of the International Network of Research Management Societies (INORMS 2018)*. https://indiaalliance.org/news/first-indian-delegation-at-the-congress-of-inorms

Ayyar, S. (2021b). *Second Indian delegation at the congress of the International Network of Research Management Societies (INORMS 2021)*. https://indiaalliance.org/news/inorms-hiroshima

Ayyar, S., & Jameel, S. (2019). India Research Management Initiative (IRMI) – An initiative for building research capacity in India. *Wellcome Open Research*, *4*, 18. https://doi.org/10.12688/wellcomeopenres.15073.2

Bagani, K. (2022, April). *Dreamed it! Believed in it! Did it! And still a long way to go for research administration at Ahmedabad University*. https://www.ncura.edu/portals/0/docs/magazine/rainasiapacific_ncuramagazine_marchapr2022.pdf

Baral, A. (2021, December). From national to international: A concept made functional. *NCURA Magazine*. https://www.ncura.edu/Portals/0/Docs/Magazine/RAinAsiaPacific_Dec2021_NCURAMagazine.pdf

Department of Science and Technology. (2020). *Research and development statistics at a glance 2019–2020*. Department of Science and Technology. http://www.nstmis-dst.org/Pdfs/R&DStatisticsataGlance2019-20.pdf

Dutta, M. (2020, August). Research administration in a public health institution in India. *NCURA Magazine*. https://www.ncura.edu/Portals/0/Docs/Magazine/RAinAsiaPacific__Dutta_Aug20.pdf

Gottipatti, P. (2020, December). Strengthening research management at a clinical institution in India: The workings of a grants office. *NCURA Magazine*. https://www.ncura.edu/Portals/0/Docs/Magazine/RAinAsiaPacific_Gottipati_Dec2020.pdf

Gottipatti, P. (2022). *Helping researchers to help themselves – Role of research management offices in capacity building*. https://www.indiaalliance.org/news/irmi-helping-researchers-to-help-themselves?fbclid=IwAR0r2IPaAXGcfFoWjZJr3xoFPSSUE6L0YmbuGnxP1lWd8smojYO47mQz-hEo)

Government of India. (2020a). *National Education Policy 2020*. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf

Government of India. (2020b). *Science Technology and Innovation Policy 2020*. https://dst.gov.in/sites/default/files/STIP_Doc_1.4_Dec2020.pdf

Government of India. (2021). *Directory of R&D Institutions 2021*. https://dst.gov.in/sites/default/files/R%20%26%20D%20Directory%202021.pdf

Indian Research Information Network System. (n.d.). Retrieved May 10, 2022, from https://irins.org/irins/

India Research Management Initiative (IRMI). (n.d.). Retrieved May 9, 2022, from https://indiaalliance.org/india-research-management-initiative

Joshi, A. (2021). *IRMI annual conference 2021: Celebrating the Indian research management community. IndiaBioscience report*. https://indiabioscience.org/news/2021/irmi-annual-conference-2021-celebrating-the-indian-research-management-community

Jotwani, G. (2017). *National guidelines for stem cell research*. Indian Council of Medical Research & Department of Biotechnology.

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Krishnamoorthy, V. (2021, August). Adapting to a changing environment: Perspectives from a research administrator. *NCURA Magazine*.

Mehta, B., & Puri, I. (2022). *Enabling research through research management: The case of India*.

National Assessment and Accreditation Council. (n.d.). Retrieved May 10, 2022, from http://naac.gov.in/index.php/en/

National Institutional Ranking Framework. (n.d.). Retrieved May 10, 2022, from https://www.nirfindia.org/About

National Science Foundation. (2022c). *Science and engineering indicators 2022*. National Science Board. https://ncses.nsf.gov/pubs/nsb20223/

Nukala, V., Iqbal, S., & Kar, B. (2020). *Fostering international cooperation: Enabling mobility, research, and capacity building – A listening session report*. https://www.indiaalliance.org/news/hhs-ia-listening-session-report

Pillai, M., & Raghavan, V. (2021, March). Celebrating a decade of success: Research management at a life science cluster in India. *NCURA Magazine*.

PRS Legislative Research. (2022). *Demand for grants 2022–23 analysis: Science and technology*. https://prsindia.org/budgets/parliament/demand-for-grants-2022-23-analysis-science-and-technology

University Grants Commission. (2022). *Guidelines for establishment of research & development cell in higher education institutions*. https://www.ugc.ac.in/pdfnews/6347789_RDC-Guideline.pdf

Chapter 5.12

The Profession of Research Management and Administration in Japan

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Abstract

This chapter outlines the circumstances that led to the evolution of the profession of research management and administration in Japan. The state of research administration in Japan can be characterised by a combination of a top-down approach guided by the government and a bottom-up approach taken by the practitioners named University Research Administrator (URA), which have effectively been working in alignment since 2009. Currently, the RMAN-J (Research Manager and Administrator Network Japan), a national association of URA practitioners and stakeholders, actively promotes networking not only among the practitioners but also with important stakeholders including industries. As a recent achievement, a new skills certification program is being completed based on RMAN-J's activities over the past 13 years.

Keywords: Research Management and Administration; professionalisation; RMAN-J; URA; certification system; top-down

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Transition of the University System in Japan

The history of Japanese higher education spans more than 130 years and can be divided into 3 major periods, each spanning about 40 years. The third period, which began in the 1960s, is characterised by the popularisation of higher education and is inseparable from the impact of the rapid economic growth that Japan had gone through in the post-war era. In the 1990s, the revival of the US economy was attributed to an ecosystem where universities and industry work together to spur technological innovation. Silicon Valley was considered by Japanese policymakers as a prime example of successful industry-academia collaboration, and a series of measures were implemented to promote similar dynamics in Japan. Furthermore, as it became clear that science and technology (S&T) were the origin of economic growth, a new expectation developed that universities should play a more active role in contributing to society in addition to its original mission to promote education and research. Given the historical separation between the higher education sector and industry, this was a big shift in Japan's efforts towards the promotion and acceleration of its scientific and technological breakthroughs.

S&T Overview

Here are some key figures for the Japanese universities in S&T. The proportion of the S&T budget to the GDP increased significantly in 2009 and 2012. After 2012, the ratio declined for a few years, and then began to gradually increase again in 2016. In 2019, the latest year available, it was 0.78 (MEXT, 2020).[1]

In 2019, Japan had 936,000 researchers, making it the third largest country in terms of the number of researchers, behind China (2018: 1,866,000) and the United States (2017: 1,434,000). The number of researchers per 10,000 people was 53.2 in Japan (FTE) in 2018 (MEXT, 2020). In terms of values since 2002, this was the highest among OECD member countries until 2010 when South Korea[2] surpassed Japan. International comparisons of the number of researchers in the university sector are difficult to make because the scope of the target population and the method of measurement differ from country to country. The number of researchers in the university sector in Japan in 2019 (FTE value) was 135,000 (MEXT, 2020).[3]

As for the number of organisations in the universities, the total number of universities in Japan is 786, broken down as follows: 11% national, 12% public, and 77% private. On the other hand, a different trend can be seen in the headcount ratio. In 2019, the number of researchers[4] at national, public, and private universities was 135,000 (46%), 21,000 (7%), and 139,000 (47%), respectively. This indicates that, in relative terms, more researchers belong to national universities.

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[1] In terms of comparable Asian countries, China and South Korea have both experienced significant growth since the beginning of the 2000s, although growth has been moderate since 2010, with China at 1.06% and South Korea at 1.04% in 2019, according to the latest figures available (White Paper on Science and Technology 2020 (Provisional Translation).

[2] South Korea had 79.1 (2018) followed by Germany with 52.3, the United Kingdom with 46.5, France with 45.6, the United States with 44.1 (2017), and China with 13.4.

[3] These data are based on a survey conducted by the Ministry of Education, Culture, Sports, Science and Technology (FTE survey), which measured the number of FTE researchers using the research full-time equivalent coefficient (FTE coefficient).

[4] In this survey, it includes both full-time and term-limited employees.

Need for URA Specialists and Synopsis of Their Work

Japan's S&T policy is based on the Basic Plan for Science and Technology (Cabinet Office, 1996), which is updated every five years. Since 2004, universities have expanded and strengthened their functions through a diverse set of programs. Specifically, public competitive funding has increased, especially for R&D projects through organisation-to-organisation industry–academia collaboration and programs that support start-ups and foster entrepreneurship.

These programs required diverse expertise at each stage of the application and implementation of public competitive funding. In addition to the research content, these applications are evaluated based on the topic, technical feasibility, breadth of the field of application, potential for monetisation, potential for industrial partners, as well as the development of rules such as intellectual property and confidentiality. The increase in the management costs for conducting research that meets the requirements, both operationally and financially, cannot be handled by researchers alone. This is the reason why URA is needed as research management and support specialists.

Fig. 5.12.1 shows the functions of URAs in the sequence of research activities from resource inputs to outputs, outcomes, and finally, next resource acquisition (Research dynamics: Takahashi & Yoshioka-Kobayashi, 2016).

URAs are needed not only for pre- and post-award work, but also for strategic planning, institutional research (IR), outreach, and for almost all other research-related activities. In many research universities, this diverse range of tasks is handled by URAs, which have been expected as a new professional position. In addition, Japan's S&T policy has created several other professionals who serve as industry–academia collaboration coordinators, licencing associates, etc. These professionals are expected to work with URAs to promote research more actively and contribute technology more innovatively.

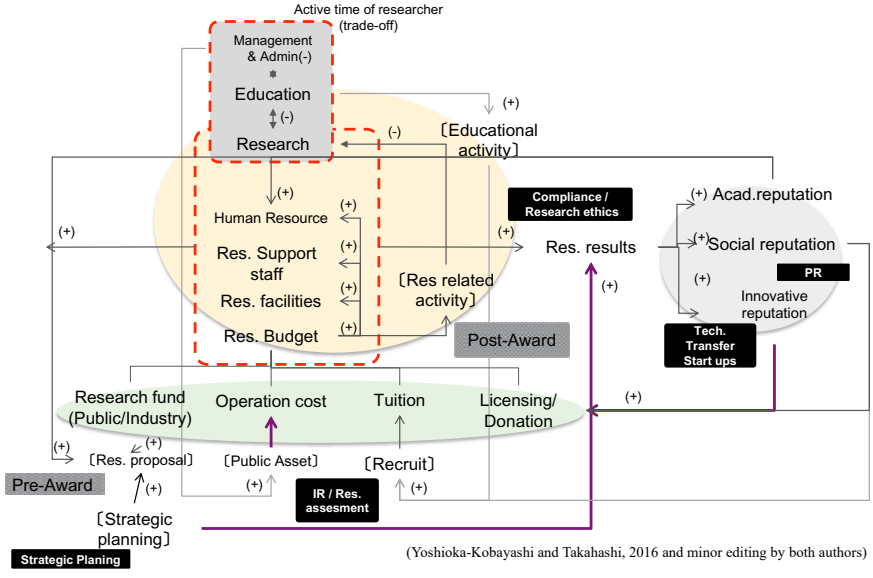

Fig. 5.12.1. Theoretical Framework of the URA's Role in Research Dynamics.

Attributes and Demographics of the URA Workforce

Currently, there are estimated to be 1,512 URAs at 172 institutions in Japan (MEXT Survey, 2022). The attributes of URAs in terms of age, tenure status, and previous professional experiences (as of 2022) are shown in Fig. 5.12.2.

The largest number of the survey respondents are relatively young, in their 40s and younger, and about half of them hold PhD degrees (data not shown). Although a small number of people start working as URAs immediately after graduating from universities or graduate schools, most of the current URA practitioners have experience as researchers, university administrative staff, or business people. About 84% of all URAs are employed on a fixed-term basis.

The question of how many URAs are needed per university is a key issue not only for policymakers but also for the university headquarters as an employer (Ito & Watanabe, 2020). Ultimately, the number of URAs required in an institution depends on both the functions expected of them, and more importantly, the management policy of the university itself. Fig. 5.12.3 shows the number of URAs by the size of institutions. While there are research universities with dozens of active URAs, there are many organisations with only one URA working for the entire institution. Since the history of URA in Japan is not sufficiently long, it can be said that each university is still searching for the most efficient size of URA organisation for its own university. Before that, they may be in the process of trying to allocate valuable personnel expenses to URAs.

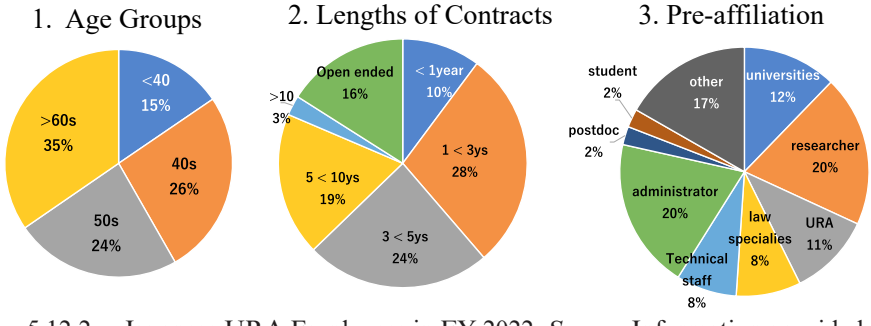

Fig. 5.12.2. Japanese URA Employees in FY 2022. *Source*: Information provided from MEXT, University–Industry Collaboration and Regional R&D Division (1 February 2022).

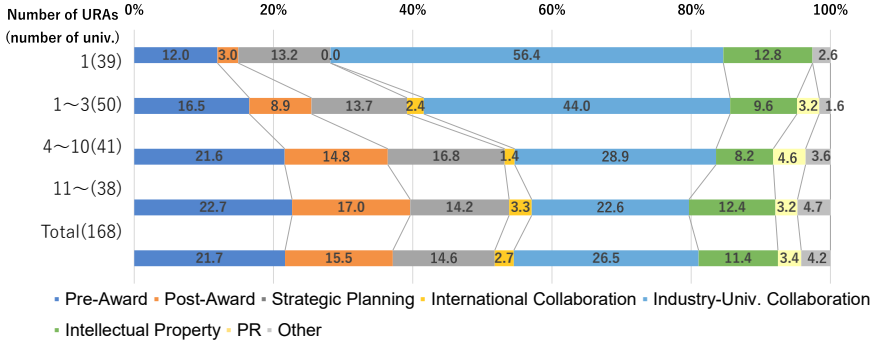

Fig. 5.12.3. The Main Role of URAs Is Different Depending on the University Size. *Source*: Ito and Watanabe (2020).

RMAN-J, Inauguration of the National Community

The existence of communities that legitimise and enhance the skills and expertise of certain professions is essential for its growth as a career. The history of the URA profession in Japan can be traced back to September 2009, when the activities and functions of URAs were introduced at a conference for technology transfer practitioners named UNITT[5] Annual Conference. In 2011, URAs began working at 15 universities under a program of the Ministry of Education, Culture, Sports, Science and Technology (MEXT).[6] This program has grown its practitioner population year by year and has become the trigger for an annual conference that attracts URA practitioners from all over the country. Building on the community formed at this annual conference, RMAN-J[7] was established in March 2015 as the Japanese URA organisation. In other words, RMAN-J was established when practitioners recognised the necessity of their own network and voluntarily started activities as a platform for exchanging information and sharing knowledge among themselves. This is a typical example of bottom-up activity.

In May 2021, RMAN-J hosted the INORMS World Congress 2021 Hiroshima. It marked a significant touchstone for the professionals in the research management and administration field worldwide with the flagship RMA international event being hosted in Asia for the first time. The biennial INORMS Congress originally named Hiroshima 2020 was postponed one year due to COVID and held in a fully online format from 24 to 27 May 2021.[8] There were over 500 participants from 49 countries. The theme of the congress was 'Promoting Diversity in Research and Research Management Collaborations: More Trans-national, More Trans-disciplinary, More Trans-sectoral'. Finally the Hiroshima Statement,[9] which states the Principles and Responsibilities of the URA, has been adopted by all organisations.

RMAN-J has steadily increased its presence both domestically and internationally and it now serves as the only organisation for URAs in Japan. RMAN-J's annual conference, held each year in August/September, has attracted an increasing number of participants since 2015, with approximately 600–700 people coming from all over Japan. In August 2022, the eighth annual conference was held in person at Tohoku University in Sendai, the first time in three years of the Corona pandemic. The current composition of the organisation is shown in Table 5.12.1. In addition to organisational and individual members, RMAN-J has a Special Member System for distinguished individuals and a Supporting Member System for companies to form alliances with those who agree with the purpose of RMAN-J and support the establishment of URA.

Table 5.12.1. Overview of the RMAN-J.

Membership Type	**Organisation/Number of People**
Organisational members	33 organisations
Individual members	672 people
Special members	3 people
Supporting members	5 organisations

[5] University Network for Innovation and Technology Transfer. https://unitt.jp/en/.
[6] https://www.mext.go.jp/a_menu/jinzai/ura/detail/1315871.htm
[7] https://rman.smartcore.jp (in Japanese).
[8] https://inorms2021.org
[9] https://inorms2021.org/dl/index/HIROSHIMA_statement.pdf

Quality Assurance System for Skills Certification

Beginning in 2020, after several years of feasibility study, a project subsidised by MEXT has begun to identify the skill sets needed for URAs and to establish a certification system.[10] The project culminates into an extensive educational training program consisting of 15 subjects and a 2-tier certification system. The first tier is 'Certified' status which is granted based on a minimum of 3 years of work experience, completion of 15 core-level training subjects, and a written review. The second 'Advanced' tier of 'Certified Professional', whose prerequisite is a 'Certified' status, is awarded upon excellent completion of the advanced-level subjects as well as an essay and interview review.

The 15 subjects cover almost a full range of research management activities, including research strategic planning, pre- and post-award granting, technology transfer, IR, and outreach, as shown in Table 5.12.2. It shows the contents of each of the 15 subjects,

Table 5.12.2. Structure of the Educational Training Program for URAs in Japan (Common for Both Fundamental and Core Level).*

Subject Group	No.	Subject Title
Orientation	0	Overview of Fundamental and Core level structures
A. Research Institutes and URAs	1	Overview of Universities and other research institutions
	2	URA in Japan (Background and Purpose, Functions, Community)
B. Research Ability Analysis and Its Utilisation	3	Introduction to Science and Technology Policy
	4	Research ability analysis and its Utilisation
C. Research and Development Evaluation	5	Research and Development Evaluation
D. External Funding	6	Introduction to External Funding
	7	Support for Preparation of Applications and Reports
E. Research Projects	8	Research Project Management Methodology
F. Sector Collaboration	9	Industry–University–Government Collaboration
	10	Regional Collaboration
G. Intellectual Property	11	Intellectual Property
H. Research Compliance and Risk Management	12	Research Compliance and Risk Management ①
	13	Research Compliance and Risk Management ②
I. Research Public Relations	14	Public Relations
J. Internationalisation	15	Internationalisation

Source: Japan Certification Board for Research Administration and Management Skills (n.d.). * The original Japanese names of each subject groups and subjects have been translated into English by the author for this manuscript.

[10] The project is expected to be completed in March 2024 under MEXT's three-year subsidised project. https://www.mext.go.jp/a_menu/jinzai/ura/detail/1315866.htm.

which are common in both the fundamental and core levels of the educational training program.

As the new professionals in Japan's academic arena, it is important that the work and credentials of the URAs are properly recognised by the university executive board, faculty members, and other stakeholders. Successful completion of the above 15 subject matters, and subsequent certifications, will demonstrate a high level of knowledge and skill sets. As the work becomes more sophisticated, more advanced management skills which are difficult to evaluate quantitatively are required in addition to explicit knowledge. In this context, the certification process will serve as a tool to communicate with the stakeholders what roles URAs can play and help endorse URAs as professionals. An analogy can be made between the URA certification and one's driver's licence (a guarantee of having the basic knowledge and skills to drive safely on the road). In this sense, the certificate system will be beneficial not just for the individuals serving as URAs but also for various stakeholders such as the university's executive board. In contrast to the formation of RMAN-J, a network of practitioner communities that started voluntarily with the needs of URA practitioners, the development of this skill standard is a top-down approach under the leadership of the MEXT (University of Tokyo, 2014).

Final Thoughts

University research administration in Japan has evolved over the past 10 years as a new profession that strengthens the functions of universities in the changing environment surrounding the higher education sector. This is the result of a successful combination of top-down policy imperatives and bottom-up activities by URA practitioners themselves. In addition, the demand for professionals at individual universities and the call for macro policy discussions have evolved hand-in-hand, successfully leading to the feasibility studies conducted at 15 universities, which resulted in the creation of skill standards as well as the development of a certification system. The shared awareness of the importance of fostering a professional community to promote URAs as a profession accelerated the move. In 2022, the further development of URA was discussed at the Council for Science, Technology and Innovation,[11] the top directive body for S&T policy. It will be remarkable to see how the Japanese URA and its function will develop in the coming decade.

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References

Ito, S., & Watanabe, T. (2020). *The relationship between the central role of University Research Administrators and the size of the institutions* [Conference presentation]. 18th annual conference of the Intellectual Property Association of Japan [Online].

[11] https://www8.cao.go.jp/cstp/english/policy/index.html

Japan Certification Board for Research Administration and Management Skills. (n.d.). Retrieved January 19, 2023, from https://www.crams.or.jp

MEXT. (2022). *Survey of the University–Industry Collaboration and Regional R&D*. Retrieved January 19, 2023, from https://www.mext.go.jp/a_menu/shinkou/sangaku/1413730_00013.htm

Science, Technology, and Innovation Basic Plan, Cabinet Office. (1996). Retrieved January 19, 2023, from https://www.mext.go.jp/b_menu/shingi/kagaku/kihonkei/honbun.htm

Takahashi, M., & Yoshioka-Kobayashi, T. (2016). Understanding URAs in Japan: A conceptual framework for unified comprehension to diversified roles of URAs. *The Journal of Science Policy and Research Management*, *31*(2), 223–235.

The University of Tokyo. (2014). *Research administration skill standards* (Japanese). Retrieved January 19, 2023, from https://www.mext.go.jp/a_menu/jinzai/ura/detail/1349663.htm

White Paper on Science and Technology 2020 (Provisional Translation) Chronology of the Ministry of Education, Culture, Sports, Science and Technology (MEXT). Retrieved January 19, 2023, from https://www.mext.go.jp/en/publication/whitepaper/title03/detail03/mext_00024.html

Chapter 5.13

Development of Research Management in Malaysia

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Abstract

Research management has evolved significantly in Malaysia from being part of generic administration into a more specialised yet diverse field. The importance of research and innovation in the government's agenda is reflected in the five-year Malaysia Plans and policies. The GERD percentage of GDP has grown steadily each year since 1996. Business enterprises and non-profit organisations are important players in the R&D ecosystem. Universities record the highest percentage of R&D personnel, including contracted staff and seconded academics for research management. Recognising the importance of professional RMAs led to the formation of the Malaysia Association of Research Managers and Administrators (MyRMA). It provides a platform for the community of practice to develop professionalisation pathways.

Keywords: Research administration; research management profession; government service scheme; research manager; research ecosystem; community of practice

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Research Ecosystem Scenario

Malaysia's Institute of Medical Research, founded in 1900 to 'carry out scientific and sustained research on tropical and infectious diseases', was a landmark for the country's public research development (Institute for Medical Research, 2016). Subsequently, other public research institutes (PRIs) were established across various disciplines (Commonwealth of Nations, 2013; Day & Muhammad, 2011; StudyMalaysia.com, 2022). In 'Vision 2020' (1991), the Prime Minister emphasised a scientific and progressive society that contributes to the scientific and technological civilisation of the future as one of nine strategies for achieving a fully developed nation (Mohamad, 1991).

The emphasis on a knowledge-based economy in Malaysia was intensified from the 7th Malaysia Plan (MP) (1996–2000). Since 2008, the GERD from higher education (Fig. 5.13.1) has increased to 20%–30% of the overall GERD (Academy of Sciences Malaysia (ASM), 2021; Ministry of Science, Technology & Innovation, 2016; UNESCO Institute for Statistics, 2020). The higher education institutions (HEIs) have thus intensified their role as solution providers for industries and communities, generating RM1.25 billion in revenue between 2007 and 2012 from research and consulting services (Ministry of Education Malaysia, 2015), which resulted in five universities being accorded Research University (RU) status in 2007. The Malaysia Higher Education Blueprint has 4 out of 10 shifts directly related to research.

The National Science and Research Council (NSRC) was proposed under the 10th MP (2011–2015) to improve R&D governance with a collective alignment of S&T priorities through an effective network of all government research institutes, facilities, and S&T-related entities. Chaired by the Science Advisor, NSRC members are from ministries, government agencies, universities, industries, and the Academy of Sciences (Pillai, 2011).

The Shared Prosperity Vision 2030 Key Economic Grow Areas include research excellence, while the MySTIE framework provides a matrix of socio-economic sectors to S&T drivers to enhance the sustainability and competitiveness of Malaysian industries. In 2020, the Malaysia Open Science Platform (MOSP) launched, signifying our readiness to adopt open research data policy.

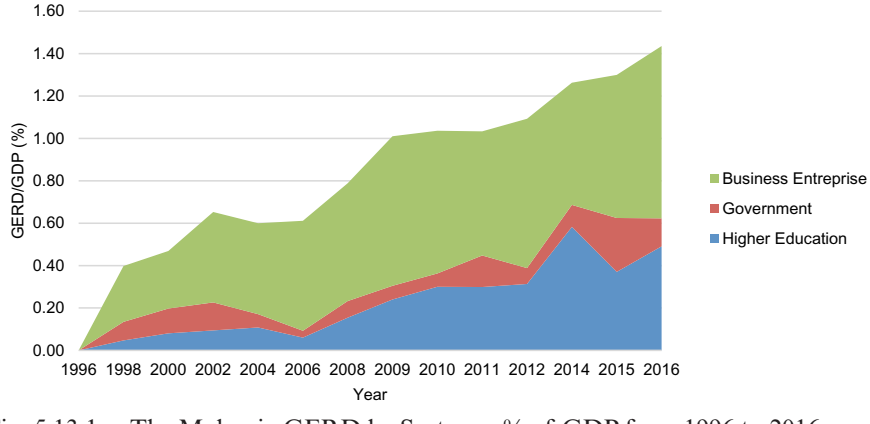

Fig. 5.13.1. The Malaysia GERD by Sector as % of GDP from 1996 to 2016 (Science, Technology and innovation: Gross Domestic Expenditure on R&D (GERD), GERD Per Capita and GERD Per Researcher, 2020).

R&D funders in Malaysia are (i) federal, state, and local governments, (ii) business enterprises including government-linked companies (GLCs), corporations and quasi-corporations, (iii) private sectors and NGOs, and (iv) international agencies. The Ministry of Science, Technology and Innovation (MOSTI) is the main agency for government research grants disbursement to public and private institutions and industry partners. The Ministry of Higher Education (MOHE) is the major funder for HEIs, particularly for fundamental research and RU grants, as well as some pre-commercialisation, prototype grants. Other ministries also award grants, focussing on applied topics in agriculture, health, or environment (MASTIC, 2021). The Collaborative Research in Engineering, Science and Technology (CREST), an E&E industry consortium, exemplifies university- and demand-driven research, development, and commercialisation in line with the emphasis to create impact beyond academia. In 2022, Malaysia's Finance Minister announced RM423 million allocation to the MOSTI and MOHE to intensify research and development (R&D) activities including RM295 million for public universities to continue their roles in the ecosystem while encouraging collaborations with industry.

In Malaysia, 106 HEIs comprising 20 public universities (including 5 RUs), 47 private universities, 9 international branch campuses, and 30 public university colleges are audited for the Malaysian Research Assessment (MyRA) by the MOHE. The highest research rating is six stars. Although university colleges are primarily teaching institutions, going through research assessments enables them to address gaps to upgrade to full universities. In addition to HEIs, there are 73 PRIs from various ministries (Mujani et al., 2014).

Entities conducting research such as universities and research institutes have an administrative team primarily focussed on advising and supporting a core group of researchers and managing processes relating to research. However, they were not formally known as RMAs. The establishment of RUs in 2006/2007 stipulated a research management centre (RMC) to be established within the institution's governance in order to operate within an environment of decentralisation. Setting up of RMCs at universities involved additional staff recruitment to manage the increasing volume of research grants and projects; continuing what had taken place before the inception of RUs, when academics began to enjoy a larger quantum of research funds. Considering a large portion of research grants being disbursed to universities, it is reasonable to assume that universities are the largest employers of RMAs. A national-level Research Management Unit (RMU) was established under the purview of the Economic Planning Unit (EPU) to oversee the grants allocations, project awards, and monitoring (Abdul Hamid, 2018).

Evolution of the RMA Role and Some Demographics

Administrators in the public sector come from diverse academic backgrounds, and are trained in policy implementation and government regulations. It is no different for research management. The need for more manpower and skills became evident with increasing complexities in research funding and execution. Hiring contract staff for the specific purpose and seconding academics to administrative positions were the quickest way to fill that need.

Academics are usually more senior in grade than administrative staff, are able to provide the researchers' perspective, and can act as a bridge between the researchers and management. Up to 30 academics or more may be seconded to various entities related to research management in a RU. This comes at the expense of the academics'

career progression as researchers. Ideally, non-academic professionals should fully assume the role of RMAs and break the hierarchical barriers to act as consultants to academics in managing their research.

In a 2015 perception survey, 50% of 162 respondents from public and private universities agreed that research management required specific skills and should be managed by professionals who have basic knowledge in research, which is vital in managing research. R&D personnel in Malaysia are made up of researchers, managers, administrators, and clerks collectively known as 'support staff', and technicians. The full-time equivalent (FTE) by research for support staff and technicians increased from 2008 to 2014 but has plateaued since then, with less than a 2% increment of support staff from 2014 to 2018 (MASTIC, 2021). The number of researchers in Malaysia has increased from 16,348 in 2008 to 73,537 in 2016. As a comparison, the number of research support and technicians are 7,563 and 8,078, respectively, in the year 2016.

An increase in national R&D initiatives should be supported with an increase in R&D support. However, the survey showed that the ratios of researcher to technician and support staff increased from 8.8 and 4.0, respectively, in 2008 to 11.2 and 7.4 in 2010, and up to 9.2 for support staff in 2018 (MASTIC, 2017, 2021). The Association of Commonwealth Universities (ACU) measure 2019 had found that the percentage of staff distribution in a typical Malaysian RU was relatively low amongst institutions within the Commonwealth countries (ACU, 2020). In terms of gender, the higher education sector recorded the highest number of female technicians and supporting staff for R&D, followed by government and business enterprises (MASTIC, 2022).

RMAs can be employed on permanent or contract positions, or secondment as is the case for academics. A 2017 survey looked at RMAs' academic qualifications, job grades, and job scope. All respondents had RMAs with at least a bachelor's degree. 83% of them indicated that there were also RMAs with diploma or lower qualifications.

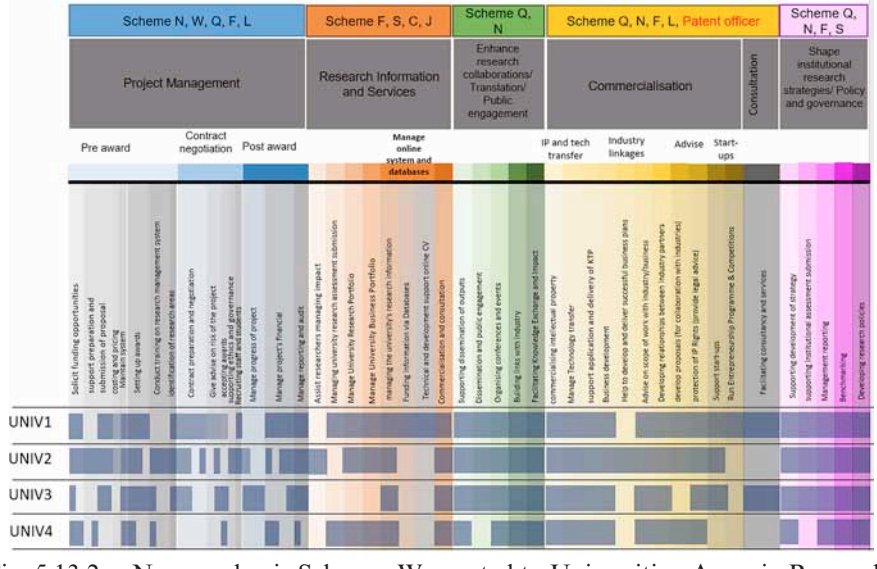

Fig. 5.13.2. Non-academic Schemes Warranted to Universities, Areas in Research Management That Can Be Filled by Staff from the Different Schemes, and Map of the Research Management Functions at Different Institutions with Dedicated Staffs.

More than 92% of the respondents had academics with PhDs seconded as RMAs. Hiring contract staff and seconding academics are common practice in Malaysian universities to cope with the increasing tasks of managing research funds and projects.

Tasks requiring high-level facilitation such as project costing, monitoring, management of grants/funding opportunities, research proposals, research data management, and research profiling and impact writing are carried out by the executives. Academics who are seconded usually head the research office overseeing the operations, but are also involved in strategising for research and making policies.

Overall the survey showed that a significant number of academics are seconded to research management positions. The hiring of new staff at permanent positions occurred more among those of lower grades or clerical level as compared to bachelor's degree holders who would assume executive positions. The latter are hired more on a contract basis. This indicates that there might be constraints in taking executive-level research managers for permanent positions.

In employing RMAs for permanent positions, public universities have to work around the stipulated government service scheme. All appointments to the public service shall be in accordance with the conditions specified in the scheme of service. There is no scheme dedicated to research management. Fig. 5.13.2 shows the non-academic schemes warranted for universities and research management areas that can be filled by these schemes. Capacity building for RMAs in Malaysia should consider RMAs' functions and responsibilities at different institutions. Fig. 5.13.2 shows that larger universities, namely UNIV1, UNIV2, and UNIV4 have more areas filled by dedicated RMAs than smaller ones.

During their course of service in government, employees are reshuffled every five years as part of their career progression. Hiring staff on contract who can be trained for the job may keep the staff for longer-term, but the lack of permanent appointments can cause job security concerns. Upskilling modules should cater for the background disciplines, qualification levels, experience in research management, and future career plans. Short certification or micro-credential courses would be practical and attractive for those doing their stints in the research portfolio, but may not stay long in the department due to the rotation system of government service. Those with the opportunity to remain in research management for longer terms can become certified and take up leadership roles. Among the public service schemes shown in Fig. 5.13.2, the Q scheme is most likely to fully assume research management as an alternative to becoming researchers. This scheme is traditionally given to PRIs and shares similar privileges to the academic scheme at universities.

Looking past the employment requirements, a humanising approach in talent management is imperative, calling for staff engagement to create an emotional, empathetic connection and provide motivational support for them to develop passion in what they do and realise their purpose.

Community of Practice

On 31 July 2019, the Malaysia Association of Research Managers and Administrators (MyRMA), was approved by the Registrar of Societies. It was officially launched by the then Director General of Higher Education Malaysia, YBhg. Datuk Ir. Dr Siti Hamisah Tapsir on 22 September 2019. As an outcome of a project to enhance Malaysia's research management and governance, MyRMA's establishment was a significant milestone, driven by a group of passionate researchers and research managers with a vision to pursue excellence and professionalism in research management. MyRMA aims to (i) facilitate

impactful research by identifying and establishing best practices in research management and administration and (ii) nurture excellence in the research management profession. MyRMA shall be the catalyst to ensure Malaysia's research management heading in the right direction and in being on par with international players (Tan, 2019, 2020).

MyRMA now acts as the platform for RMAs from academic and research institutions, and for funders to interact, exchange ideas, share best practices, and collaborate. It is expected to contribute towards enhancing research management in Malaysia, leading to better research outcomes and returns on investment.

Since its inception, it has actively engaged with fellow associations around the world. In October 2021, MyRMA was accepted as a sister organisation and member of INORMS.

Future Outlook

The advancement of our research and innovation, as researchers take on more complex projects funded by larger grants, will see the increasing need for professional research management. Building the capacity of RMA professionals is now supported through the MyRMA platform, and can be taken to the next level through certification and continuous professional development programmes. Keeping abreast with developments in other countries through our active networking and participation in joint activities will help us identify and address gaps in our RMAs being on par with international counterparts. We foresee RMAs taking on more significant leadership roles in research management in Malaysia, as well as contributing to policy making and strategising for the nation's research and innovation endeavours.

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References

Abdul Hamid, Z. (2018, October 29). A centralised research management agency. *New Straits Times*. Retrieved May 5, 2022, from https://www.nst.com.my/opinion/columnists/2018/10/426094/centralised-research-management-agency

Academy of Sciences Malaysia (ASM). (2021). *Science outlook 2020: Unlocking the future*. ASM.

Association of Commonwealth Universities (ACU). (2020). *Association of Commonwealth Universitie s – Measures – Research management: Activities and perspectives*. ACU.

Commonwealth of Nations. (2013, May 8). *Commonwealth of nations*. Retrieved October 11, 2022, from https://www.commonwealthofnations.org/sectors-malaysia/education/research_institutes/

Day, N., & Muhammad, A. (2011). *The atlas of Islamic-world science and innovation country case study no. 1: Malaysia*. Creative Commons.

Institute for Medical Research. (2016, August 7). *History: Founding and development of the institute*. Institute for Medical Research. Retrieved May 5, 2022, from https://www.imr.gov.my/index.php/en/corporate-info/history

MASTIC. (2017). *Malaysian Science, Technology and Innovation Indicators report 2016*. Ministry of Science, Technology and Innovation.

MASTIC. (2021). *Malaysian Science, Technology and Innovation Indicators report 2020*. Ministry of Science, Technology & Innovation.

MASTIC. (2022). *Malaysian Science, Technology and Innovation Indicators report 2021*. Ministry of Science, Technology and Innovation.

Ministry of Education Malaysia. (2015). *Malaysia education blueprint 2015–2025 (higher education)*. Ministry of Education Malaysia.

Ministry of Science, Technology and Innovation. (2016). *National science, technology and innovation policy 2021–2030*. Ministry Science, Technology and Innovation.

Mohamad, M. (1991). *Malaysian: The way forward (Vision 2020)*.

Mujani, W. K., Muttaqin, A., & AbooTalib Khalid, K. (2014). Historical development of public institutions of higher learning in Malaysia. *Middle-East Journal of Scientific Research*, *20*, 2154–2157.

Pillai, V. (2011, August 16). *The National Science and Research Council*. myForesight. Retrieved May 5, 2022, from https://www.myforesight.my/the-national-science-and-research-council/

StudyMalaysia.com. (2022). *The Malaysian higher education system – An overview*. StudyMalaysia.com. Retrieved May 5, 2022, from https://www.studymalaysia.com/international/the-national-education-system/the-malaysian-higher-education-system-an-overview

Tan, H. W. (2019). Establishment of the Malaysia Association of Research Managers and Administrators (MyRMA). *Milestone@UM Newsletter*, Vol. 7.

Tan, H. W. (2020). The development of professionals for research management in Malaysia. *Journal of Research Management & Governance*, *3*(1), 36–41.

UNESCO Institute for Statistics. (2020). *Science, technology and innovation: Gross Domestic Expenditure on R&D (GERD), GERD per capita and GERD per researcher* [Dataset]. UNESCO Institute for Statistics. http://data.uis.unesco.org/index.aspx?queryid=74#

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Chapter 5.14

Research Management and Administration in Pakistan's Context

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Abstract

Pakistan, being a developing country, still has a long way to go to see progress in the field of research managers and administrators (RMAs). This chapter briefly explains the profession's ecosystem in the country, its evolution, available data, and the future of the field. The type and quantum of extramural research happening in Pakistan are quite significant in terms of the number of grants as well as the total annual funding. Despite this progress, the growth of research management and administration as a profession is slow-paced because of the lack of recognition of RMAs as a profession, complemented by the dearth of schools that teach this formally in the country. The future, however, sounds promising as more and more people are gradually undertaking this dynamic field and working formally to acquire the knowledge and skills to become better research management and administration professionals.

Keywords: Pakistan; research management and administration; RAAAP; CRA; extramural research; profession

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Research Ecosystem

Pakistan, as one of the developing countries of Asia (World Bank Data, 2022), has been predominantly dependent on extramural funding for a variety of implementation and research initiatives (The World Bank, 2022). Be it health improvement, education enhancement, law and order betterment, infrastructure building, or capacity development, the country's indigenous funds are unfortunately limited for such imperative requirements. Pakistan's institutions, both private and public, primarily rely on international grants to be able to initiate and sustain social, health, and similar other societal and community initiatives for the country (The Global Fund, 2022).

Over the past decade or so, a greater influx of international developmental grants has been observed. Unfortunately due to the unavailability of data, this cannot be statistically substantiated however it's a well-known fact here. Many international and national NGOs (non-governmental organisations/non-profits) have started up (Islamabad Capital Territory Administration, 2022) and have been supporting or taking new initiatives towards the betterment of the people here. With more grants coming in, the need to have trained people who can manage the funds professionally has also risen. Like in other developing countries, there is a serious dearth of skilled and trained research administrators in Pakistan. The absence of schools or programs that teach research administration as a formal profession adds to the challenge here, hence the grants in Pakistan are mostly being managed either by accountants, business administration graduates, or in some precarious scenarios, by the investigators themselves. With the absence of specific knowledge, hands-on training, and requisite experiences, there is a risk everyone is taking in terms of possible mistakes and errors by not having trained research administrators manage such large grant portfolios, both in private and public sectors.

Since there is no verifiable source of aggregate data, based on the observations by the author, the greater share of the external funding pie is still held by the government institutions, followed by NGOs, and then by academic institutions, as the funders prefer their recipients to be actively engaging with the government institutions or to be the government institution. They believe that the impact of the research and findings can be augmented and strategised with the overall goals of the funder this way. Unlike academic institutions where the goal is to create knowledge through research, most of the research work at the government levels is *implementation research* or *capacity development* (action on the field with subjects or training/mentorships). Non-profits conduct both types of research: implementation research as well as knowledge generation work. It is important to mention here that many academic institutions have active collaborations with foreign institutions based all over the world. Stanford University, Harvard University, London School of Hygiene and Tropical Medicine, University of California in San Francisco, University of British Columbia, University of Toronto, University of Sydney, University of Virginia, and Emory University are amongst the many. While the absence of data does not allow a definite conclusion, one of the key reasons behind this active collaboration with international partners, is the lower cost of operationalising the research (per subject recruitment and follow-up, logistics, cheaper human resources, insurance, etc.).

In Pakistan, there are 240 recognised universities and degree-awarding institutions in the country (Higher Education Commission of Pakistan, 2022), though not all of those are actively engaged in intramural or extramural research. There is no data available but based on the author's observations at various training sessions in the field of research administration and grants management in Pakistan, only about 15% of

the universities are engaged in extramural research despite the fact that the Higher Education Commission of Pakistan lays a lot of emphasis on universities undertaking research. However, this does not preclude university professors having publications in accredited journals for non-funded research as well as collaborative research with national and international partners.

Pakistan receives grants from across the globe, including funders like The World Bank, Bill and Melinda Gates Foundation, UNICEF, World Food Programme, World Health Organization, Grand Challenges, Canadian International Development Organization, Foreign Commonwealth & Development Office, UK (formerly called DFID), Global Fund, Packard Foundation, USAID, AusAID, MRC, Wellcome Trust, National Institutes of Health, USA, National Science Foundation, USA, and similar other US federal agencies. Research institutions in Pakistan tend to welcome grants from foundations more than federal agencies because of the comparative ease of managing those. However, the real reason appears to be that the institutions lack the ability to apply for and manage grants from federal agencies such as the NIH of the US. Very few recipients (or intended recipients) are aware of the procedural and regulatory requirements for such grant applications, lest the financial compliance, post-award, and audit guidelines.

Locally, institutions receive funding from key institutions like Higher Education Commission of Pakistan, National Institute of Health, Pakistan Science Foundation, and other government-supported initiatives and programmes.

Pakistan also has research councils, including: Abdul Qadir Khan Research Laboratories, Pakistan Agriculture Research Council, Pakistan Health Research Council (formerly known as Pakistan Medical and Research Council), Nuclear Institute of Agricultural Biology, Pakistan Arts Council, and Space and Upper Atmosphere Research Council (Pakistan Center for Philanthropy, 2022). These councils have high-end scientists and relevant expertise, and work diligently towards developing and conducting state-of-the-art research.

People working closer to the role of a research managers and administrator (RMA) professional, are mostly found in universities, NGOs, and iNGOs, and their educational attainments are market competitive. Even for the starter position of an *Assistant*, *Research and Grants Administration*, institutions ask for at least a bachelor's degree (accounting/business management). For higher positions like managers and senior managers, the criteria are even higher and individuals with master's degree in business administration, and/or cost and management accountancy, make it to that level, after having worked for a period of 4–8 years in this field. Unlike the Western world, where high school graduates are able to secure entry-level office job, the academic criterion for jobs, in the author's option, is higher in Pakistan as compared to the developed world.

Evolution of the Profession

RMA, or what is locally termed as Research Administration, as a profession is still in its infancy stage in Pakistan due to the lack of awareness of this specialised field. As mentioned earlier in this chapter, there are very few institutions and individuals who are cognizant of the fact that there is a specific expertise required to manage and administer research grants effectively. There are no formal schools and training centres that offer and conduct capacity development workshops or sessions in this field. There is no academic curriculum in any of the institutes of higher education in the country that teaches Research Administration as a subject, nor are there any formal

certifications being offered, by any government or local body for the credentialing of the research administrators. Very few have proper RMA profession titles, mostly people are instead designated as *Finance Manager, Compliance Officer, Accounts Officer, Research Manager, or Research Coordinator*. Hardly any had obtained any formal training in this field. Hardly anybody knew that there is a full-time two-year degree programme offered by accredited universities outside the country, for instance, Master in Research Administration/MSc in Research Administration; University of Central Florida (2023)/Johns Hopkins University (2023)/City University of New York (2023), and various on-site mentoring fellowship available for people to obtain training (e.g. Society of Research Administrators International's Awards). In Pakistan, there is still a long way to go for this profession to be formalised, although the need is very much existent, because of the increasing extramural research funding.

Current Community

In the author's opinion, RMA as a profession is budding in Pakistan, but there are no formal associations or fraternities that exist in the country despite the fact that there are associations in other professional fields. No centrally governed certification body prevails. People do engage in taking up training courses that are offered by a few, formally educated and trained experts in the country, but those courses are offered on a random basis and provide course-specific certificates only. An example would be the Research and Grants Management Training Sessions offered by the author himself in the years 2014, 2019, 2020, and 2021; the first one with the collaboration of the Society of Research Administrators International. With the increasing awareness of certifications like CRA/CRPA/CRFA (Certified Research Administrator/Certified Pre-Award Research Administrator/Certified Financial Research Administrator), offered by RACC in the United States, research administration professionals have started to prepare for and undertake such courses (e.g. enrolling in the annual meeting of SRAI, NCURA, CARA, etc.). However, the frequency is still too low, primarily because such certificates are not required by the employers.

The RMA community in Pakistan is very informal and primarily based on social media platforms only. People connect with others who have their matching job profiles or interest to stay abreast of any developments in this field, share articles or conference announcements. Going forward, it is hoped that a formal fraternity will be established, which may also in time implement certification systems.

State of Research Administration and Future Challenges

As it stands, there is no centrally manned dataset available for Pakistan that gives us some factual insights about the RMA profession as well as professionals at this point. Research administrators in Pakistan have been making efforts for people working on RMA roles in Pakistan to become part of the RAAAP-3 dataset (Kerridge, Dutta, et al., 2022), however, only three were received. There were no responses from Pakistan in the previous RAAAP-1 and RAAAP-2 surveys. Among the three entries in RAAAP-3, some of the responses received in lieu of the RAAAP-3 dataset call can be summarised as follows:

- *Gender of the respondents was all males.*
- *Two have been working for 5–9 years and one for more than 15 years in this profession.*
- *One respondent belonged to a hospital, two from university research.*

- *All have been from private not-for-profit institutions.*
- *All have been permanent staff with their education aligning with what they are doing.*
- *Two have Masters level education; one has Bachelors level education.*
- *The age distribution has been one from 25 to 34, one from 35 to 44, and another from 45 to 54 group.*
- *Every respondent opined that they would recommend RMA as a professional career to others.*

Trends and Future Challenges

Conversations with RMA professionals working in international and national NGOs as well as social development organisations in Pakistan, suggested that the gender trend might be leaning towards males. It was also indicated that organisations prefer to hire RMAs on a project-to-project basis instead of recruiting them over the long-term which would actually develop institutional capacities. This does not hold true, however, for educational institutions and organisations operating over years with a strategic vision. The staff are either provided training internally (by senior/trained staff) or in some specific cases, grant (funder) specific training is provided either by the teams of the funders or by professional trainers who are qualified to impart such training.

In terms of registered international NGOs, there are 103 registered international NGOs in Pakistan and 983 registered national NGOs (data as of 6 June 2022) (Ministry of Interior, Government of Pakistan, 2022). An interesting trend has been observed in Pakistan, in national and international NGOs, which is 'hire-for-work'. As there is a serious dearth of skilled RMAs in Pakistan, institutions hire people on a grant-to-grant basis (due to non-availability) and once the grant contract is ended the employment of RMA staff also finishes, primarily because there is no sustainable funding available at the institutions to retain such staff. This adds to the challenge for people working in, or looking forward to making RMA as a profession.

References

City University of New York. (2023). *Master of Science in Research Administration and Compliance*. School of Professional Studies. https://sps.cuny.edu/academics/graduate/master-science-research-administration-and-compliance

Higher Education Commission of Pakistan. (2022). *HEC recognized university and degree awarding institutions*. https://hec.gov.pk/english/universities/pages/recognised.aspx#k=#s=231

Islamabad Capital Territory Administration. (2022). *List of registered national NGOs*. https://ictadministration.gov.pk/wp-content/uploads/List-of-NGOs.pdf

Johns Hopkins University. (2023). *MS in Research Administration*. https://advanced.jhu.edu/academics/graduate/ms-research-administration/

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Ministry of Interior, Government of Pakistan. (2022). https://ingo.interior.gov.pk/List_of_Approved_INGOs.pdf

Pakistan Center for Philanthropy. (2022). *Building synergies and partnerships*. https://pcp.org.pk/npo-directory/

The Global Fund. (2022). *Emergency funding to Pakistan flood relief initiative*. https://www.theglobalfund.org/en/news/2022/2022-09-20-global-fund-approves-emergency-funding-to-maintain-essential-health-services-in-pakistan/

The World Bank. (2022). *Grants and other revenue (% of revenue) Pakistan*. https://data.worldbank.org/indicator/GC.REV.GOTR.ZS?locations=PK

University of Central Florida. (2023). *Masters in Research Administration*. https://www.ucf.edu/online/research-administration/

World Bank Data. (2022). *Pakistan*. https://data.worldbank.org/country/pakistan

Chapter 5.15

Research Management and Administration (RMA) in Singapore: Development of RMA Capability in Nanyang Technological University (NTU)

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Abstract

Singapore's research has grown significantly since the first national R&D plan was launched in 1991, the same year Nanyang Technological University (NTU) was established. NTU's research progression, vitally funded by the government, mirrored the substantial growth of Singapore's research. NTU began as an engineering-based higher education institution that also had a school for accountancy and business, but more schools were added after 2000. Since then, the university has established a research ecosystem that includes research centres of excellence, corporate labs, and medium-sized research centres. Concurrently, the development of research administration in NTU has evolved from providing pre- and post-award support, extending to include outreach, research integrity and ethics, bibliometrics analysis, and talent recruitment and career support. The evolution of administrative needs

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and capabilities following the changing environment underscores the dynamic nature of research management and administration in Singapore.

Keywords: Research management and administration; Singapore; skill development; Nanyang Technological University; career; talent

Research and Innovation in Singapore

The modern research and innovation landscape in Singapore has seen drastic changes over the course of a short three decades, with a nation embarking on a master plan to transform Singapore from the legacy of a labour-intensive workforce into a knowledge- and innovation-based economy. As a young nation, Singapore separated from the Federation of Malaysia in 1965 to become an independent and sovereign state. At the time, the gross domestic product (GDP) was derived from labour-intensive industries such as manufacturing and food. The 1986 Economic Committee Report titled The Singapore Economy: New Directions (Ministry of Trade & Industry, Republic of Singapore, 1986) indicated challenges to Singapore's economic growth ahead, spearheading a national strategic reprioritisation. The report emphasised the need for a high-technology policy of capacity and value add to secure the nation's future growth. The outlining of such policies would be the beginning of the restructuring of the Singapore economy towards a smart nation. The government set out to develop master plans which drove the directions and policymaking towards meeting the ambitious goals (Hang et al., 2016). The National Science and Technology Board (NSTB) was launched in 1991 with the mission of pivoting Singapore's economic strategy from manufacturing and product assembly to high technology. The board was tasked with long-term research strategies for the nation's development, which would later evolve to become the Agency for Science, Technology and Research (A*STAR[1]). The National Research Foundation (NRF[2]) was established in 2006 as part of the Prime Minister's Office (PMO[3]) to establish national research directions and fund strategic initiatives.

Since 1991, the Singapore government released five-year strategic initiatives and funding plans. While the agencies involved experienced reorganisation and renaming within 30 years, the objectives to align public funding with national interests remain constant. From $2 billion earmarked as the National Technology Plan 1995 (National Science & Technology Board, Republic of Singapore, 1991), the earliest version of a national R&D blueprint, at present the government invested $25 billion for the Research, Innovation and Enterprise 2025 (National Research Foundation, 2020) Plan to serve 2021–2025, with the 5-yearly quantum for R&D continuing to increase over the years. In its present form, for a nation-state of 5.8 million people, the country has amongst the highest researchers per million (> 6,000) and is one of the highest spenders for research and development (R&D), with an estimated 2.64% of GDP on gross R&D spending in 2020 (Heney, 2021). The success of the research and innovation initiatives has made Singapore attractive as a technology hub, with globally recognised universities and public research institutions as part of the research ecosystem. With the burgeoning research, the administration and management necessarily grew and scaled in parallel to the funding.

[1] http://www.a-star.edu.sg
[2] http://www.nrf.gov.sg
[3] http://www.pmo.gov.sg

Present Form

The research landscape in Singapore in its present form is multi-faceted, addressing strategic research thrusts, with a multi-agency approach. The strategy is a concerted effort between public and private stakeholders. One of the key drivers of the growth of Singapore's research and innovation landscape has been the development of the Research, Innovation and Enterprise (RIE) ecosystem, under the management of the PMO. The RIE contains five-year strategic plans and policies to support research, economic growth, and address future challenges. The ecosystem is defined by the Research, Innovation and Enterprise Council (RIEC) under the PMO. Agents within the system consist of the PMO, government ministries, and R&D performers. Eleven government agencies, including the Ministry of Trade and Industry (MTI[4]), Economic Development Board (EDB[5]), Ministry of Education (MOE[6]), and A*STAR are amongst those involved (National Research Foundation, 2022). Each agency supports the research agenda based on their scope, such as in policymaking, funding support, or strategic domain knowledge. R&D performers can include private sector entities and corporations, research institutes or government labs, universities, and polytechnics. There are six publicly funded autonomous universities conducting research, namely Nanyang Technological University (NTU[7]), National University of Singapore (NUS[8]), Singapore University of Technology and Design,[9] Singapore Management University (SMU[10]), Singapore Institute of Technology,[11] and Singapore University of Social Sciences.[12]

For the inaugural RIE 2015 plan (Ministry of Trade & Industry, Republic of Singapore, 2011), the government budgeted S$16.1 billion for over 5 years to establish Singapore's research & development capabilities, and nurture a knowledge-based economy, with knowledge and intellectual property as a source of competitive advantage (Lay Lek & Al-Hawamdeh, 2001; Mok, 2015). The structure of the RIE plan consists of strategic thrust domains and supporting programs which target areas with economic and industrial innovation potential. In the most recent RIE 2025, approximately 1% of the GDP was invested to build on foundations laid from previous strategic plan cycles to fortify Singapore's long-term competitive advantage and position as a technology and innovation hub. The strategic domains are expected to extend trade and connectivity, expand precision medicine and early childhood development, ensure sustainability and resilience of the built environment, and support digital transformation and preparedness, to become a trusted digital innovation hub. Behind these, academic research, manpower, and innovation and enterprise programs will support the development in parallel, for which administrators are central to the operations of the research networks and initiatives (National Research Foundation, 2020).

Research Management and Administration in Singapore

Research administration in the context of R&D performers in Singapore provides the infrastructural support of scientific activities, which can include award management,

[4] http://www.mti.gov.sg
[5] http://www.edb.gov.sg
[6] http://www.moe.gov.sg
[7] http://www.ntu.edu.sg
[8] http://www.nus.edu.sg
[9] http://www.sutd.edu.sg
[10] http://www.smu.edu.sg
[11] http://www.singaporetech.edu.sg
[12] http://www.suss.edu.sg

research compliance, strategic initiatives, technology transfer, and outreach. These may be overseen and executed by single or multiple functions. At its core, research administration serves to represent both researchers and funders in ensuring research outcomes are met. For example, pre- and post-award management processes typically requires collaboration with funding agencies, principal investigators, and other institutional stakeholders during various stages of the award cycle. The pre-award scope of work represents the early stage of the award life cycle. This may be at the award application stage, such as identifying funding opportunities and providing application support such as verification or endorsement, proposal review, budget preparation and planning, award acceptance and compliance to ensure adherence to funder guidelines, and legal and regulatory compliance. Post-award management activities can include budget scrubbing, manpower hiring processes, procurement management, along with project variations, closure, and reporting. Some examples of award support functions in Singapore include the NUS Office of the Deputy President (Research & Technology),[13] SMU Office of Research and Tech Transfer,[14] and A*STAR Office of Grant Management.[15] Aligning with RIE plans for a knowledge-based economy, the research management portfolio requires capabilities to support initiatives and funding directions involving industry partnerships, through commercialisation activities (Hooi & Wang, 2020; Wong et al., 2007) and strategic initiatives, such as attracting talent towards manpower development (Ng, 2013).

In the RIEC ecosystem, national-level engagement of R&D performers included universities as well as research agencies. University proportion allotments grew over 11 times from the initial investment of US$35 million in research funding to US$400 million in 11 short years. The RIEC research strategy included the adoption of inter-university research centres of excellence,[16] corporate labs, and medium-sized research centres. The development of research management and administration (RMA) within NTU,[17] a RIEC-aligned young university (< 50 years old) propelled by government-led

[13] https://www.nus.edu.sg/research/research-management
[14] https://research.smu.edu.sg/about/introduction-office-research
[15] https://www.a-star.edu.sg/gis/our-people/research-administration
[16] The Centres of Excellence aimed to spur local research within NTU and NUS. NTU hosts two of the five established centres, which are operational: Earth Observatory of Singapore (EOS) and the Singapore Centre for Life Sciences and Engineering.
[17] NTU was inaugurated in 1991 as a merger between Nanyang Technological Institute (NTI, 1981–1991) and National Institute of Education, where the former was built on the legacy of its predecessor, Nanyang University (1955–1980) (Andersson et al., 2022). In 1982, NTI served to prepare the nation's engineers with hands-on training in three engineering disciplines: civil and structural, electrical and electronic, and mechanical and production engineering (Nanyang Technological University (NTU), 2022; Su, 2020). In 1987, the School of Accountancy was added, and a year later the School of Applied Sciences was established, introducing computer engineering degrees in Singapore. Alongside economic growth and demand for workers, enrolment grew from 582 students in 1982 to 6,832 by 1990. Other faculties were progressively added, starting with the Wee Kim Wee School of Communication and Information in 1992, followed by the School of Materials Science & Engineering in 2000. The formation of the School of Biological Sciences in 2002 marked the first natural sciences faculty, followed by Humanities and Social Sciences in 2004. Deepening a commitment to science and technology, the School of Chemical and Biomedical Engineering and School of Physical and Mathematical Sciences were established in 2005. NTU was granted status as an autonomous university in 2006. In present form, NTU consists of five colleges under which the aforementioned schools exist, namely: College of Engineering, College of Science, College of Humanities and Social Sciences, College of Business, Graduate College, and three autonomous institutions: Lee Kong Chian School

strategic planning is given as a case study of RMA development within Singapore. To facilitate research excellence, administration at the university-level similarly needed to scale and evolve at pace with R&D initiatives. At NTU, early work was enabled by a singular research office, which evolved to and branched into three entities in the university research ecosystem. The earliest form of a research grant administration office at NTU was established in 2004 as the Office of Research with a portfolio consisting of research grant administration, post-award administration, and outreach. Research visits and conference attendance[18] were a vital component in raising the visibility of a young research university. The Office of Research participated regularly in delegate visits to universities abroad, which introduced and showcased NTU research to the global stage. In 2007, the Office of Research was renamed as the Research Support Office (RSO), to reflect the specific function which it served. The RSO continued its commitment to reporting and management to facilitate high-calibre research, but also expanded with headcount allotted for officers in research ethics and integrity, bibliometric analysis, and talent recruitment. Later, the Research Integrity and Ethics Office (RIEO) was established in 2016, followed by the Talent Recruitment and Career Support Office (TRACS) and Bibliometrics Analysis in 2018. RIEO works to uphold research trustworthiness, on matters of misconduct, integrity training, and adherence to ethics protocols and standards on research involving human or animal subjects. On the other hand, TRACS functions in talent recruitment for early career researchers and research intelligence and analytics. Today, there are over 70 professionals at both university and departmental levels (NTU, 2023a, 2023b). The evolution of the research management structures at NTU is shown in Fig. 5.15.1.

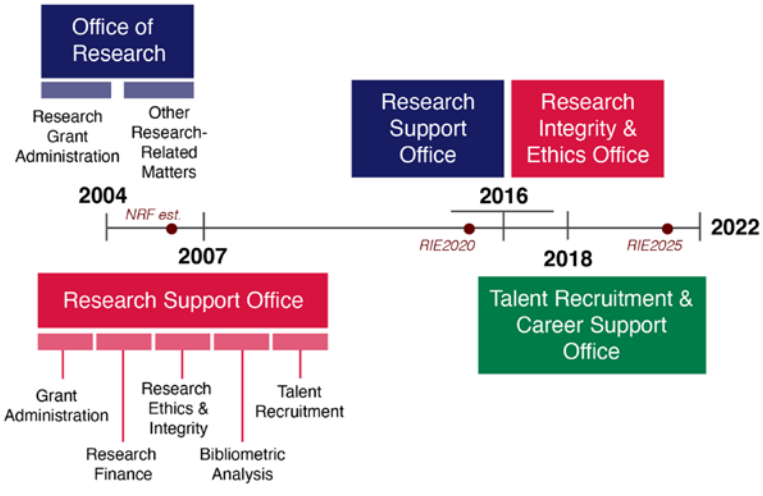

Fig. 5.15.1. Timeline of the Evolution of Research Management and Support Structures at NTU.

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of Medicine established in collaboration with Imperial College London, National Institute of Education, and the S. Rajaratnam School of International Studies. The progression from a vocational training institute to advanced research and development institute occurred in parallel with strategic reorientation and introduction of the NTP 1995. Today, NTU stands as a comprehensive university aiming to foster lifelong learning for all.

[18] Conference attendance included American Association for the Advancement of Science (AAAS) Annual Meeting and the EuroScience Open Forum (ESOF) conference.

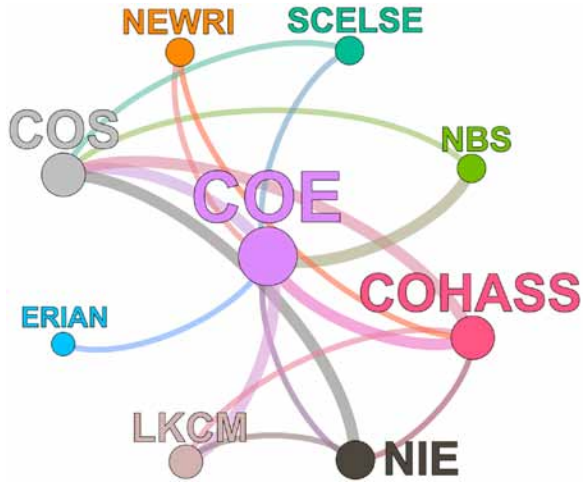

Fig. 5.15.2. Network Collaboration Map at the College Level for ACE Award Grantees for a Five-year Period.

We expound further on TRACS as a case study in portfolio diversification from a research administrator perspective. Recognising the evolving requirements of a knowledge-based economy, a robust pipeline of contributors to research excellence is a mainstay on the national agenda. TRACS is an entity facilitating such needs for the university, particularly within the realm of early career researchers whether in prestigious postdoctoral fellowships such as the Presidential Postdoctoral Fellowship (PPF) or elite young faculty awards such as the Nanyang Assistant Professorship (NAP). The former provides candidates with up to S$200,000 in funding, while the latter with research grants of up to S$1 million from a highly competitive applicant pool. Meanwhile, the Accelerating Creativity and Excellence (ACE) award, provides interdisciplinary funding to explore cutting-edge research domains which can lead to new approaches or address global challenges. The program prioritises partnerships between science, technology, engineering, and mathematics (STEM) disciplines and non-STEM disciplines such as the humanities within the university, as shown in Fig. 5.15.2. TRACS also supports research intelligence and analytics, providing data-driven insights to understanding author-, department-, university-level research performance, performance benchmarking of global subject rankings, along with topical horizon scanning and emerging trends scoping. With the exponential growth of scientific publications, the ability to ingest and distil such information can support more informed strategies. Here, the administrator portfolio is an intersection of grant management, stakeholder coordination, communication, and information and decision sciences, unified by a strategic mission.

In parallel, RMA career development opportunities have become available in Singapore through professional associations providing networking opportunities and skill development. The Singapore chapter of the Australasian Research Management Society (ARMS), a professional organisation serving the Australasia regions such as Australia, New Zealand, and Singapore, was established in 2013. The chapter hosts ARMS research administration conferences, most recently in 2015, and chapter meetings, with NTU and SMU as association members, and accreditation programs, including a Singapore-specific module on the research and innovation system within the country (ARMS, 2023f, 2023g).

Future Directions and Outlook

Driven by the development of Singapore's knowledge-based economy, and research as a key driver, RMA has grown in its complexity. These offer opportunities to diversify the portfolio of a research administrator with three key areas for professional development: engagement with key stakeholders within the university, collaboration skills and role-defining opportunities, and communication and coordination. Research, inherently dynamic in nature, calls for agility and flexibility on the part of the administrator. A typical day for a research administrator encompasses the breadth of partnering with stakeholders in research-related needs. This may include assisting a principal investigator with grant applications, or responding to urgent requests from funders and ministries. The administrator must be able to collaborate with diverse stakeholders, balance tasks, and manage tight timelines.

Towards the future, we expect that research management will continue to evolve to a broader scope in both the day-to-day operational aspects and in the longer-term strategic support. In the context of Singapore, this would also align with the five-year research plans. For the former, the large volumes of data and information being generated are a prompt for refining the adoption of digital transformation and centralisation tools. These activities may leverage enterprise software and management technologies. The performance administrator should gain sufficient operational and technical competency across multiple platforms. There may also be more involvement in supporting longer-term strategic missions or thrust areas. In pursuit of excellence, research management such as commercialisation, technology translation, and intellectual property development is likely to become more prevalent, aligning with the strategy to grow enterprise-driven capacities for market-oriented innovation. With the establishment of the Singapore National Research Foundation in 2006, there has been a significant push for technology transfer and spin-off. The research-innovation-enterprise nexus is another segment in the development of administrative expertise, in patenting, licencing, and liaising with industry.

Whether through national programs, or collaborative research and joint projects, effective research administration is essential to actualise strategic priorities and ensure progress. As research becomes increasingly multidisciplinary and globally connected, administrators act as critical agents for these connections within the shifting landscape.

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References

Andersson, B., Shah, H., Su, G., & Mayer, T. (2022). *Troika!* World Scientific. https://doi.org/10.1142/12252

ARMS. (2023f). *Corporate members*. https://www.researchmanagement.org.au/corporate-members

ARMS. (2023g). *Singapore*. https://www.researchmanagement.org.au/regional-interest-group/singapore

Hang, C. C., Low, T. S., & Thampuran, R. (2016). The Singapore research story. In *The Singapore research story*. https://doi.org/10.1142/9417

Heney, P. (2021). *2021 global R&D funding forecast released*. R&D World. https://www.rdworldonline.com/2021-global-rd-funding-forecast-released/

Hooi, & Wang, J. (2020). Research funding and academic engagement: A Singapore case. *Knowledge Management Research & Practice*, *18*(2), 162–174. https://doi.org/10.1080/14778238.2019.1638739

Lay Lek, C., & Al-Hawamdeh, S. (2001). Government initiatives and the knowledge economy: Case of Singapore. In W. Kim, T. W. Ling, Y. J. Lee, & S. S. Park (Eds.), *The human society and the internet internet-related socio-economic issues*. HSI 2001. Lecture Notes in Computer Science (Vol. 2105). Springer. https://doi.org/10.1007/3-540-47749-7_2

Ministry of Trade & Industry, Republic of Singapore. (1986). *The Singapore economy, new directions*.

Ministry of Trade & Industry, Republic of Singapore. (2011). *Research, Innovation and Enterprise (RIE) 2015*. https://www.mti.gov.sg/Resources/publications/Research-Innovation-and-Enterprise-RIE-2015

Mok, K. H. (2015). The quest for global competitiveness: Promotion of innovation and entrepreneurial universities in Singapore. *Higher Education Policy*, *28*, 91–106.

Nanyang Technological University (NTU). (2022). *Our history*. https://www.ntu.edu.sg/about-us/history

Nanyang Technological University (NTU). (2023a). *Lee Kong Chian School of Medicine Research Administration and Support Services*. https://www.ntu.edu.sg/medicine/research/research-administration-and-support-services

Nanyang Technological University (NTU). (2023b). *Research at NTU > our people*. https://www.ntu.edu.sg/research/research-at-ntu/our-people#Content_C026_Col00

National Research Foundation. (2020). *RIE2025 handbook*. https://www.nrf.gov.sg/rie-ecosystem/rie-2025handbook/

National Research Foundation. (2022). *RIE ecosystem*. https://www.nrf.gov.sg/rie-ecosystem/ecosystem/

National Science & Technology Board, Republic of Singapore. (1991). *Science and technology: Window of opportunities*. National Technology Plan.

Ng, P. T. (2013). The global war for talent: Responses and challenges in the Singapore higher education system. *Journal of Higher Education Policy and Management*, *35*(3), 280–292.

Su, G. (2020). International collaboration as a catalyst for change: The case of Nanyang Technological University, Singapore 2003–2017. In *Successful global collaborations in higher education institutions* (pp. 43–50). Springer International Publishing. https://doi.org/10.1007/978-3-030-25525-1_5

Wong, P. K., Ho, Y. P., & Singh, A. (2007). Towards an "entrepreneurial university" model to support knowledge-based economic development: The case of the National University of Singapore. *World Development*, *35*(6), 941–958.

Chapter 5.16

Research Management and Administration in Vietnam

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Abstract

This chapter outlines the structure of research management and administration (RMA) in Vietnam, which is a part of the science and technology management sector. The chapter will present the decentralisation of RMA in Vietnam at many levels: the macro level (state), the medium level (local/province), and the micro level (organisations); describe its characteristics, and identify the conditions for the establishment of the RMA community in Vietnam shortly.

Keywords: Research management and administration; science and technology management; RMA level; policy; Vietnam; profession

Research Ecosystem

In Vietnam, research management and administrations (RMAs) are a part of science and technology (S&T) management and are decentralised at different levels: the macro

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level (state), the medium level (local/province), and the micro level (organisations such as universities, institutes, and enterprises). The RMA activities are dependent on the functions and management competence of the administrative agencies to which the S&T organisation belongs or the general regulations on the S&T management mechanism of the government. From 1981[1] till now, S&T were managed more by scientific organisations, creating more favourable conditions for the transition to autonomy and self-responsibility. The legal framework and S&T policy system have also improved, with the Law on Science and Technology (2013) and other relevant legislations and documents specifying regulations on the management of S&T activities. Vietnam's Science, Technology and Innovation (STI) strategies have emphasised the importance of promoting decentralisation in state management of STI, as well as ensuring the leanness, efficiency, and effectiveness (Decision No. 569/QD-TTg of the Prime Minister, 2020a). The Law on Higher Education[2] (amended and supplemented in 2013, 2014, 2015, and 2018) pays special attention to the autonomy of higher education (HE) institutions. A transformation found among the Vietnamese universities that emerged in the last two decades is characterised by 'university autonomy' which focusses on the main issues are organisational, financial, staffing, and academic. However, university autonomy activities, including academic autonomy, still face many difficulties. Vietnam's legal framework on university autonomy is out of sync, lacking consistency with other related laws such as the Law on Cadres and Civil servants, the Law on Public Employees, the Law on State Budget, the Law on Management and Use of Public Property, the Law on Public Investment, etc.… State budget expenditure for HE is still relatively modest compared to other educational levels and other countries in the region [accounting from 0.25% to 0.27% of Gross Domestic Product (GDP) in the period of 2018–2020][3]; the financial resources of public universities are still limited and have not been diversified.

According to UNESCO Institute for Statistics (World Bank, 2022), the school enrolment in Vietnam is about 35%, lower than in some Southeast Asian countries.[4] Despite the impressive growth of the HE system, the gross enrolment ratio (GER) in Vietnam is still lower than that of other performing countries, i.e. Philippines (32%), Malaysia (43%), and Thailand (49%). Females have higher GER than males at the HE level and the gap seems to have increased since 2016. The spirit of entrepreneurship

[1] The year 1981, The philosophy of 'Decentralization of S&T activities' in Vietnam is realised through the issuance of Decision 175/CP of the Council of Ministers on the signing and performance of economic contracts in scientific research and technical implementation.

[2] Vietnam's Law on Higher Education, which took effect in January 2013, is the country's first law dedicated specifically to the higher education (HE) sector. The Law aims to reform and regulate HE in order to develop human resources needed for Vietnam's move towards a knowledge-based economy. The Law includes provisions for institutional autonomy, quality assurance, international cooperation, university research mission, university mission in science and technology, private universities, national and regional universities, and university classification and ranking that were not previously addressed in legislation.

[3] Hong Hanh (2023). University autonomy: More than 30% of lecturers have an income of over 200 million/year and budget problems. *Online newspaper of the People's Deputies (under the Office of the Vietnam National Assembly)*. Source: https://daibieunhandan.vn/giao-duc-y-te1/tu-chu-dai-hoc-hon-30-giang-vien-co-thu-nhap-tren-200-trieu-nam-va-bai-toan-ngan-sach-i313570/.

[4] According to the UNESCO Institute for Statistics. (2022). The tertiary enrollment of Vietnam in 2021 is about 35%, Thailand (44%), Malaysia (43%), Indonesia (36%), Singapore (93%). Source: https://data.worldbank.org/indicator/SE.PRM.NENR?locations=8S&name_desc=true.

in universities is also growing stronger, with the percentage of schools making entrepreneurship a compulsory or elective subject increasing from 30% at the end of 2020 to 33% by the end of 2021. Some large universities and national universities have been established some enterprises in the university, but this rate is still very low due to policy problems.

Besides the Government's National Funds, ministries and ministerial-level agencies as well as Provincial People's Committees have established S&T development funds to support local and regional activities. These funds are formed from initial capitals from state budgets for the scientific and technological development of ministries, ministerial-level agencies, governmental agencies, central-affiliated cities and provinces; annual additional capital from state budgets for the S&T tasks of ministries, provinces, and funds' business results; contributions of enterprises according to laws; voluntary contributions, donations, grants from organisations, individuals, and other legal sources.[5]

The Vietnamese National Assembly and Government have established a number of mechanisms and policies to encourage the development of S&T funds in businesses. However, by 2021, the number of businesses deducting the fund was less than 0.1% of the total number of operating businesses. The fund has been established by many corporations and businesses, but its use is extremely limited. According to Anh Tuyet (2021), nearly 80% of businesses deduct the fund but do not use it because of complicated procedures and processes for spending funds. The fund's establishment and use are limited to a few large enterprises. Some of the effective S&T funds of enterprises are Vingroup Innovation Fund (VINIF) and the VinFuture Foundation (2020) of VinGroup.[6]

Evolution of the Profession

To meet the actual demand for human resources to implement RMA activities at multiple levels (national, local, and organisational), the training programs are increasing. The bachelor's and master's programmes in S&T Management began in 1999, and the doctorate in S&T Management was established in 2013 at the VNU – University of Social Sciences and Humanities (VNU-USSH), and later more Master and doctoral ones in S&T Management was educated in the Vietnam Institute of Science, Technology and Innovation under the MOST. The trainees are mostly officials in charge of scientific research management at universities and institutes, at departments of S&T and localities, and at ministries (MOST, MOET) who have not received formal training beyond the bachelor's level. RMA is not yet considered a profession and is

[5] According to Article 61, The Law on Science and Technology (2013), ministries, ministerial-level agencies, governmental agencies, people's committees of provinces shall establish funds for scientific and technological development to meet their own demands for scientific and technological development. These funds are formed from initial capitals from state budgets for scientific and technological development of ministries, ministerial-level agencies, governmental agencies, central-affiliated cities and provinces; annual additional capitals from state budgets for science and technology tasks of ministries, provinces and funds' business results; contributions of enterprises according to laws; voluntary contributions, donations, grants from organisations, individuals and other legal sources. Source: https://www.most.gov.vn/en/Pages/Detaildocument.aspx?vID=44.

[6] Vingroup Joint Stock Company (Vingroup JSC) is Vietnam's biggest private conglomerate. As a multi-sector corporation, Vingroup focusses on three core pillars: Technology & Industry, Trade & Services, and Social Enterprise. More information: https://vingroup.net/vi.

not included in the list of occupations in Vietnam (Decision 34/2020/QD-TTg of the Prime Minister, 2020b). There are also short-term programmes run by government agencies, local governments, NGOs, and charities. MOST, MOHA, and local S&T departments often conduct training courses for civil servants and public employees on scientific research skills and STI management. Some examples are the training projects between the British Council Vietnam, the Vietnam Institute of Science, Technology, and Innovation, and a number of universities in 2019; or the workshop 'Improving scientific research management skills for researchers in Vietnam' for researchers and scientific research managers as part of cooperation activities between the Institute of Policy and Management, VNU-USSH and the Australian Research Management Society (ARMS), supported by the Australian Government.

Current Community

S&T Budget as a Percentage of GDP

The World Bank (2022) estimates that Vietnam's GDP was 330.39 billion USD in 2019. According to the R&D Survey, the total national expenditure on R&D in 2019 amounted to roughly 0.53% of GDP (Ministry of Science and Technology of Vietnam, 2021).

Number of R&D Personnel

In 2019, Vietnam had 185,436 people participating in R&D activities. The number of researchers with undergraduate or HE accounted for 80.94%, while technical staff accounted for 699%, and support staff accounted for 12.07% (MOST, 2021). The structure of R&D human resources in Vietnam in recent years is relatively stable with a large proportion of researchers (80%), technical staff (6–7%), and support staff.

Number of Academic Institutes (Universities)

In 2019, Vietnam had 237 universities and academies (including 172 public schools, 60 private and people-founded schools, 5 schools with 100% foreign capital), and 31 pedagogical colleges (MOET, 2019).

RMA is an important activity of S&T management in Vietnam at various levels: the macro level (state), the medium level (local/province), and the micro level (organisations) (Fig. 5.16.1). At the macro level, ministries (MOST, MOET, MOHA) help to develop institutions and allocate budgets for S&T management activities, including RMAs, and develop strategies for S&T organisations. At the local level, S&T management activities are also associated with the role of the People's Council, the People's Committee of the province, district, and commune level, to promote technology improvement initiatives, and technology application, participating in resource management, and supervising the implementation of legal provisions on S&T. The S&T department under the Provincial People's Committee (y) is the focal point for the general management of S&T activities, including RMA activities. In the last level, RMA activities are concentrated in universities, institutes, and enterprises.

At each level of RMA, it is possible to see the formation and development of many types of S&T development funds of different sizes.[7] The establishment of S&T devel-

[7] According to the Law on Science and Technology 2013, the government established the National Science and Science Development Fund (Article 60); Ministry, peer-to-peer agency, the government-based agency, the Provincial People's Committee established

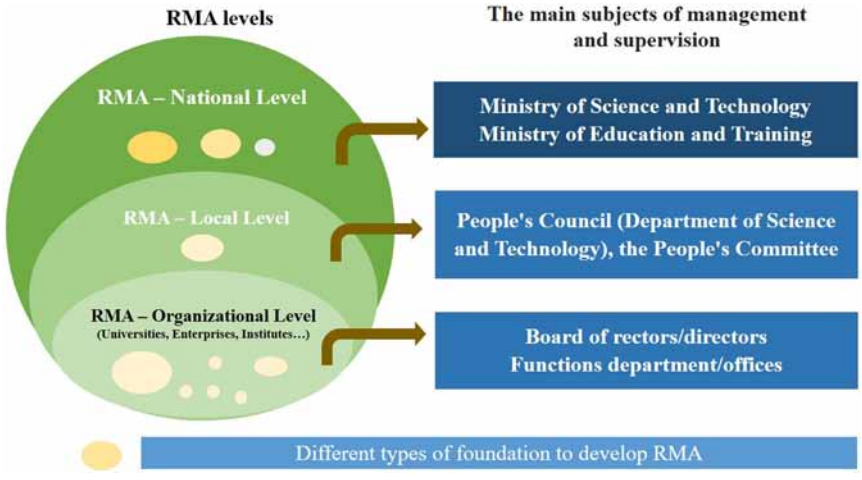

Fig. 5.16.1. RMA Levels in Vietnam.

opment funds is encouraged by the government, in order to provide financial support for S&T activities, including RMA activities of S&T organisations.

Besides, in Vietnam, RMA activities in the public sector should not be considered as support services for research activities, but rather as activities within the function of scientific research regulatory bodies. Councils for appraisal and evaluation of research and projects are established in the system of public organisations, enterprises, research units, and enterprise funds. For projects funded by the state budget, evaluation councils are established by the sponsoring agency/programme to evaluate a project before and after implementation. Currently, public university RMA activities include the formation of ethics committees to evaluate research products and ensure that scientific standards are transparent and strictly followed. Scientific research management departments will be responsible for supporting information and administrative activities, announcing funding results, and managing research projects. In addition, RMA in universities is different from RMA in parent universities such as the model of national universities (Vietnam National Universities in Hanoi and Ho Chi Minh). RMA activities at parent universities are divided into several levels of management: S&T management board of the parent university; S&T management departments of member universities and institutes; S&T management departments/sections of research centres and institutes; scientific assistants in the faculties. The RMA activities in parent universities are not only related to the member units, but also have external interactions with the S&T department in ministries. Along with the commitment to integration in education and science that Vietnam joins with ASEAN, MOET are now making

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the Foundation for Scientific Development and the technology to serve its requirements for scientific and technological development (Article 61); The state encourages the organisation, the individual to establish a scientific and technological development fund by the rule of law. The organisation's science and technology development fund, the individual is the non-profit organisation for non-reimbursable funding, lending at low-interest rates or not taking interest, the loan guarantee serves the requirements for the development of science and technology of the organisation, the individual (Article 62); Foreign enterprises are encouraged to establish their own scientific and technological development funds or contribute to the S&T Development Fund of the industry, local and the benefit of the provisions of the Fund (Article 63).

remarkable efforts to ensure university accreditation standards[8] according to international standards, including indicators related on RMA.

About the RMA in private universities, it should also be noted that one of the quite popular trends in Vietnam today is the transfer of private universities to enterprises, which will also create changes in resources and methods of RMA when the university's scientific research or technology transfer activities will focus on the development orientations of enterprises. Besides, some private, not-for-profit universities have been established by large private conglomerates. For example, in October 2020, VinUniversity was set up with a total investment of VND 6,500 billion (approximately USD 285 million) from Vingroup. The emergence of investment policies for research activities and professional, internationalised RMA activities of these universities also created a phenomenon of social mobility, and brain drain from both public and private universities. Therefore, the establishment of RMA communities needs to be implemented quickly so that cooperation and investment mechanisms can be created for harmonious development among current university models in Vietnam.

In enterprises in the fields of science and education, investment enterprises, or owners of private universities, RMA activities are mainly concentrated in departments/committees in charge of cooperation and investment in S&T. In large corporations, RMA can be specialised in the important role of funds, investment appraisal boards in S&T.

The state budget's overall spending on S&T activities increased by 1.3 times from 2015 to 2020 (as shown in Fig. 5.16.2). If the majority of the funding for S&T activities comes from the state budget (roughly 70–80% of the total investment in S&T), today's funding for S&T comes from the state budget balanced, with 52% and 48%, respectively (MOST, 2021).

In recent years, state budget investment in S&T activities has maintained at about 2% of total annual expenditure, approximately equal to 0.5% of GDP (including defence

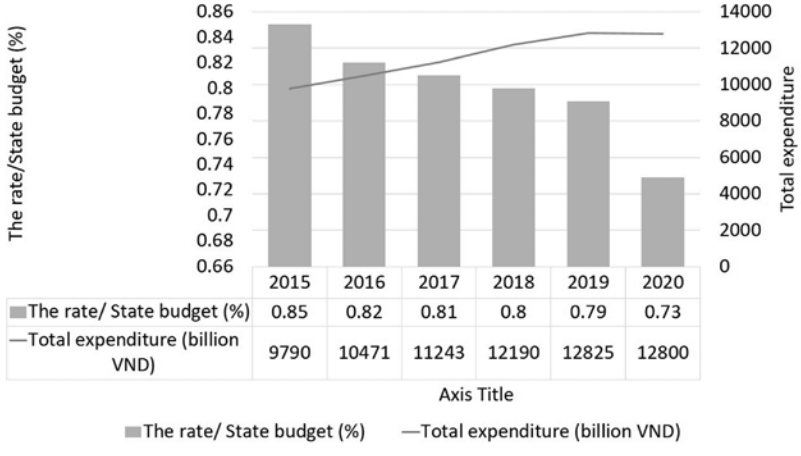
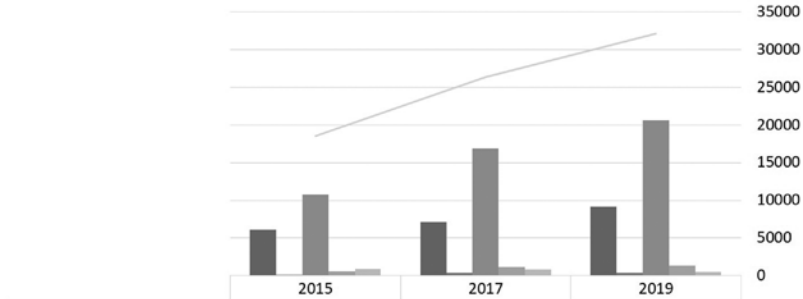


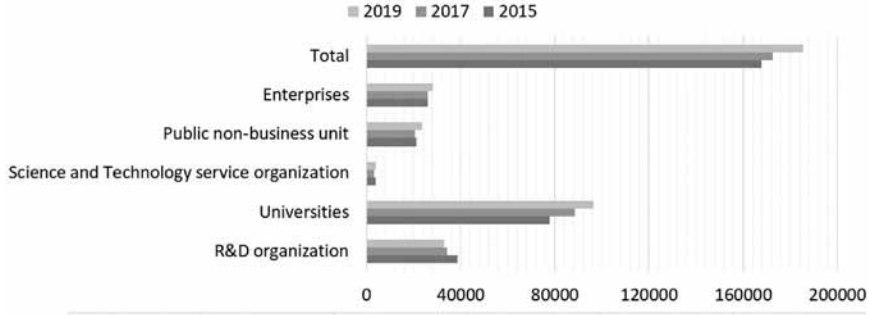
Fig. 5.16.2. Expenditures on S&T Activities from the State Budget from 2015 Through 2020. *Source*: Ministry of Science and Technology of Vietnam (2021).

[8] On 9 September 2022, the MOET issued Decision NO 2576/QĐ-BGDĐT to recognise the activities of the High Council for Evaluation Research and Higher Education (Hcéres), the Decision No.2577/ QĐ-BGDĐT to recognise the activities of the Quality Assurance Agency for Higher Education (QAA) in Vietnam.



	2015	2017	2019
State budget	6108.5	7101.16	9165.88
Higher education institutions	175.3	369.85	427.22
Businesses	10745.2	16907.57	20647.74
Foreign	534.3	1185.16	1322.46
Other sources	932.6	804.84	511.48
Total	18496.1	26368.59	32101.8

Fig. 5.16.3. Vietnam's R&D Expenditures by Funding Sources in the Three Years of 2015, 2017, and 2019 (Billion VND). *Source*: Ministry of Science and Technology of Vietnam (2021).



	R&D organization	Universities	Science and Technology service organization	Public non-business unit	Enterprises	Total
2019	33092	96400	3857	23759	28328	185436
2017	34197	88481	3229	20584	26192	172683
2015	38628	77841	3909	21255	26113	167746

Fig. 5.16.4. R&D Human Resources by Implementation Area (Person). *Source*: Ministry of Science and Technology of Vietnam (2021).

and security expenditure and contingency expenditure). From 2015 to 2019, the state budget increased by 1.5 times (as shown in Fig. 5.16.3). The promotion of socialisation has caused a shift in the expenditure sources for Vietnam's R&D activities in 2015, 2017, and 2019. The investment from business sources increased about 1.9 times from 2015 to 2019, with 50–60% the total Vietnam's R&D expenditures by funding sources.

From 2015 to 2019, R&D personnel in HE institutions (including universities, colleges, and institutes) account for the highest proportion of the total R&D workforce of the country (about 50%) (as shown in Fig. 5.16.4). Despite having the largest proportion of R&D human resources, the R&D investment rate of Vietnam's universities is the lowest. This is also one of the barriers in the development of UAM activities, especially in the public sector.

Implication and Conclusion

RMA's activities in Vietnam are decentralised at many levels: the macro level (state), the medium level (local/province), and the micro level (organisations) and are governed by administrative institutions in the field of S&T. To establish RMA communities in Vietnam, the following conditions might be necessary: (1) The support of RMA networks in exchanging, learning, and applying international RMA criteria and assessment systems to refer to Vietnam's regulations; (2) The mechanism of autonomy and self-responsibility for public institutions, particularly universities will continue to be effectively deployed to attract more resources for RMA activities besides the state budget; (3) RMA policies and RMA regulations need to be further specified at the above levels; (4) The strengthening of human resources with expertise and training in RMA; (5) The development of professional research on RMA.

Acknowledgement

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References

Anh Tuyet. (2021). Enterprises "in trouble" because of the Science and Technology Development Fund. *Vietnam Economic Journal Online*. https://vneconomy.vn/doanh-nghiep-gap-nan-vi-quy-phat-trien-khoa-hoc-va-cong-nghe.htm

Hong Hanh. (2023). University autonomy: More than 30% of lecturers have an income of over 200 million/year and budget problems. *Online newspaper of the People's Deputies (under the Office of the Vietnam National Assembly)*. https://daibieunhandan.vn/giao-duc-y-te1/tu-chu-dai-hoc-hon-30-giang-vien-co-thu-nhap-tren-200-trieu-nam-va-bai-toan-ngan-sach-i313570/

Ministry of Education and Training of Vietnam. (2019). *Higher education statistics for the academic year 2019–2020*. https://moet.gov.vn/thong-ke/Pages/thong-ko-giao-duc-dai-hoc.aspx?ItemID=7389

Ministry of Science and Technology. (2013). *Law No. 29/2013/QH13 on Science and Technology*.

Ministry of Science and Technology of Vietnam. (2020). *Science and technology book 2019*. Science and Technics Publishing House.

Ministry of Science and Technology of Vietnam. (2021). *Science and technology book 2020*. Science and Technics Publishing House.

National Assembly. (2003). *Law No. 11/2003/QH on Organisation of the People's Councils and the People's Committees*. https://thuvienphapluat.vn/van-ban/Bo-may-hanh-chinh/Luat-To-chuc-Hoi-dong-nhan-dan-va-Uy-ban-nhan-dan-2003-11-2003-QH11-51688.aspx

National Assembly. (2018). *Law No.34/2018/QH14 on amendments to the law on higher education*.

Prime Minister. (2020a). *Decision No. 569/QD-TTg of the Prime Minister promulgating the Strategy for Science, Technology and Innovation Development to 2030*. https://thuvienphapluat.vn/van-ban/Linh-vuc-khac/Quyet-dinh-569-QD-TTg-2022-Chien-luoc-phat-trien-khoa-hoc-cong-nghe-va-doi-moi-sang-tao-512896.aspx

Prime Minister. (2020b). *Decision 34/2020/QD-TTg of the Prime Minister promulgating the List of Vietnamese Occupations*. https://thuvienphapluat.vn/van-ban/Lao-dong-Tien-luong/Quyet-dinh-34-2020-QD-TTg-Danh-muc-nghe-nghiep-Viet-Nam-su-dung-trong-thong-ke-ve-lao-dong-458436.aspx

World Bank. (2022). *School Enrollment, Tertiary (% gross) – Vietnam*. https://data.worldbank.org/indicator/SE.TER.ENRR?end=2019&locations=VN&name_desc=false&start=1976&view=chart

Australasia

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Chapter 5.17

The Emergence of the Research Management Profession in Australia

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Abstract

The creation of a Unified National System of Higher Education in Australia (https://en.wikipedia.org/wiki/Dawkins_Revolution) in the late 1980s resulted in many new universities and significantly increased research funding for the sector. The result was the emergence of the modern Research Management Office (RMO) and eventually the establishment of the Australian Research Management Society (ARMS) to support the development of research management professionals in the region; including Singapore, New Zealand, Pacific Islands, and Papua New Guinea. In 2013, ARMS launched an accreditation program to recognise and develop careers in research management. There are now more than 3,500 ARMS members with nearly 30% only having been in the profession for less than 5 years. The role of ARMS in helping Research Managers and Administrators (RMAs) redefine their roles and upskill is ever important in growing the profession and its leaders.

Keywords: Australia; Australian Research Management Society; ARMS; Research Managers and Administrators; accreditation

The Emerald Handbook of Research Management and Administration Around the World, 559–566

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The Australian Research Ecosystem

The end of the 1980s was a period of transformational change for higher education in Australia as the so-called Dawkins revolution of higher education resulted in a Unified National System of Higher Education. This Unified National System replaced a previous binary system of universities consisting of Institutes of Technology and Colleges of Advanced Education, and a smaller number of eight universities. The result was that many new universities formed (now 41 in total) as a result of the accreditation and merger of the former Institutes and Colleges. Higher education became more accessible; by 2018, more than 30% of the population held a degree or higher (up from 8% three decades before). New government funding for research in higher education was made available and there was a significant increase in the number of university researchers. This resulted in an intensified competition for peer-reviewed government research grants, and led to the birth of the modern Research Management Office (RMO) in Australia.

The Australian Government invests in research through a number of mechanisms such as competitive awards, contracts and tenders, block grants, and untied appropriations to higher education institutions and government and other research agencies. Examples include the government agencies, as well as bodies like the Lowitja Institute (Lowitja Institute, 2023), which is an independent indigenous health research entity. The Medical Research Institutes (AAMRI, 2023) also have a unique place in the Australian research and innovation system. Now numbering 58, these institutes are exclusively focussed on researching health outcomes and receive funding from the Federal Government and industry, as well as relying on philanthropic gifts.

A dual support system exists for Federal Government funding of research in Australian higher education institutions, consisting of Research Block Grants ($AUS 2 billion annually) and competitive research grant programs (approximately $AUS 3 billion annually). The former provides a base allocation that adjusts gradually over time and allows for strategic investment in research programs by universities. The latter is more responsive, rewarding merit and allowing the government to set a research agenda and priorities to which universities and research institutions can respond from year to year.

The Research Block Grants are allocated directly to eligible higher education institutions using a combination of performance metrics at an institutional level. The measures include the amount of competitive research funding granted over the previous two years and the number of students receiving doctorates and masters by research. These Block Grants are designed to help higher education institutions meet the indirect costs of their competitive grant research and to help build systemic research capacity.

Basic research is widely recognised as having an important role in Australia's innovation system for two key reasons. Basic research is a systematic study directed towards greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts, without specific applications towards processes or products in mind. First, conducting basic research ensures that there is diversity in the national research base and a capacity to expand into new and emerging fields of research. Second, conducting basic research may inspire researchers, including those in training, to create new knowledge and/or lead to novel research applications. The primary source of funding for basic research is the Australian Federal Government, through its two key agencies the National Health and Medical Research Council (NHMRC, 2023) and the Australian Research Council (ARC, 2023). Whilst the outcomes of basic research cannot be predetermined, researchers and administering organisations must still account for how the funding has been spent.

The ARC and NHMRC both award close to $AUS 1 billion of research funding annually, and rely on rigorous peer review in decision-making, even though it represents a significant investment of time and resources for all those involved. This is because the Commonwealth Grant Guidelines (Department of Education, 2023) require government funding processes to protect public money, by emphasising merit and 'value for money'.

Finally, the Australian Government contributes to the demand for research skills across the economy by directly stimulating business R&D investment and activity through R&D grants and taxation incentives. Without such government stimulus, there would be a greater risk of market failures, which in turn could discourage private investment in research (such as access to seed funding for innovative but high-risk projects), and reduce demand for, and utilisation of, research skills.

Evolution of the Profession in Australia

In late 1989, the Australian Federal Department of Employment, Education and Training (as it was then known) convened an inaugural meeting of Australian research managers in the national capital (Canberra) to outline government research policy and research funding arrangements. At the 1998 meeting, a group of research managers met and 'agreed to take responsibility for the profession' (Dibb-Leigh, 2007). If research managers were to be more than 'grant processes' and to add value to the research enterprise, they decided, they should take control of the annual gathering and set a broader agenda for the meeting encompassing strategic, political, and funding input from a variety of sources. It was also agreed that there would be a benefit of including a New Zealand perspective given they are a near neighbour with similar interests in the region (Dibb-Leigh, 2007).

The inaugural meeting of Australian and New Zealand Research Managers and Administrators (RMAs) was held in Adelaide in November 1999, and the Australasian Research Management Society (ARMS) was born. From the beginning, ARMS encompassed membership broader than the university sector including medical research institutes, government agencies, and national research organisations. Membership was international in nature with New Zealand having a separate chapter and delegates attending ARMS events from the US, UK, Denmark, Korea, South Africa, and Canada. In the later years, an ARMS Chapter was established in Singapore, with the Pacific Islands joining the New Zealand Chapter and Papua New Guinea the Queensland/Northern Territory Chapter.

Throughout the early 2000s, ARMS moved from a volunteer-based organisation to a contracted professional secretariat. This continued through until 2012 when ARMS appointed its first full-time Chief Operating Officer and support staff. The first ARMS strategic plan was developed in 2006 to guide the progress of this newly formed professional society and ensure financial sustainability and relevance to members and the broader research enterprise.

The Australian RMA Community

Many RMAs in Australia belong to ARMS, whose membership exceeds 3,500 across Australia, New Zealand, Singapore, Malaysia, and other nations in the Asia-Pacific region, as well as some from other countries. Members span from executive leaders of institutions to early career RMAs. There are also several formal and semi-formal networks and communities of practice that provide a platform for RMAs to network,

share ideas and learnings, and collaborate in specialist areas of research management and administration and/or institutional groupings – e.g. ARMS Special Interest Groups (ARMS, 2023a), Australasian Ethics and Research Training Networks (ARMS, 2023b).

In 2013, ARMS launched its Foundation Level Accreditation Program (ARMS, 2023c). To gain accreditation, candidates must complete five modules, each assessed by multiple choice questions, and a case study assessment. The three modules cover the Australian research landscape and the Australian legislature; understanding research and researchers is compulsory. The remaining two modules are chosen from a suite of 20 modules (ARMS, 2023d) encompassing a wide variety of issues confronting RMAs. ARMS also has Accreditation Programs at Established and Advanced Levels and has developed a Continuing Professional Development framework to enable those accredited to maintain relevant knowledge, implement good practices, develop careers, and mentor other RMAs.

Australian RMA Demographics

The 2019 RAAAP-2 (Kerridge, Ajai-Ajagbe, et al., 2022) and 2022 RAAAP-3 (Kerridge, Dutta, et al., 2022) surveys are used to inform this section.

More than 80% of ARMS members reside in Australia and work in a university, with the rest coming from independent medical research institutes, as well as government and public sector research agencies.

In Australia, the research management profession is dominated by women, although representation declines with seniority (83% women in operational roles compared with 72% women in leadership roles). In 2019, ARMS took measures to address this imbalance by releasing a Strategic Plan 'Towards 2025' (ARMS, 2023e), which aimed to optimise the uptake and delivery of education and professional development programmes to members and to foster the future leaders of the society.

At the entry level in the RMA profession in Australia, the average age is perhaps higher than one might expect, with 75% of those surveyed identifying in an operational role and over the age of 34. Identifying as an RMA early in your career is the exception in Australia, with many coming to the profession for the first time having already had some experience elsewhere. Often this is an administrative role in another part of the organisation, but increasingly RMAs have had some experience as a researcher themselves.

Not surprisingly, the average age of RMAs increased in more senior roles. Those in leadership positions were mostly (65%) over the age of 44. It seems that in Australia experience counts for a lot when RMA leaders are appointed. But it is difficult to know whether this experience was gained in the area of research management or from a satellite profession such as finance, legal, or human resources.

The 2019 RAAAP-2 survey of RMAs in Australia showed that 85% of those respondents in an operational role held a university degree qualification or higher. This is an exceptionally high percentage given that in 2019 only 28% of the population in Australia held a bachelor level degree (Statista, 2023). What is even more surprising is that more than 20% of those RMAs in an operational role had a doctoral degree, increasing to nearly 40% in a leadership position. This speaks to the notion that in Australia research trained professionals are not always going to find a long-term career in research. Job security could be one reason, but more importantly, the profile of research management has increased significantly in recent years through the advocacy work of ARMS in the Australasian region, raising the profile of research management as an alternative career pathway.

According to the 2022 RAAAP-3 survey, most respondents (29.9%) have been in the profession for 5 or less years. This is closely followed by those who have been in the profession between 5–9 years (26.2%) and 10–14 years (22.7%) (Fig. 5.17.1). It is interesting to note that even though a formal RMA community in Australia has existed via ARMS for close to 25 years, 56.1% of RMAs in Australia have only been in the profession for under 10 years. It is still a young profession, but one that continues to expand as people move across employment sectors and becoming an RMA becomes a conscious career choice.

For the following RAAAP survey data, an individual RMA may have had multiple responses to the same question.

Fig. 5.17.2 shows the detailed breakdown of the main reasons RMAs entered the profession. The two key reasons, as per the 2019 survey, are because the role

Fig. 5.17.1. 2022 Survey of RMAs in Australia by Period of Employment in the Profession.

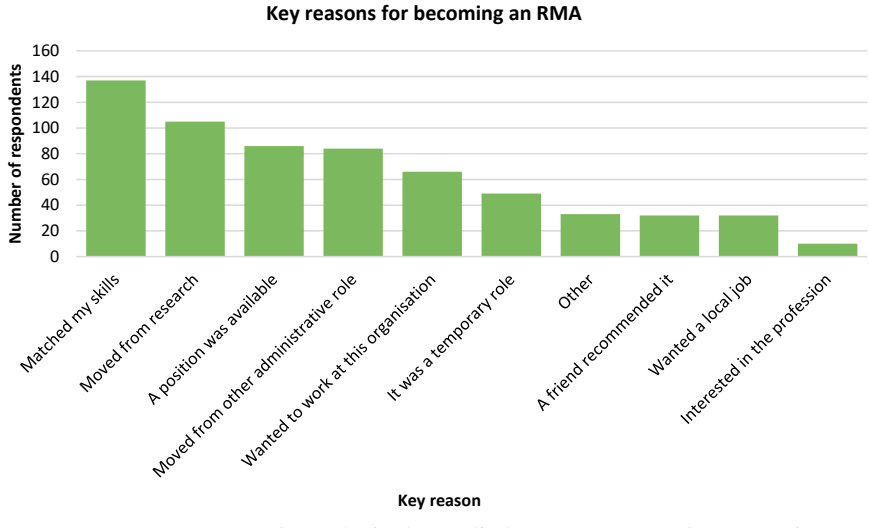

Fig. 5.17.2. 2019 Survey of RMAs in Australia by Key Reasons for Becoming an RMA.

matched their existing skill set and/or moved across from a researcher position. One would not find these reasons surprising, and it is highly likely that this would be similar in many other countries. Also, unsurprising is that interest in the profession scored the least number of responses. As mentioned above, RMA is still a young profession. But it is gathering momentum, especially in the tertiary, health, and medical sectors. With time, this could become one of the key motivators for entering the profession.

Fig. 5.17.3 shows the detailed breakdown of the main reasons RMAs stayed in the profession. RMAs often move within the work areas of the profession, across organisations, and/or even create new areas of work, but tend not to completely leave the profession. It is encouraging to see, as per the 2019 survey, that the top five reasons for staying in the profession are liking the challenging work, working with academic staff, job security, it is never boring, and it is a fun profession. These reasons indicate that the profession is moving in the right direction in terms of providing job satisfaction and creating an environment that will continue to attract and retain highly skilled RMAs.

Fig. 5.17.4 shows a detailed breakdown of the number of RMAs by their job description (2022 survey). RMAs can be in specialist or generalist roles, with the types of activity and level of seniority within these roles depending on a number of factors. These factors include organisational strategic directions, organisational structures, number of research/academic staff and research students (doctoral and masters), research support and services provided and corresponding volume of work, national assessments, external regulatory requirements, and others.

Most respondents identified themselves as Research Administrators (24.5%) and Research Managers (18.3%), with another 13.7% making no distinction and identifying as both RMAs. On the opposite end of the scale, there were Researchers (0.9%), Research Consultants (1.5%), and Professionals at the Interface of Science (1.8%).

A significant number (14.6%) did not identify with any of the roles presented in the survey. They indicated they are in the following areas related to the management

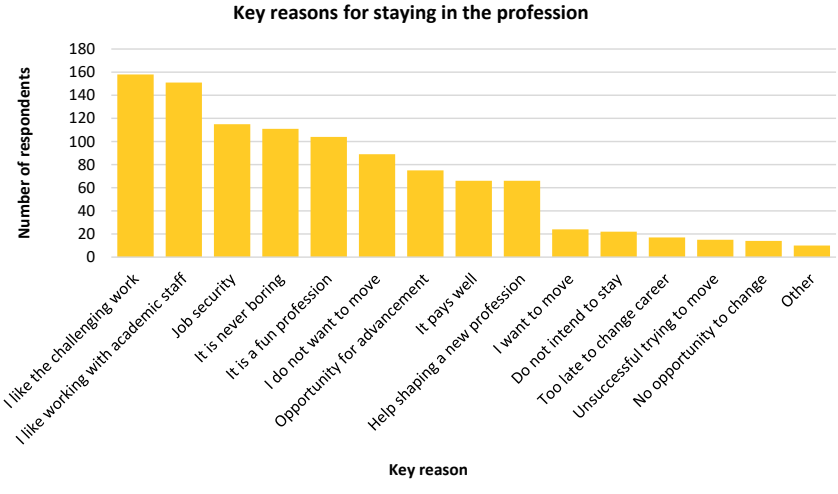

Fig. 5.17.3. 2019 Survey of RMAs in Australia by Key Reasons for Staying in the Profession.

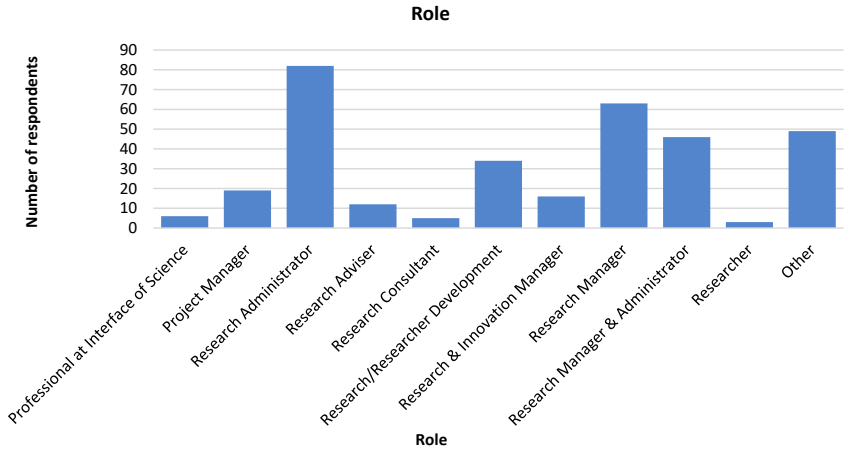

Fig. 5.17.4. 2022 Survey of RMAs in Australia by Role.

of research: business development; internal business partners; external engagement (industry, partnerships); data analytics and systems; information technology; finance; fundraising/philanthropy; research training/graduate research; grant and contract proposal development; leadership; project/program manager; legal; library; capability development; organisational development; knowledge translation and impact; due diligence and risk; ethics, integrity and compliance; strategy; communications; funder.

The eclectic nature of research management in Australia is clearly portrayed by the above figures and the corresponding narrative.

The Future of RMA in Australia

The future of the Australian RMA sector is and will continue to be impacted by the increased understanding and recognition of its diversity and the role RMAs play in influencing, enabling, and advancing research, globally. Much of this change has been shaped by the need to achieve research excellence and high impact in an extremely competitive and fast-moving world where nations constantly strive to address national and international challenges.

From being mostly grant administrators in the 1980s (Dibb-Leigh, 2007), RMAs currently work across the research lifecycle – from strategic development to translation and impact. The economic, medical, political, societal, environmental, and technological challenges that arose in recent years, are prompting the RMA sector to think more creatively on how to address and sustainably solve these challenges.

The authors believe that the future will see several changes to the RMA workforce profile, their skills, collective wisdom, and the ways they work. Increasingly, those who join the profession are likely to have doctorates and certifications from professional organisations. Bespoke positions will be established as the management of research activities and responses to national challenges and regulations become more complex. An increased number of RMA consultant groups, which include RMAs and ex-academic staff, will provide high-quality expertise to research institutions striving to enhance and extend their research portfolios.

As RMAs upskill, reskill, and redefine their work in the current digital boom, 'power skills' – the skills, often referred to as 'soft skills', that will successfully enable

RMAs to be collaborative, people-centric, creative, and agile – will play a pivotal role. RMAs will work in program-based, cross-skilled teams, also known as 'tiger-teams', across international borders to achieve excellence. Partnering with researchers on research projects, with First Nations People, and other diverse communities to solve communal challenges, and with other sectors to obtain shared benefits will become common practice. RMAs will also actively engage with their global peers to define best/next practices and grow the profession and its leaders.

References

AAMRI. (2023). *Association of Australian Medical Research Institutes.* https://www.aamri.org.au

ARC. (2023). *Australian Research Council.* https://www.arc.gov.au

ARMS. (2023a). *Special Interest Groups.* https://www.researchmanagement.org.au/special-interest-groups

ARMS. (2023b). *Networks.* https://www.researchmanagement.org.au/networks

ARMS. (2023c). *ARMS Foundation Level Accreditation Program (FLAP).* https://www.researchmanagement.org.au/arms-foundation-level-accreditation-program-flap

ARMS. (2023d). *What will I study?* https://www.researchmanagement.org.au/what-will-i-study

ARMS. (2023e). *Strategic plan.* https://www.researchmanagement.org.au/strategic-plan

Department of Education. (2023). *Commonwealth Grant Scheme (CGS).* https://www.education.gov.au/higher-education-funding/commonwealth-grant-scheme-cgs

Dibb-Leigh, J. (2007). *An historical account of ARMS* [Presentation]. ARMS Conference, Australia. Retrieved November 26, 2022, from https://www.researchmanagement.org.au/sites/default/files/uploaded-content/website-content/arms_origins.pdf

Kerridge, S., Ajai-Ajagbe, P., Kiel, C., Shambrook, J., & Wakefield, B. (2022). *RAAAP-2 datasets (17 linked datasets) (Version 1)*. figshare. https://doi.org/10.6084/m9.figshare.18972935.v1

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Lowitja Institute. (2023). https://www.lowitja.org.au

NHMRC. (2023). *National Health and Medical Research Council.* https://www.nhmrc.gov.au

Statista. (2023). *Share of population who hold a bachelor level degree or above in Australia from 1989 to 2022.* https://www.statista.com/statistics/612854/australian-population-with-university-degree

Chapter 5.18

The Profession of Research Management and Administration in Aotearoa New Zealand

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Abstract

Within Aotearoa New Zealand (NZ) research, funding is sourced from a wide range of NZ and international governments, industries, and philanthropic organisations. This chapter primarily focusses on NZ government public sector funding of research and innovation and the impact this has on research management and administration (RMA) in NZ.

Along with an increase in the number and range of NZ organisations that compete for research funding, there has also been an increase in the complexity and range of roles that need to be undertaken by those involved in RMA. The Future Pathways green paper, released by the Ministry of Environment, Innovation & Employment in October 2021, has signalled a redesign of the 'public' research system, which could lead to further changes in the roles and responsibilities of RMA.

Keywords: Aotearoa New Zealand; Ministry of Business, Innovation & Employment; research support; research management and administration; innovation; funding

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The New Zealand (NZ) Research Ecosystem

The Department of Scientific and Industrial Research (DSIR) was founded in 1926 by Ernest Marsden to support education and research. Competitive funding was introduced in the late 1980s followed by science sector reforms circa 1990 that saw the dissolution of the DSIR, separation of research policy and funding, and establishment of the Crown Research Institute (CRI).

Public sector funding of research and innovation primarily comes not only from business, science and innovation, and education budgets, but also from a range of other budgets including health, conservation, transport, primary industries, and social development. Since 2012, policy and funding functions are the responsibility of the Ministry of Business, Innovation & Employment | Hīkina Whakatutuki (MBIE[1]).

With responsibility for aligning Research, Science & Innovation (RSI) investment to the Government's goals, MBIE develops and delivers policy, services, advice, and regulation to support economic growth and the prosperity and wellbeing of New Zealanders. As the primary distributor of public good research funds, MBIE invests both directly via contestable and devolved funding mechanisms, and indirectly through other agencies.

For example, in the 2020/2021 financial year, the Minister of Research, Science and Innovation (Ministry of Business, Innovation & Employment, 2015[2]) was responsible for funding:

- Strategic Science Investment Fund[3] – supporting long-term programmes and scientific infrastructure for mission-led science to contribute to the economy, environment, and wellbeing, for example Tangaroa research vessel, nationally significant databases and collections.
- Endeavour Fund – investing in the highest quality, mission-led research proposals for areas of future growth and critical need.
- National Science Challenges – funding research projects to address issues of national significance.
- Partnered Research Fund – achieving greater connections between researchers and end-users.
- Catalyst Fund – improving international flows of people, ideas, investment, and trade through the support of international research relationships.
- Marsden Fund, via the Royal Society Te Apārangi, for excellent fundamental research, and a range of fellowship funds.
- Health Research Fund, via the Health Research Council, for improvement in health and wellbeing through health research.
- Business funding to successfully develop new and improved products, processes, and services through R&D, and technology-driven innovation, via Callaghan Innovation.[4]
- Regional institutes – to maximise the unique business, technology, and economic growth opportunities in their respective regions, via the Provincial Growth Fund.

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[1] https://www.mbie.govt.nz/science-and-technology/science-and-innovation/, the public funder for research that creates economic, social and environmental benefits for New Zealand.

[2] https://www.mbie.govt.nz/science-and-technology/science-and-innovation/funding-information-and-opportunities/investment-funds/strategic-science-investment-fund/funded-infrastructure/

[3] https://sciencenewzealand.org/about/new-zealand-science-systems/

[4] Established 2013 by the NZ government to support business Research & Development (R&D) and accelerate commercialisation in NZ.

The proportion of government ownership in NZ's science system through the CRIs is larger than in many OECD countries.[5] CRIs play an important role in supporting their sectors to innovate and grow. They undertake research to address NZ's most pressing issues and to achieve economic growth by improving sectors' productivity and improving the sustainable use of natural resources.

There are currently seven CRIs, each aligned with a productive sector of the economy or a grouping of natural resources. They are AgResearch, the Institute of Environmental Science and Research, NIWA, Manaaki Whenua – Landcare Research, Plant & Food Research, GNS Science and Scion.

Additionally, the Tertiary Education Commission |Te Amorangi Mātauranga Matua (TEC)[6] supports the tertiary and careers system to ensure New Zealanders are equipped with the knowledge and skills they need for lifelong success. It allocates a significant amount of research funding to tertiary education organisations (TEOs), through large competitive funds such as the Performance Based Research Fund[7] and Centres of Research Excellence Fund.[8]

Research managers and administrators (RMAs) are present in a range of institutions, including 8 Universities, 7 CRI, 23 independent research organisations [Te Pūkenga comprising 16 Institutes of Technology and Polytechnic (ITP) and 9 industry training organisation (ITO)], 3 Wānanga[9], funding bodies, Iwi and Māori businesses, independent consultants, and private sector companies.

Changes in the structure and role of research offices continue apace in response to changing priorities of government and funding agencies, which has led to the creation of new, specialist RMA roles including ethics, integrity, contracting, impact writing, and researcher development. Generation of economic, environmental, and social impact from research investment is also increasingly required by research funders. These new and evolving roles have required increased upskilling of RMA through conferences, accreditation, specialist professional training, e.g. law and project management.

Unique to NZ, partnerships with Māori, through co-design of research and innovation and honouring Te Tiriti o Waitangi[10] (the Treaty of Waitangi)[11] obligations, is a key Government focus and is intrinsic to the NZ research science and innovation strategy and science system. Māori have a special place in the research system as users and producers of research, as well as custodians, users, and producers of their unique body of mātauranga Māori (indigenous knowledge). As a Treaty partner, the government has a responsibility to ensure Māori research needs are addressed, Māori research aspirations are supported and new and traditional Māori knowledge is protected.

Evolution of the Profession in NZ

The formation of the Australasian Research Management Society (ARMS) in 1999 provided the opportunity for NZ RMAs to join an international association dedicated to the development of the profession, with representation through the NZ & Pacific

[5] https://sciencenewzealand.org/about/new-zealand-science-systems/
[6] Crown Agency that leads the Government's relationship with the tertiary education sector in NZ, including the management of PBRF.
[7] TEO fund for tertiary sector organisations via a four-yearly contestable fund.
[8] Inter-institutional research networks, where researchers work together on commonly agreed work programmes.
[9] Publicly owned tertiary institutions that provide education in a Māori cultural context.
[10] https://nzhistory.govt.nz/politics/treaty-of-waitangi
[11] https://www.archives.govt.nz/discover-our-stories/the-treaty-of-waitangi

Chapter. ARMS provides networking, training, and accreditation at various levels as well as an annual conference.[12]

In NZ, RMAs are usually designated as professional or support staff to differentiate them from academic, research, or technical staff. The designation 'Research Support' (RS) is used as a proxy for RMA, who are involved in the many facets of research management to enable a comparison of RS within NZ organisations. However, these numbers should be regarded as only an estimate, as other professional staff such as finance and human resources will most likely be included in CRIs but not necessarily in TEO RS numbers.

The number of RS staff in the TEOs is higher than in the CRIs; however, the percentage of RS to total staff is higher in CRI (Table 5.18.1).

The NZ RMA Community

Although ARMS membership (Fig. 5.18.1) is increasing, it represents only a small subset of RMAs in NZ as RMAs can attend the ARMS conference, events, and training without being ARMS members.

ARMS engagement in NZ has been challenging due to the distributed membership and low number of members outside of universities. Efforts to increase the engagement of members include the advent of NZ-specific training offerings such as Understanding Māori Data Sovereignty.

Within universities, the RMA community is also supported by the NZ University Research Offices (URONZ) group, which exists to increase collaboration and development of good practice. It includes a Directors' group that meets regularly, a conference for RS staff, and specialist working groups, e.g. a Contracts Working Group. Traditionally, the annual conference was only open to university staff, but from 2022 it will be open to RS from other organisations.

Table 5.18.1. Indicative RS 2021 Staff Numbers in TEO and CRI in NZ.

2021	Total Staff	RS Staff	% RS
TEO	43,685	2,275	5
CRI	3,757	490	13

Fig. 5.18.1. Changes in NZ & Pacific Chapter Membership in ARMS, 2015–2021.

[12] https://www.researchmanagement.org.au/about-arms-0

NZ RMA Demographics

Data from funding agencies, government ministries, and organisation websites have been used to provide a snapshot of the current situation regarding the NZ RMA workforce.

Size of the RSI Workforce by Sector and Occupation

The RSI workforce includes technicians, support staff, and researchers. The make-up of the workforce varies by sector (Fig. 5.18.2). Support and technical staff comprise approximately 43–46% of personnel involved in R&D in the business and government sectors and 13% in the higher education sector (Ministry of Business, Innovation & Employment, 2021a).

As noted earlier, the designation 'RS' is being used as a proxy for those involved in RMA to enable a comparison of RS within NZ organisations.

Universities (Table 5.18.2) with education and research as their key core business activities tend to have substantial central research offices providing core administrative services, sometimes with appointments out to faculty level. In contrast CRIs (Table 5.18.3), which are research-only organisations aligned with natural resource groups or productive sectors of the economy, usually have smaller central research administrative support teams, with research management functions dispersed to a variety of roles within their divisions (e.g. business development managers) or in other central corporate services (such as finance or project management).

The total number of RS staff in NZ TEO has increased (Table 5.18.2) from 2019 to 2021. This increase has been variable across ethnic groups (Fig. 5.18.3) and age classes (Fig. 5.18.4). While the number of RS who have identified as male has increased, this is still a very female dominated profession (Fig. 5.18.5).

Across the seven CRIs, there is widespread variation in the numbers of research support staff (Table 5.18.3). This is possibly due to what roles each individual organisation counts as RS. It is not possible to know from the available CRI data

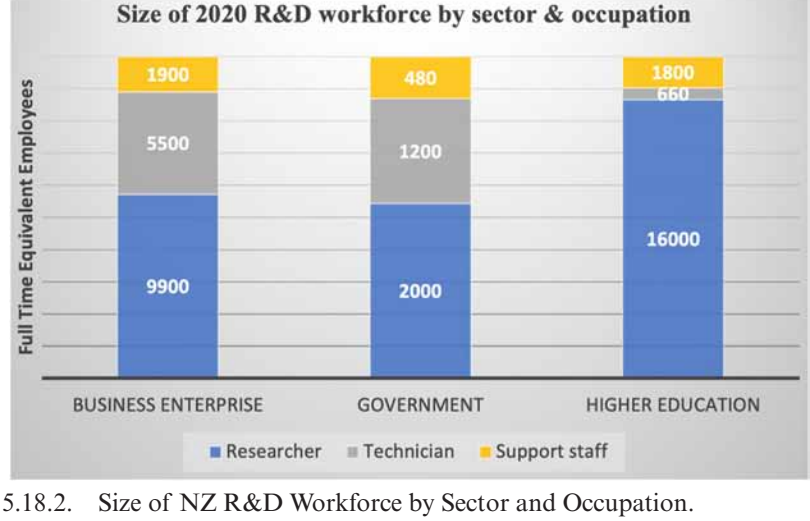

Fig. 5.18.2. Size of NZ R&D Workforce by Sector and Occupation.
Data Source: Stats NZ (n.d.).

Table 5.18.2. RS Staff Employed, or Contracted, in TEO, 2019–2021.

	Number of Staff			Full-time Equivalent Staff (FTE)		
	2019	**2020**	**2021**	**2019**	**2020**	**2021**
Annual Totals	1,680	2,010	2,275	920	1,145	1,190
Ethnic group						
European	825	970	960	460	570	545
Māori	85	130	170	45	70	90
Pacific Peoples	60	60	95	35	35	40
Asian	420	445	455	250	295	285
Other	125	125	115	65	80	65
Unknown	185	295	505	75	105	170
Age						
Under 30	705	835	910	305	385	370
30–49	730	850	970	440	530	555
50–59	165	205	230	125	150	165
60–64	55	70	80	40	55	55
65 and over	25	40	45	15	20	25
Unknown	5	15	40	0	0	15
Gender						
Female	1,090	1,260	1,425	595	725	745
Male	590	730	795	325	415	420
Another gender	nc	20	55	nc	5	25

Source: Statistics derived from information provided to the Ministry of Education by TEOs.

Notes: Staffing counts are submitted by providers for the full calendar year.
Data in all tables, including totals, have been rounded to the nearest 5 to protect the privacy of individuals, so the sum of individual counts may not add to the total.
Te Pūkenga – The New Zealand Institute of Skills and Technology (NZIST) was established in 2020 as part of reforms of vocational education and includes the previous 16 ITPs.
'nc' (not collected) indicates that providers were not asked to report staff numbers in this category in the given year.

if there have been similar changes in RS numbers, gender, or age over time in the different CRIs.

Increasingly, the requirement for RMA to have tertiary qualifications is becoming the norm. Given the wide range of roles and job descriptions of RMA, it is important to also appreciate that other qualifications such as project/financial/IP management or prior commercial/company experience can be very relevant.

The Future of RMA in NZ

In the author's experience, many researchers who work with RMAs value them for the professional and specialist expertise and advice they offer and also for the critical

Table 5.18.3. Staff Employed in NZ CRIs, by Designation, 2021.

CRI	Research	Research Support	General	Senior Leadership	All Staff FTE	Staff Headcount
AgResearch	408	166	73	10	657	722
ESR	265	59	88	8	420	497
GNS Science	279	68	69	7	423	442
Manaaki Whenua	250	37	68	9	364	408
NIWA	461	60	130	9	653	697
Plant & Food Research	648	92	161	7	908	988
Scion	239	8	78	7	332	356
All CRI	2,550	490	667	57	3,757	4,110

Source: Science New Zealand (2021).

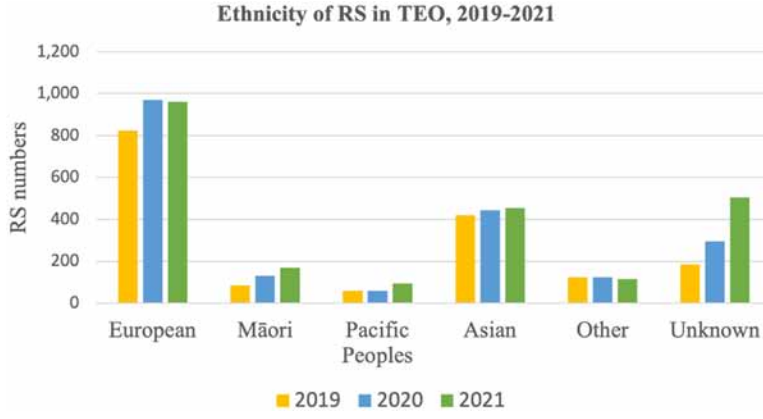

Fig. 5.18.3. Ethnicity of RS in TEO in NZ, 2019–2021.

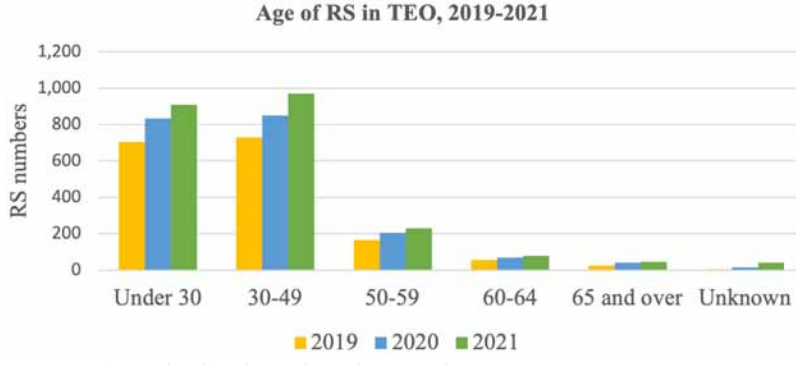

Fig. 5.18.4. Age Distribution of RS in TEO in NZ, 2019–2021.

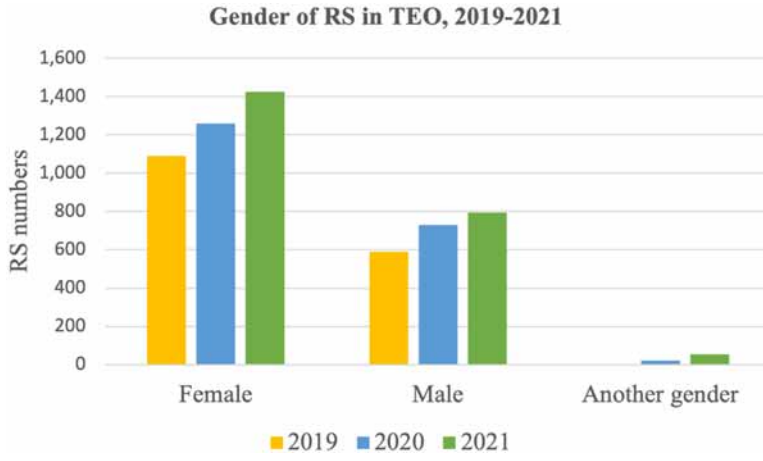

Fig. 5.18.5. Gender of RS in TEO in NZ, 2019–2021.

connector role they play throughout the life cycle of research programmes. This is both between researchers and other functions (e.g. finance, HR, business development, legal, etc.) within their own organisation and externally with stakeholders and other RSI organisations. With the increased emphasis on cost/benefit/impact, it is not just about the 'science' anymore. Expectations on research impact are driving wider skills RS requirements (e.g. for impact writers, communications, stakeholder engagement, etc.).

The roles of some RMAs will change with the increasing ethical, financial, and legal compliance requirements that are necessary to manage the larger collaborative larger programmes being funded in response to the changing nature of research and scale problems. Such programmes also create opportunities for 'centre manager' type roles (i.e. senior RMA external to research offices). This is already evident in National Science Challenges, Platforms, Centres of Research Excellence (CoRE).

Competitiveness among R&D providers for external income to support their respective organisations' research capabilities will increase as shown in the 2022 MBIE Endeavour Funding Round where 57% of the proposals submitted were from private/limited liability companies. The number of RMAs who are operating outside of research organisations and/or 'freelancing' with and for universities, CRIs, and other agencies is increasing. This pool of RMA consultants provides an essential workforce for organisations with fluctuating demands and needs and is changing the RMA 'market'.

In NZ, the R&D system is focussed on the upcoming potential redesign of the 'public' research system following the release of the Future Pathways green paper (Ministry of Business, Innovation & Employment, 2021b). The intent is to identify processes to better deliver on whole-of-system research priorities and potential mechanisms to support, develop, and fund the RSI workforce. It will embed the Treaty across the design and delivery attributes of the system, and enable opportunities for mātauranga Māori. Based on past experience with changes in the structure of RSI organisations and funding arrangements the author hypothesises that any 'redesign' resulting from the MBIE green paper will undoubtedly impact on RMAs as will the increased, and well overdue, requirement for co-creation of proposals with all stakeholders, including more involvement of Māori in kaitiaki roles for Māori specific engagement, IP management, and contracting.

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References

Ministry of Business, Innovation & Employment. (2015, October). *National Statement of Science Investment 2015–2025*. New Zealand Government. Retrieved November 26, 2022, from https://www.mbie.govt.nz/assets/2eaba48268/national-statement-science-investment-2015-2025.pdf

Ministry of Business, Innovation & Employment. (2021a, October). *The Research, Science and Innovation report – 2021*. New Zealand Government. Retrieved November 26, 2022, from https://research-scienceinnovation.nz/pdf/research-science-and-innovation-system-performance-report-2021.pdf

Ministry of Business, Innovation & Employment. (2021b, October). *Research, Science and Innovation. New Zealand Government*. Retrieved November 26, 2022, from https://www.mbie.govt.nz/dmsdocument/17637-future-pathways-green-paper

Science New Zealand. (2021, September 7). *Value of Crown research institutes in Aotearoa New Zealand's science system today*. A report for Science New Zealand. Retrieved November 26, 2022, from https://issuu.com/sciencenewzealand.org/docs/value_of_cris_in_the_nz_science_system_08-09-21

Stats NZ. (n.d.). *Research and Development Survey*. Stats NZ jointly with the Ministry of Business, Innovation and Employment (MBIE). Retrieved November 26, 2022, from https://datainfoplus.stats.govt.nz/Item/nz.govt.stats/4394653f-7947-487b-b0c7-dd48edb45822?_%20/nz.govt.stats/

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Central and Eastern Europe

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Chapter 5.19

The Profession of Research Management and Administration in the Baltic Countries: Estonia, Latvia, and Lithuania

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Abstract

All three Baltic countries – Estonia, Latvia, and Lithuania – share common features, similar history, and took similar steps to establish an external evaluation of their science base. Even though the three countries have similarities in terms of their geography, size, economic structure, development and demography, they demonstrate differences, for example Estonia is often considered to be ahead of Latvia and Lithuania in terms of the economy and development. So, do the Baltic countries share similarities or differences from the point of research management and administration?

Keywords: Baltic States; Lithuania; Latvia; Estonia; research management and administration; professionalisation; L-ARMA; RAAAP, ESIF

Research Ecosystem – Baltic States (Estonia, Latvia, and Lithuania)

Research Policy Formation

All three Baltic States effectively have been part of the Western European system for centuries and have traditionally had the benefit of good school and university systems.

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For example, Vilnius University in Lithuania, founded in 1579, and Tartu University in Estonia, established in 1632, are among the oldest higher education institutions in Europe (Ronk, 1998). However, the centuries of the changing geopolitical situation had stalled down the research and innovation progress, until a revival and new era of research innovation from 1991.

Estonia, Latvia, and Lithuania took similar approaches to evaluate their science bases after the collapse of the Soviet Union. In 1991, the Estonian Science Foundation applied to the Royal Swedish Academy of Sciences and the Swedish Research Councils with a request to carry out a thorough evaluation of Estonian science. The Danish Research Council carried out a similar evaluation in Latvia in 1992, and the Research Council of Norway conducted an evaluation of Lithuanian research (Allik, 2003). In all three cases, the evaluations were relatively benevolent, partly due to the evaluators' surprise in finding high competence and good research at least in some areas of science.

The rise of the research competences in all these three post-soviet countries was not even. By 2002, Estonian scientists produced the largest number of high-impact papers (4,429) and also received the largest number of citations (22,274); the impact factor was highest in Estonia (5.03) followed by Lithuania (3.97) and Latvia (3.52) (Allik, 2003). Most significantly, neither Latvia nor Lithuania was able to produce high-impact research in social sciences. Nevertheless, when comparing the research output in 2019 to the research output in 1993, large differences are observed by country: Lithuania was the leader with a 1522% increase in the research output, followed by Estonia (842%) and Latvia (336%) (Chankseliani, 2021). By 2019, Estonia was ranked 13th in the EU in terms of scientific impact (9.99% of authors were involved in the top 10% of the world's most cited publications) and by 2021 there was a stark difference between three Baltic countries with Estonia leading in high-impact publications.

Even though the research intensity and quality in three Baltic countries over the last 30 years has been improving (increasing number of publications, international collaborations, external funding), the correlation between the research intensity and innovative performance has not materialised yet. Those EU countries which are leaders in innovation have, on average, a research intensity close to, or above, 3% country's GDP; they are also the most advanced in terms of their transition to green and digital economies – as of now Estonia, Latvia, and Lithuania are well below reaching the target (Soete et al., 2021). In 2020, R&D expenditure per GDP in Estonia was 1.792%, followed by Lithuania 1.155% and Latvia 0.702%.

Public Research Funding

In all three countries, research and development is mainly carried out by universities and other public and private sector education and research institutions.

Research in Estonia is primarily financed on the basis of quality competition. Financing comes mainly from the state budget; but also from companies, foreign funds (mainly the EU's Framework Programmes for Research and Innovation, and other EU initiatives). The Estonian Research Council (ETAg) is the main body responsible for the funding of R&D, also supporting researchers' mobility and external cooperation offering various types of grants. Estonia is holding a very good position within the EU in view of its successful participation in Horizon 2020. If we compare the proportion of the awarded funds to a country's GDP, Estonia exceeds the European average 2.5 times (Research in Estonia, n.d.).

In contrast to the Estonian success is Latvia. According to the European Commission's '2020 European Semester' assessment, Latvia invests little in research and

innovation and faces a shortage of researchers. In 2018, Latvia invested 0.64% of GDP in research and innovation, which was among the lowest in the EU. Moreover, the investment is highly dependent on EU funding and has not noticeably increased for more than a decade. The serious underfunding of the system hinders its effectiveness and its attractiveness to researchers, especially early career researchers. Moreover, the system suffers from governance fragmentation.

On the positive side, Latvia has a vibrant start-up community, which boosts its innovation output somewhat against a backdrop of rather weak performance on other fronts. From July 2020 the Latvian Council of Science (LCS), became an institution of direct administration under the supervision of the Minister for Education and Science and is responsible for science and technology development policy, ensure expertise, implementation and supervision of research programs and projects financed from the state budget, as well as from the European Union structural funds and other foreign financial instruments delegated in regulatory enactments. However, the continued reforms, low numbers of researchers coupled with low R&D investment meant that in H2020 framework programme country's participation was the lowest out of all EU member states (Horizon 2020 Key Figures, n.d.).

On the one hand, we have Estonian research success and on the other Latvia's reforms hindering R&I development. Lithuania sits somewhere in the middle with only one research funding agency. According to 'Science for policy ecosystems in Lithuania' (2021) report, the Research Council of Lithuania is an important actor, which fulfils the role of the expert institution tackling the challenges of the development of science at the national level. It implements programme-based competitive funding of research, administers the most important Lithuanian science development programmes, evaluates research performance and represents Lithuanian science in various European and other international organisations. However, more general directions of the research funding policy are decided by the Ministry of Education, Science and Sport. The Research Council of Lithuania acts as an important mediator between state institutions and researchers, who can provide research-based policy advice on the policy issues considered important by governmental institutions as well as provides national funding (Vilpišauskas, 2021). Even though at the national level Research Council of Lithuania is playing an important role, it does have an impact on the performance of the framework programmes – in Horizon 2020 participation Lithuania was not far off from Latvia – 27th out of 28th place for received funding.

Even though all three countries have faced the same challenges after the collapse of Soviet Union and have made a significant effort to break away from the previous Soviet structure of science, there is a clear evidence that Estonia's research ecosystem has developed furthest. Latvian and Lithuanian governments and institutional bodies could learn from the example of Estonia on having a clear strategy and focussing on international funding and moving away from structural funds, attracting international researchers and by investing in R&D activities.

Evolution of the Profession

The slow national investment in research and innovation means lower participation rates in European framework programmes, lower success rates, lower knowledge and in return slow development of research management and administration culture.

Research Management and Administration as a profession has not officially been recognised in Baltic countries, anecdotally, the majority of the administrative staff in the institution have been doing a variety of different tasks and research development

support is a minor part of the role, mostly in a reactive capacity. However, there are signs of change in some more progressive institutions, especially the ones relying on external funding to support their operations and research.

The Latvian Institute of Organic Synthesis is one of the institutes which undertakes R&D activities mainly from external funding (European Structural and Investment Funds, European funding and private funding). Dace Kārkle, Deputy Director of Administration, Finance and Law, started working at the institute in 2004; she was the only person who supported grant development, with the funding received from structural funds (ESIF). Since then her team has evolved and nearly two decades on, there is a separate Grants Office with research managers in roles that cover pre- and post-award research management. Research managers support grant development, help to prepare the budgets, fill in administrative forms and manage the projects if they are successful. All Latvian research institutions have someone working in pre- and post-award roles, however, the roles are not necessarily defined as such, but the functions would be the same. The job titles might range from project officers, research support, to grants officers. According to Dace Kārkle, the evolution of research management support has started with introduction of the structural funds in the country, when the need to administer highly complicated funding mechanism became an important part of every institution's income stream and ecosystem.

The evolution of RMA is very similar in Lithuania. For example, at Vilnius University, there are clearly defined structures supporting national and international funding, as well as individual faculties have their own equivalents of research managers, mainly administrators or part-time PhD students, who are taking on small roles of research administrators. Currently, the central Research Projects Division has over seven FTE providing pre-award support for national and international funding (mainly EC framework programmes).

According to Anzelma Useliene (Head of Research Projects Division), the start of the early 2000s have seen the development of research management, nevertheless the people supporting projects were very much focussing on research finance (financial reporting, project budget management, accounting). Only in the second half of 2010s, has the university started gradually hiring people who would be able to advise on grant development, or rather roles evolved with the hiring of international researchers, who have expected a certain level of pre-award support. Even though the current decentralised system of the research management support at the Vilnius University has its own challenges (uneven support for the researchers across different departments), there are some opportunities as departments can choose the level of investment they want to make in the RMA structure. For example, Faculty of Philosophy or Institute of International Relations and Political Science have a number of dedicated part-time RMAs supporting research development (pre-award) and this is reflected in a number of submitted applications and awarded projects for the Horizon Europe Programme.

Another institution in Lithuania, Kaunas University of Technology (KTU), leads in attracting (H2020, Horizon Europe) framework programme funding. Historically, research and research project management activities were carried by the different units at KTU. Based on experience and observations at leading European institutions, a strategic research support reform, initiated by Vice-Rector for Research and Innovations at the time, took place at KTU in 2017. Since the support for the researchers' activities related to research and innovation grant development and project management was provided by the team of the Research and Innovation Projects Centre at KTU. Eventually, the number of professional research project managers at the Centre has grown from two to six and the bigger team provides tailored training and workshop sessions as well as consultations. In accordance with Vilma Karoblienė, Head of

Research and Innovation Projects Centre, the continuous professional learning and capacity building of managers and researchers in the field of research grants preparation and projects management, drives to sustainable, ambitious and leading research projects management culture at KTU.

As with two previous cases, there is no definitive date when research management can be said to have evolved in Estonia. However, according to Taivo Raud (Head of Grant office, University of Tartu) the *pre*-pre-award stage in Estonia strategically has started in the early 1990s. With a support of the ministry and group of universities, the international partnerships were being forged with universities outside of Estonia, mainly Scandinavian countries. This strong relationship building early on led to strong research collaborations and success in EU framework programmes. The University of Tartu participated in 174 projects in the European Union's Horizon 2020 framework programme and raised 60 million euros, thus being the most successful research institution in Estonia (University of Tartu, n.d.). The success in international funding as well should be attributed to the growing number of research professionals supporting the grant applications. In 2017, the University of Tartu established a Grants Office, with clear pre- and post-award functions, and expert grant officers dedicated just to grant writing. Moreover, the research management professionals are encouraged to move around, i.e. work in different academic departments and take up various roles (pre- and post-award), this enables research managers to grow and better understand the full research development process.

There are very clear signs of evolution of the profession in all three Baltic States, however it is happening at different speeds and still in relative isolation, each institution tends to develop their own frameworks and support mechanisms depending on what type of support is needed. The Horizon Europe financial mechanisms like WIDERA topics (Twinning, Teaming, ERA Chairs), which have a focus on capacity building in research management, is strongly encouraging research management capacity development is another way to speed up an evolution of research management in the Baltic nations.

Current Community

Even though the evolution of research management is disjointed, there are clear signs of the development of communities. In Latvia and Estonia, research managers have informal meetings, exchange information, and share best practices. Similarly in Lithuania research managers and administrators have started meeting up online during the COVID-19 pandemic. The meetings have been initiated by the Lithuanian Research Development and Innovation Liaison Office in Brussels (LINO), first meetings were attended only by the heads of departments. During each meeting, a different topic has been presented followed by Q&A. In June 2020, an un-official association of research managers and administrators has been established in Lithuania called L-ARMA, which has nearly 80 members. The members of the group include National Contact Points (NCPs), RMAs, tech-transfer officers, financial officers, and heads of research departments. The group meetings are taking place once every 4–6 weeks with invited guests from within and outside Lithuania.

Demographics

The typical RMA from the Baltic countries could be described as a 35–44-year old female, who has been working in the central research office between 5 and 15 years. She has been employed in a permanent position in a public higher education institution,

most likely a research-intensive university, and identifies herself as a research manager. She likely has masters in the Social Sciences and Humanities (SSH) and is supporting project development in the similar field of science; based on RAAAP-3 data, Kerridge, Dutta, et al. (2022).

The research management community in the Baltic States goes beyond the higher education sector and covers hospitals, research institutes, regional authorities, and funding bodies. However, not everyone describes themselves as research managers and administrators, because the term is not used widely, even though they are carrying on research management tasks. This makes it difficult to monitor the increase in RMA professionals across the sectors as the job roles are not standardised and there are no formal associations being established across countries that could undertake the monitoring.

According to RAAAP-3 survey respondents' data in Baltic countries ($n = 13$), we could infer that 100% of the RMA community is female, which would not be entirely true. However, this small snapshot gives a glimpse of the gender bias profession across all three countries, with most leadership and administrative roles being led by female RMAs. In all three countries, most of the RMAs are nationals working in their national language, however increasingly events/workshops are run in English due to the growing number of international researchers at the research-intensive universities, hence fluency of English is a necessary skill when applying for the research development roles, which support framework programmes.

The snapshot of the survey data suggests and confirms the global trend, that most of Baltic RMAs have an academic background at master's or PhD level. In some of the institutions, for example, Vilnius University Lithuania, there are PhD students working as RMAs at a departmental level alongside studying for their PhD. The combining of roles is normal and a common occurrence.

It is hard to say if there are a growing number of RMAs with doctoral degrees. However, with only a few academic positions and precarious working conditions, it would not be a surprise if in few years we would observe a trend of RMAs with PhD degrees, particularly in the STEM field, choose to work in research development instead of academic fields. Again, the RAAAP-3 data suggest that most RMAs background mirrors the kind of research they support leading to the high quality of service.

Most RMAs have been employed less for than 15 years, this can be traced back to the transformation of research support and systems, increased internationalisation and need for administrative support when applying for ESIF funding and framework programmes.

As previously mentioned, the profession of RMAs in Baltic countries is not well defined, so research support departments will have varying names across institutions and departments, as will RMAs. This can be illustrated, when asked how they identify themselves, the answers included: professional at the interface of science, research administrator, research and innovation manager, research manager and administrator. When asked if they would recommend RMA as a career the split was pretty much evenly between 'yes' and 'it depends'. The RMA profession provides flexibility, however the lack of career progression and capped salary scales might make some RMAs reconsider their options.

The profile of RMA in Baltic countries is still evolving, however it has all the main attributes of RMA in the UK or other countries with advanced RMA communities. Not surprisingly, as best practice examples at institutional and individual levels are being adopted through exchange visits, attending EARMA conferences, peer-training with colleagues from other countries. RMAs in Baltic countries are very adaptable, proactive, and eager to support their communities of academics, and by having this attitude and mentality there is a strong indication for the growth of the profession.

Summary and Future Directions

The future of research management and administration in Baltic countries looks positive. Increased pressure to obtain international funding leads to an understanding that researchers/academics/innovators cannot do everything themselves and they need trained professionals, who understand the funding landscape and can help with project management. However, in Lithuania and Latvia, there is a greater need to focus on the support from leadership at institutional and national levels in recognising research management as a profession and not only as an administrative role in an institution. Even though the three countries share common features, in terms of research management, Estonia is the country leading the way and direction of the profession in the Baltics.

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Vilma Karobliene (Head of Research and Innovation Projects Centre), Kaunas University of Technology, Lithuania.

References

Allik, J. (2003). The quality of science in Estonia, Latvia and Lithuania after the first decade of independence. *Journal of the Humanities and Social Sciences, TRAMES*, *7*(57/52), 40–52.

Chankseliani, M., Lovakov, A., & Pislyakov, V. (2021). A big picture: Bibliometric study of academic publications from post-Soviet countries. *Scientometrics*, *126*, 8701–8730.

European Commission. (2020). *2020 European Semester: Assessment of progress on structural reforms, prevention and correction of macroeconomic imbalances, and results of in-depth reviews under Regulation (EU) No 1176/2011* (p. 6).

Horizon 2020 Key Figures. (n.d.). *Latvia*. https://webgate.ec.europa.eu/dashboard/extensions/CountryProfile/CountryProfile.html?Country=Latvia

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Research in Estonia. (n.d.). *Facts and figures*. https://researchinestonia.eu/research-landscape/facts-and-figures/

Ronk, T. (1998). *The Baltic States. World Science report* (p. 119). UNESCO Publishing.

Soete, L., Schwaag Serge, S., Stiern, J., & Hollanders, H. (2021). *European Union. UNESCO Science report: The race against time for smarter development* (p. 284). UNESCO Publishing.

University of Tartu. (n.d.). *International research collaboration partnerships*. https://ut.ee/en/node/113889#:~:text=The%20University%20of%20Tartu%20participated,successful%20research%20institution%20in%20Estonia

Vilpišauskas, R. (2021). *Science for policy ecosystems in Lithuania*. Discussion papers commissioned by the European Commission's Joint Research Centre (JRC). https://knowledge4policy.ec.europa.eu/sites/default/files/Science%20for%20policy%20ecosystems%20in%20Lithuania_JRC_Discussion%20Paper_2021.pdf

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Chapter 5.20

RMA in Belarus: Not Yet a Full-Fledged Profession But an Important Part of R&D Activities

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Abstract

The chapter presents an overview of the state of Research Management and Administration (RMA) in Belarus. The country enjoys sound traditions in basic and applied research in some areas relevant to its economy, particularly in science, technology, engineering, and mathematics (STEM). The current science, technology, and innovation (STI) policy is focussed on the commercialisation of domestic research and development (R&D) results and the effectiveness of the national STI system.

The majority of competitive budget funds are allocated within different types of programmes that support R&D and innovation. Formal RMA positions exist at the programme level and are based in research centres, universities and companies being grounded on a solid legal basis. Roughly 150–250 people within 50 legal entities are directly involved in RMA. At the project level, the RMA activities are either combined with scientific supervision or informally distributed within the project team.

A possible increase in overall R&D expenditures in the country, the eventual enlargement of the scope of publicly supported STI projects and their collaborative

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nature, as well as their internationalisation and widening of international cooperation may significantly increase the demand for RMA professionals.

Keywords: Profession; Belarus; RMA; Research Management and Administration; State Committee on Science and Technology (SCST); lead executing organisations (LEOs)

The Research Ecosystem in Belarus

Belarus gained independence in 1991 after the collapse of the Soviet Union. Today, it is an industrialised country with an open, export-oriented economy. Recent independent international assessments highlight that the past couple of decades were marked by a relatively high economic growth and an expanding ICT services sector, fuelled in part by reforms that increased openness and macroeconomic stability. The private sector, especially in regard to innovation, is hamstrung by the dominance of state-owned firms, burdensome regulations and ambitious but, at the same time, inefficient support mechanisms. Belarus has a highly educated population and a skilled workforce, a strong tradition in fundamental and applied research in several important fields, as well as a relatively diversified economy with a strong international position in ICT and pockets of excellence in manufacturing (United Nations Economic Commission for Europe, 2021). Such assessment is also corroborated by other international benchmarks: Belarus takes 53rd position in Human Development Index (2020), 32nd – in the ICT Development Index (2017), 47th – in the Competitive Industrial Performance Index (2020), etc. In the Global Innovation Index, Belarus occupies 62nd place (2021); although it performs below the European average in all pillars, some notable achievements were recorded in the pillars 'Knowledge and Technology Outputs' (e.g. ICT services exports, ISO 9001 quality certificates) and 'Human Capital and Research' (tertiary enrolment, graduates in science and engineering).

The national science and technology policy, on the one hand, promotes research as a systemic basis for the generation of knowledge, the development of advanced technologies, the introduction of innovative models of economic growth, and also as an integral component of ensuring sovereignty and national security. On the other hand, the country's priorities reflect the global scientific trends, boost the competitiveness of the national economy and its businesses, and satisfy the interests of the society and the state. By doing that, Belarus mainly relies not only on domestic resources, competencies, and scientific reserves, but also on international cooperation (NASB, 2018). For instance, in 2021–2025, the key task of the State Programme of Innovative Development of Belarus is to promote the priority development of technologies, goods, and services corresponding to Industry 4.0, as well as export-oriented technologies, goods, and services, in particular, through priority financial support.

The most important decisions in science, technology, and innovation (STI) policy are taken at the level of the Government or the President of the country while their implementation is delegated to the State Committee on Science and Technology (SCST).[1] SCST is ranked as a ministry for S&T and, in performing its functions, it closely cooperates with the Ministry of Economy, Ministry of Education, Ministry of

[1] https://www.gknt.gov.by/, Belarus public body that coordinates implementation of the state STI policy.

Industry and other line ministries, as well as with the National Academy of Sciences of Belarus (NASB).[2] The role of NASB is quite unique: apart from being the largest and most important public research organisation of umbrella type in Belarus, NASB also coordinates basic and applied scientific research carried out by all public scientific organisations in the country regardless of their location and subordination.

The draft public R&D budget is designed and monitored by SCST on the basis of proposals by the NASB and the line ministries. For more than a decade, total R&D expenditure in Belarus has stayed at the level of 0.5–0.7% GDP and, despite the intentions of the government to raise them, there are no signs at the time of writing for an increase in the years to come. In 2019, public spending accounted for 44% of the total R&D expenditure and the rest was contributed by the business sector.

In contrast with most of the European countries, universities are not major R&D players in Belarus: in 2019, the share of higher education institutions (HEIs) in the total domestic R&D expenditures and in R&D was just slightly above 10%. Therefore, Research Management and Administration (RMA) in Belarus cannot be regarded as an exclusive prerogative of the universities. Although RMA is present in some leading HEIs, the major role in this process belongs to NASB, the sectoral research institutions and the business entities (see below).

The crucial point for understanding the scope of RMA activities in Belarus is the fact that the largest share of gross domestic expenditure on research and development (GERD) is distributed within the national STI programmes. Currently, there are two main types of programmes that support R&D: one is the State Scientific Research Programmes[3] (SSRP) which funds basic research in selected scientific areas and to some extent the applied research, while the second is the Science and Technology Programmes[4] (STP) which mainly supports experimental technological development for further commercialisation or meeting the societal needs. The STP is organised and implemented at three levels: national (the so-called State Science and Technology Programmes or SSTP,[5] which are the most relevant for the study), sectoral (Branch Science and Technology Programmes or BSTP[6]), and regional (Regional Science and Technology Programmes or RSTP[7]). SSTP are organised in accordance with the national STI priorities, so they are thematic by nature and annually fund dozens if not hundreds of projects selected on a competitive basis.

For basic research, there are also several schemes that fund single projects, such as, among others, projects implemented by young researchers or in collaboration with foreign partners. All of them are operated by the Belarusian Republican Foundation for Fundamental Research.[8] Similarly, there are separate funding organisations, programmes, and financial schemes that support single commercialisation and

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[2] https://nasb.gov.by/, the largest R&D centre in Belarus that unites over 100 legal entities, including research institutions and production companies.

[3] https://www.gknt.gov.by/deyatelnost/gosudarstvennaya-ekspertiza/gosudarstvennye_programmy_nauchnykh_issledovaniy/

[4] https://www.gknt.gov.by/deyatelnost/nauchno-tekhnicheskaya-politika/nauchno_tekhnicheskie_programmy_nauchnoe_obespechenie_gosudarstvennykh_programm/

[5] https://www.gknt.gov.by/deyatelnost/gosudarstvennye-nauchno-tekhnicheskie-programmy.php

[6] https://www.gknt.gov.by/deyatelnost/otraslevye-nauchno-tekhnicheskie-programmy.php

[7] https://www.gknt.gov.by/deyatelnost/regionalnye-nauchno-tekhnicheskie-programmy.php

[8] https://fond.bas-net.by/ is the Belarus national public research funder for individual basic research projects.

technological modernisation projects, including those which are based on the results of SSRP and STP.

SCST, which, among other tasks, is responsible for promoting international STI cooperation, provides funding for Belarusian partners in bilateral projects via the joint calls for proposals that it runs in collaboration with counterpart ministries and agencies of foreign countries. In contrast to the common practice to support international mobility, Belarus mostly provides funding for R&D activities.

The core of the national research ecosystem comprises 25.6 thousand people engaged in R&D in 445 legal entities. 90 of the latter belong to the public sector, 71 – to HEIs and 283 – to the commercial sector. In 2021, the total number of researchers was 16,300, and the number of PhD students was 4,700 (National Statistical Committee of the Republic of Belarus, 2022).

Current State and Scope of RMA

Studies on RMA in Belarus are not publicly available, at least to the best of the author's knowledge. Therefore, this chapter cannot rely on desk research and presents just some observations of the author supported by several informal interviews with people involved in RMA at NASB and local universities.

In Belarus, formal (permanent) RMA positions exist only at the level of national STI programmes while at lower levels the notion of RMA as such is not used. The activities that conventionally fall under the definition of RMA are usually referred to as 'academic and organisational support for research programmes'. Presenting RMA as a scientific activity (which is not by its nature) can be explained by the fact that such a description facilitates the funding of such jobs from the budget of programmes supporting STI. In addition to that one should not ignore the fact that within the scientific community RMA positions do not command the same respect as research positions.

Given these specificities, one could assume that by analysing the STI programmes in terms of their setting, management, and coordination, one can approximately assess the scope of RMA.

In 2016–2020, the latest closed programme cycle, 12 SSRP and 38 STP were completed of which 39 came to an end in 2020 (Table 5.20.1).

For each programme, a 'lead state client' (LSC) and a 'lead executing organisation' (LEO) are defined as the first step of the project. While the role of a LSC, which is usually held by a line ministry, regional authority or NASB, is more or less similar to the one of a programme owner, the category of 'LEO' is quite specific and could be explained by differences in the overall organisation of STI management in Belarus compared to some other countries. In most EU member states, the design and implementation of the state STI policy is usually shared between a ministry that is a policy-maker and an agency that serves the needs of this ministry (or several ministries) in terms of policy implementation (including the management of the programmes the ministry owns). In Belarus, these two functions are not divided and the agencies as interim bodies between the programme owners and the R&D players are missing. Therefore, the RMA at the programme level is entrusted by LSC to one of the R&D players which, in addition to implementing R&D projects within the programme, takes over the administrative responsibilities.

Often there are more than one LSC per programme. If a programme includes sub-programmes, the LEO is nominated at the sub-programme level. For each sub-programme, there can be more than one LEO. In some cases, one legal entity performs LEO function for more than one (sub)programme.

Table 5.20.1. Number of Public Programmes Supporting R&D and Projects Within Them.

Programme Type	Number of Programmes		Number of Projects Within a Programme	
	2020	2016–2020	2020	2016–2020
SSRP	12	12	1,276	n/a[a]
STP, of which	27	38	544	1,151
SSTP	*16*	*17*	*410*	*891*
BSTP	*10*	*17*	*133*	*256*
RSTP	*1*	*4*	*1*	*4*
SSRP + STP	**39**	**50**	**1,820**	**appr. 4,400**

Source: SCST and NASB (2021) and the author's estimations.

[a]Data on the total number of projects implemented within SSRP in 2016–2020 are not available; however, the annual average for the period is 1,310 projects.

The legal basis for RMA in SSRP and STP is well elaborated. For instance, in the case of STP, in line with the Rules for Procedure for the Development and Implementation of STP (Council of Ministers, 2005), RMA is carried out by LEO in the form of a project that is part of the programme. The aim of the project is to ensure academic and organisational support for the programme implementation that includes the following activities:

- carrying out technical and economic analysis of the implementation of projects ('tasks') within the programme;
- summarising and drafting of documents and reports related to the planning, implementation, and adoption of the results of the projects;
- developing consolidated reports on the implementation of a programme;
- organising S&T conferences and exhibitions (based on an agreement with SCST); and
- promoting the results of the programme implementation through publications and other dissemination activities.

Up to 3% of the state budget contribution to the programme budget can be provided to finance RMA activities.

The tasks and functions of LEO have been further detailed in the Regulations on the Lead Executing Organisation of the State (Regional, Branch) STP (SCST, 2005). In particular, a LEO:

- takes part in the programme design;
- organises a call for proposals within the programme jointly with the LSC;
- participates in the ranking of submissions and selecting winners;
- concludes contracts for implementing the projects within the programme;
- submits to the LSC information on the amount of funding allocated for the implementation of each project of the programme;
- prepares proposals on the scope of work within the programme and the annual request for funding from the state budget for the next financial (budget) year;
- coordinates and controls the activities under approved projects;

- develops proposals for introducing changes and amendments to the programme;
- takes part in the assessment of the projects' results; and
- performs dissemination activities, etc.

In line with the contract with the LSC, the LEO is responsible for:

- ensuring that the goals of the programme are fully achieved;
- ensuring the complete and timely implementation of the projects in accordance with the contracts concluded with the executing organisations, and the project commitments under extrabudgetary funding in the case when such exists;
- targeted and efficient use of budget funds allocated for the implementation of the programme;
- ensuring compliance of the resulting S&T products developed within the projects with the approved technical specifications; and
- timely transfer of the results of completed projects to the LSC and relevant manufacturing companies for their uptake in production, etc.

The SCST Regulations (SCST, 2005) state that the role of the LEO can be delegated to a research, development, experimental, and technological or production organisation subordinated to the programme LSC that automatically limits the circle of potential LEOs to public research organisations, including universities, and to the state-owned companies. Exemptions are possible for R&D players and HEIs that are not subordinated to LSC but are competent in the respective programme area. In principle, this provides room for outsourcing RMA to the private sector and leaves a chance for developing appropriate services on a professional basis. However, in reality, such an exemption is rarely applied, and on the contrary, there is a strong interdependence at the LSC – LEO level.

In the start of the 2021–2025 programme cycle, 36 unique organisations implemented RMA in SSRP and 30 in SSTP. Due to the nature of the programmes, in the first case almost 80% of the LEOs are public non-profit research organisations and universities, while in SSTP the picture is the opposite: in the majority of cases, RMA is actually done by the business sector (Table 5.20.2). The 'Other' category includes a variety of legal entities starting from big production companies to the so-called 'research & production centres' within NASB and sectoral research institutes that have a legal status of 'republican unitary enterprise'[9] and perform some business (for-profit) activities.

The majority of LEOs implement RMA for just one (sub)programme. At the same time, 17 LEOs cover simultaneously SSRP and SSTP. For instance, the Institute of Microbiology of the NASB is currently nominated as LEO for SSRP 'Biotechnogies-2' and SSTP 'Prospective chemical and biotechnologies' (sub-programme 'Industrial biotechnologies-2025'). Since 2006, a special unit at the Institute of Microbiology, with staff of 3 persons, is tasked with RMA within STI programmes in non-medical biotechnologies. The number and the types of programmes may differ from one programme period to another (Institute of Microbiology, n.d.). Similarly, at least 50 research organisations and companies in Belarus have been experiencing RMA at the programme level in 2021–2025. The personnel directly involved in this activity is estimated at about 150–250 people.

[9] Belarus civil law distinguishes three types of unitary enterprises depending on the owners of their property: republican, communal and private forms of ownership.

Table 5.20.2. Legal Status and Number of Unique Organisations Performing RMA at the Programme Level in 2021–2025.

Programme Type	Number of Unique LEOs		
	Public Research Organisations	Universities	Other
SSRP	21	7	8
SSTP	8	3	19

Source: Author's compilation.

At the project level, the RMA activities are either combined with scientific supervision or informally distributed within the team that implements the project. However, according to the interviewees, RMA is associated mainly with EU-funded projects. As for the national projects, researchers are not used to treating their management as a significant activity that could be detached from the overall process of project implementation into a separate type of activity. Most probably, this is due to the limited (on average) scope of the national projects in terms of budget and number of partners. This refers both to the projects that are part of the national STI programmes and to the single basic research projects funded from the national budget by the Belarusian Republican Foundation for Fundamental Research and also to the bilateral R&D projects promoted by SCST.

In large research centres, e.g. the leading universities actively involved in R&D on the national and international level, the project teams often partially delegate RMA to the centralised research department that is part of the university administration. One of the main tasks of such departments is the organisation and coordination of R&D carried out within the university on a contractual basis. In particular, they provide assistance with arranging contracts and registering the contracted R&D projects in the State Register of R&D.

According to the available information, neither the staff of centralised research departments in universities nor the LEO's staff participate in international associations of RMA professionals. This provides a good chance for Belarus to open up a new area of international collaboration and the leading research universities seem to be those who should be interested more than the others.

Is There a Future for RMA as a Profession in Belarus?

By definition, a profession is a group of individuals who adhere to ethical standards and who hold themselves out as, and are accepted by the public as possessing special knowledge and skills in a widely recognised body of learning derived from research, education, and training at a high level, and who are prepared to apply this knowledge and exercise these skills in the interest of others (Australian Council of Professions, n.d.).

From the point of view of society, a profession is a system of professional tasks, forms, and types of professional activity of people that can meet the society's needs in achieving a significant result, producing a product or a service. From the point of view of a particular individual, a profession is an activity that is the source of his/her existence and a means of personal self-realisation (CyberPedia, n.d.).

Starting from the above characterisation, one can conclude that some features of an emerging RMA profession in Belarus can be found to some extent. There is a demand for these professionals, although with some national peculiarities, and there is

a community of specialists engaged in RMA and remunerated for performing such an activity. The missing features are the recognised name of the profession and the lack of formal training. In the LEOs, the RMA staff most frequently switch to management from research and learning-by-doing is the way to acquire the respective skills.

Since 2002, Belarus has been taking part in the EU Framework Programmes for Research and Innovation with some 60 projects in each of the latest two of them, FP7 and Horizon2020. Thus, the principles of multilateral communication and EU RMA practices have been gaining some ground in Belarus and enriching the national routines. However, these experiences so far have been relatively limited compared to the neighbouring Poland and Baltic states, EU member states, and the associated Eastern European countries like Georgia and Moldova.

A possible overall increase in the R&D expenditures in the country, the eventual enlargement of the scope of publicly supported STI projects and their collaborative nature, as well as their internationalisation and widening of international cooperation may significantly increase the demand for RMA professionals.

References

Australian Council of Professions. (n.d.). *What is a profession?* https://www.professions.org.au/what-is-a-professional/

Council of Ministers. (2005). *Regulations on the Procedure for the Development and Implementation of STPs, approved by the Resolution of the Council of Ministers of the Republic of Belarus of 31 August 2005 No. 961*. http://www.gknt.gov.by/deyatelnost/polozhenie-o-poryadke-razrabotki-i-vypolneniya-nauchno-tekhnicheskikh-programm.php

CyberPedia. (n.d.). *Profession. Approaches to the classification of professions (in Russian)*. https://cyberpedia.su/3x1067.html

Institute of Microbiology. (n.d.). http://mbio.bas-net.by/ob-institute/struktura-instituta/gruppa-soprovozhdeniya/

NASB. (2018). *Strategy "Science and Technology: 2018-2040"* (p. 5). https://nasb.gov.by/congress2/strategy_2018-2040.pdf

National Statistical Committee of the Republic of Belarus. (2022). *Science and innovation activity in the Republic of Belarus. Statistical Book* (pp. 29–30). http://scienceportal.org.by/upload/2022/Oct/scienceandinnovation22.pdf

SCST. (2005). *Regulations on the Lead Executing Organization of the State (Regional, Branch) STPs, approved by the Resolution of the State Committee on Science and Technology of Belarus of 30 November 2005 No 17*. https://mshp.gov.by/documents/nts/c82c34ea8c9f9704.html

SCST and NASB. (2021). *Analytical Report "On the State and Prospects of Science Development in the Republic of Belarus upon the Results of the Year of 2020"*. http://belisa.org.by/pdf/2021/Analytical_report_2020.pdf

United Nations Economic Commission for Europe. (2021). *Sub-regional Innovation Policy Outlook 2020: Eastern Europe and South Caucasus* (pp. 172 & 178). https://unece.org/sites/default/files/2021-06/UNECE_Sub-regional_IPO_2020_Publication.pdf

Chapter 5.21

Research Management and Administration in Cyprus

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Abstract

Research managers and administrators (RMAs) should not be forgotten as part of the professional workforce populating today's research ecosystems of universities or research institutes, with interactions and contributions that matter (Poli, 2018a). Unfortunately, since they are still often regarded as employees who are neither senior management nor researchers, their role still suffers vagueness and ambiguity (Allen-Collinson, 2009). Consequently, RMAs are still unrecognised and unacknowledged, and often misunderstood as support staff or bureaucrats (Rhoades, 2010). This country-specific case study of Cyprus introduces the readers to the Cypriot research ecosystem, so as to contextualise the landscape within which the Cypriot RMAs operate professionally. After briefly discussing the evolution of the RMA profession in Cyprus and glimpsing at what might be the current Cypriot RMA community, the chapter elaborates on RMA demographics derived from the 'RMA in Cyprus Questionnaire', which was formulated based on the RAAAP-3 survey. At its closure, the chapter proposes the establishment of the 'CyARMA – Cyprus Association of Research Managers and Administrators', as

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the body to advocate the standardisation, professionalisation and, more importantly, the recognition of the RMA profession in Cyprus.

Keywords: Cyprus; research management and administration; RAAAP; CyARMA; RMA; BESTPRAC; EARMA

Research Ecosystem

Cyprus' accession to the European Union in 2004 signalled a gradual and steady growth of the national research, technological development and innovation (RTDI) system. Macroscopically, perhaps the most symbolic indication of this growth is the increase from one public university and few private tertiary education colleges in 2004, to the current (2022) existence of three public and five private universities, three large research institutes, several private higher education colleges, as well as more than 40 research and innovation (R&I) performing enterprises, while there are also seven departments of the government which carry out scientific/research activities. Subsequently, the human capital employed in RTDI also steadily increased, as showcased by the relevant statistics of the Cyprus Statistical Service presented in Fig. 5.21.1.

As referenced by EURAXESS Cyprus (2022), up to 2012–2013, the total research and development (R&D) expenditures were estimated at approximately €83 million, corresponding to 0.47% of gross domestic product (GDP), with researchers constituting 0.46% of the workforce; numbers that were quite low in comparison with the EU27 averages of 2% and 1.07%, respectively. In the field of innovation, Cyprus was ranked 28th internationally in 2012 (according to the Global Innovation Index, Dutta, 2012) and 14th in relation to EU27 in 2013 according to the Innovation Union Scoreboard (Hollanders & Es-Sadki, 2013). Nevertheless, the Cypriot RTDI system managed to competitively achieve an absorption of approximately €79 million from the European

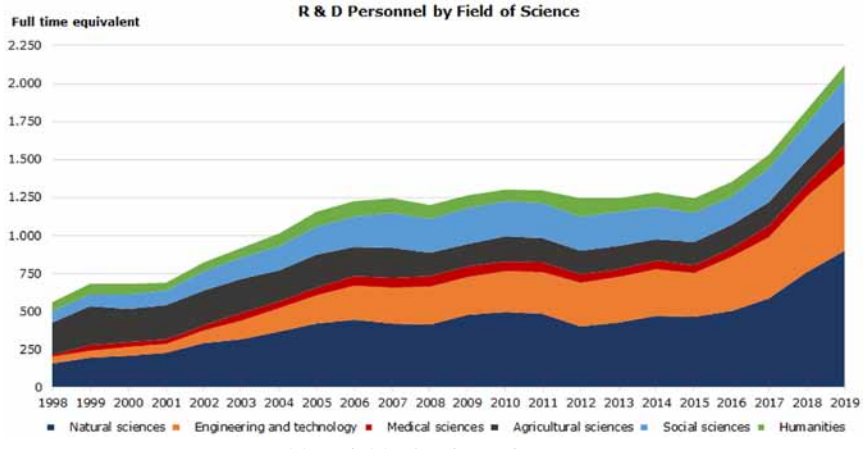

Fig. 5.21.1. R&D Personnel by Field of Science in Cyprus 1998–2019.
Source: CYSTAT: Retrieved August 11, 2022, from https://www.cystat.gov.cy/en/SubthemeStatistics?s=49.

Commission's 7th Framework Programme (FP7) during the period 2007–2013. By comparison, for the same period, the Cypriot Tourism sector managed to accumulate revenues of €12,453.3 million (CYSTAT, 2022), but it should be noted that the expenditures corresponded to well above 5% of GDP (which was more than an order of magnitude from the 0.47% GDP for R&D).

The scoping and competitiveness of the Cypriot RTDI system were further focussed and more strategically honed through the formulation of the 'S3Cy' – Smart Specialisation Strategy for Cyprus, for the period 2014–2020, which was a European Commission's prerequisite for the utilisation of European Structural and Investment Funds (ERDF) for R&I (RIF, 2022). The new strategic approach had a very positive impact, as the country's total R&D expenditure in 2019 reached approximately €164 million, corresponding to 0.74% of GDP, while the country also presented one of the highest average annual growth rates in R&D expenditure; achieving 11% within the period 1998–2019 (CYSTAT, 2021). More notably, within the period 2014–2022, the country achieved considerable successes by establishing six Centres of Excellence (DMRID, 2022a) through the Horizon 2020 'TEAMING' Programme, while also scoring an overall Horizon 2020 success rate of 13.62% (higher than the programme's average of 12.02%) that yielded an impressive net 'income' of approximately €255 million during the period 2014–2020 (RIF, 2020). The latter has led Cyprus to 'rank first in absorption of (Horizon 2020) funds on a per capita basis', as declared by the Cypriot Chief Scientist (2020). In 2019, there were 2,121 persons (in terms of full-time equivalent) engaged in R&D activities in Cyprus, of which 39% were women, and 33.1% PhD holders (CYSTAT, 2021).

The main funder of R&I remains the Research and Innovation Foundation, which is the operational and implementation carrier of the national RTDI governance structure illustrated in Fig. 5.21.2. The national R&I governance system was adopted by the Government of the Republic of Cyprus in 2018, and as of 2020 it is politically integrated and comprehensively coordinated by the dedicated R&I Directorate of the Deputy Ministry for Research, Innovation and Digital Policy. The R&I governance structure (DMRID, 2022b) comprises of:

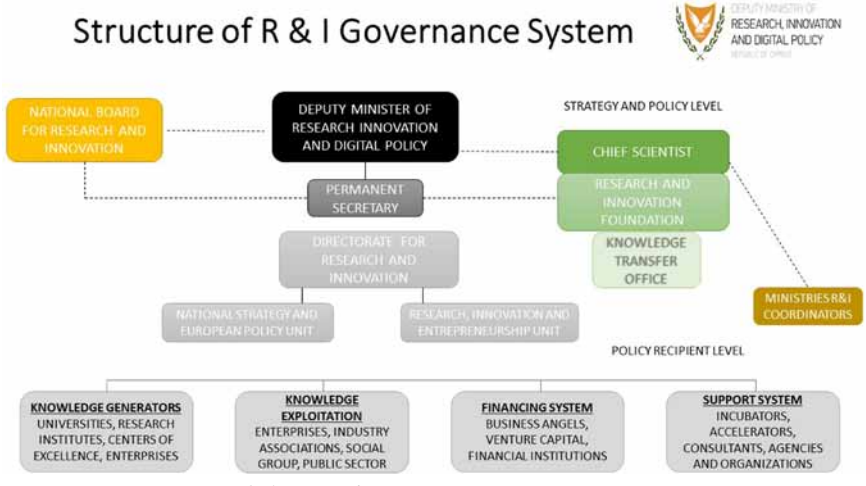

Fig. 5.21.2. Structure of the Cypriot R&I Governance System.
Source: RIF: Retrieved August 11, 2022, from https://www.research.org.cy/en/strategic-planning/rtdi-governance/#toggle-id-3.

- a strategy level, entailing the Deputy Minister of R&I and the National Board for R&I;
- a policy level, entailing the Chief Scientist for R&I of the Republic of Cyprus and the dedicated Directorate for R&I of the Deputy Ministry;
- an operational level, entailing the Research and Innovation Foundation (and the future National Technology Transfer Office); and
- a policy recipient level, entailing universities, research institutes, centres of excellence, R&I-performing enterprises, the public sector, industry, incubators and accelerators, consultants, associations, agencies and organisations.

Evolution of the Profession

Although the first and largest public university in Cyprus, UCY, the University of Cyprus, has been a long-standing institutional member of EARMA since 2000, the term 'RMAs' has only recently started to be more frequently used in Cyprus, and in fact, after 2019, when one more institutional member from Cyprus joined EARMA, that is, the Cyprus Institute (CyI). Until then, the most widely used terms are those of 'Project Managers', 'Project Officers', 'Administrative Officers/Assistants', 'Scientific Officers', 'Special Scientific Personnel involved in Funded Projects', 'Research Officers', 'Research Programmes Officers', 'Funded Programmes Officers/Support', etc.

At present, the titles of the Departments/Units/Offices employing the above are most frequently along the terminology of: 'Research and Innovation Support Service', 'Office of Sponsored Research Programmes Support', '(Funded) Projects Management Office/Support', 'Research Administration Support', 'Research and Innovation Support Office/Unit', among the main ones. Hence, it can be deduced that the term 'RMA', and subsequently the RMA 'as a profession', is still to be established and accepted in Cyprus as such. How RMAs are (still) being called in Cyprus strongly indicates that they are (still) widely considered not belonging to a specific 'profession' *per se*, but rather having auxiliary and/or secondary set of skills supporting the implementation of funded research projects.

Current Community

As recorded by CYSTAT (2021), in 2019 there were 4,082 persons (2,121 in terms of full-time equivalent) engaged in R&D activities in Cyprus. Out of these, the authors may unfortunately only roughly estimate the size of the RMA community, as there is no formal network and no formal certification system. There are of course certification courses and modalities available regarding 'Project Management' (such as the Project Management Institute's PMP©), but not a nationally established or approved certification like, for example, the US Certified Research Administrator, or the European Certificate in Research Administration/Management (EARMA CRA/CRM) and its ARMA UK equivalent. As such, there are no lists of certified RMAs from which the authors could potentially deduce the size of the Cypriot RMA community in more precise numbers. In terms of participation in international RMA networks and associations, there are only two institutional members from Cyprus to EARMA – the UCY and the CyI. And CyI is the only member of the BESTPRAC[1] COST Action, where

[1] https://www.bestprac.eu/

one of the authors of this chapter works. Then, the European University Cyprus has one individual member to EARMA,[2] that is the Deputy Chair of the Policy & Representation Committee and the second author of this chapter (also a member of NCURA[3] since 2020).

Demographics

The current RMA community of Cyprus may only indirectly be estimated, as also mentioned above. Based on CYSTAT (2021), it could be inferred that there are perhaps approximately 250–300 RMAs in Cyprus; however, the authors would like to underline that this number remains a highly arbitrary and subjective estimation roughly deduced from personal experience and informal networks. With no formal RMA network or professional association, and with informal networks that are mainly respective to the workplaces of RMAs, the RMA community in Cyprus is quite fragmented; even for this reason, RMAs are expected to have more a 'sense-of-belonging' to their institution rather than a common sense of collegiality to the community of Cypriot RMAs. This, however, has fortunately not stopped RMAs from research institutions/organisations in Cyprus to build their professional network and to keep working on it. This has been of course favoured by the sheer size of the research landscape and of the country itself; so national R&I events, conferences, workshops and meetings do indeed constitute opportunities for RMAs to meet, discuss and exchange views on common issues and challenges of their work. To put it plainly: 'it is a small place, and people know each other', but the RMA community in Cyprus still has progress to make until the state of self-consciousness as a concrete and distinct professional group.

In addition to the points above, and in order to formulate a better understanding of the numbers and types of RMAs in Cyprus, as well as of the overall demographic and anthropogeographical composition of the Cypriot RMA community, the authors examined the results of the first two 'Research Administration As A Profession (RAAAP)' surveys of 2016 and 2019, which they received from the INORMS (2022) RAAAP-Taskforce. Unfortunately, the Cypriot replies to both RAAAP and RAAAP-2 were minimal, that is, below 5. The authors then proceeded to disseminate the RAAAP-3 survey in Cyprus, but until mid-March of 2022, the Cypriot replies were again minimal (below 5). To be able to investigate the size and nature of the RMA sector in the country, the authors then received the permission of the RAAAP-Taskforce to utilise the RAAAP-3 survey and based largely upon that to formulate an 'RMA in Cyprus Questionnaire', which was then created as a Google-Form. The link to the questionnaire was then sent via electronic mail to 50 RMA professionals in Cyprus, as per purposive and convenience sampling. The 'RMA in Cyprus Questionnaire' received 20 replies, out of which the authors present the following analysis:

Approximately 53% of the respondents identified themselves as female and approximately 47% as male. Around 70% of the respondents were between 25 and 34 years of age when first starting as an RMA, and 20% were 24 and under, while currently there are 55% who are between 35 and 44 years of age and 25% who are between 45 and 54 (Fig. 5.21.3).

For 50% of the respondents, the reason for becoming an RMA was because they applied for the job, perhaps within many that they were looking for, while 25% of the responders were moved into RMA by their supervising management or leadership. For

[2] https://www.earma.org/
[3] https://www.ncura.edu/

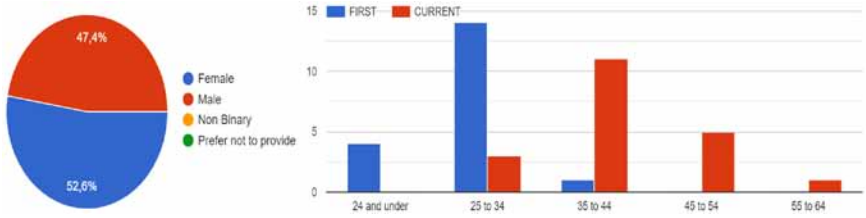

Fig. 5.21.3. Gender Identification and Age Ranges of When First Becoming an RMA and Currently in Cyprus.

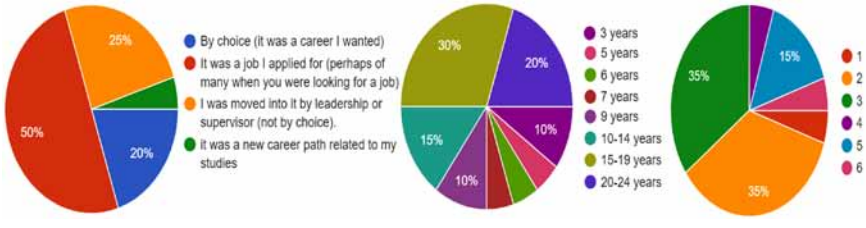

Fig. 5.21.4. Reason for Becoming an RMA, Years Employed as an RMA, and RMA Jobs During Those Years in Cyprus.

another 25% of the responders, becoming an RMA was a career that they wanted or a new career path that related to their studies. Although the 'RMA in Cyprus Questionnaire' did not inquire about the exact field of studies prior to becoming an RMA, the responders were nonetheless prompted to provide an indication of the broader area(s) of their qualifications. Regarding these qualifications, note that multiple selection was possible; however, the degrees and fields of 'Engineering (including computing)' scored 35%, 'Business' scored 35%, 'Sciences (natural and life sciences such as physics, chemistry, biology and maths)' scored 30%, 'Social Sciences' scored 20% and 'Humanities' scored 10%. Regardless of the reason why they became an RMA, 30% of the respondents have been employed as an RMA between 15 and 19 years, 20% have been working as an RMA between 20 and 24 years and 15% have been employed as an RMA between 10 and 14 years. During the years that they have been employed as an RMA, 70% of the responders have had 2 or 3 RMA jobs, while there are also 15% of the responders who have had 5 RMA jobs (Fig. 5.21.4).

Out of the respondents to the 'RMA in Cyprus Questionnaire', 40% work as an RMA in Research Active or Research Intensive ('top tier') universities, 25% work in research institutes, 15% in private companies, 15% in a research funder or other government department and 5% work as an RMA in nongovernmental organisations. About 45% of the responders work for a private nonprofit institution, 30% are employed as an RMA in a public institution/organisation, while 25% work in a for-profit institution (Fig. 5.21.5).

Overall, 65% of the responders had attained a Master's degree before becoming an RMA and 5% a Doctorate. During their employment as RMAs, 40% of the responders obtained a Master's, while 40% managed to achieve a Doctorate degree. In comparison with RAAAP-3 results, 33.5% managed to obtain a Master's, while 30% managed to obtain a Doctorate degree. Before becoming an RMA, 30% of the responders had an academic background in Sciences (i.e. natural and life sciences, such as physics, chemistry, biology, mathematics, etc.), 35% in Engineering (including computing),

Fig. 5.21.5. Type and Nature of Institutions Where RMAs Are Employed in Cyprus.

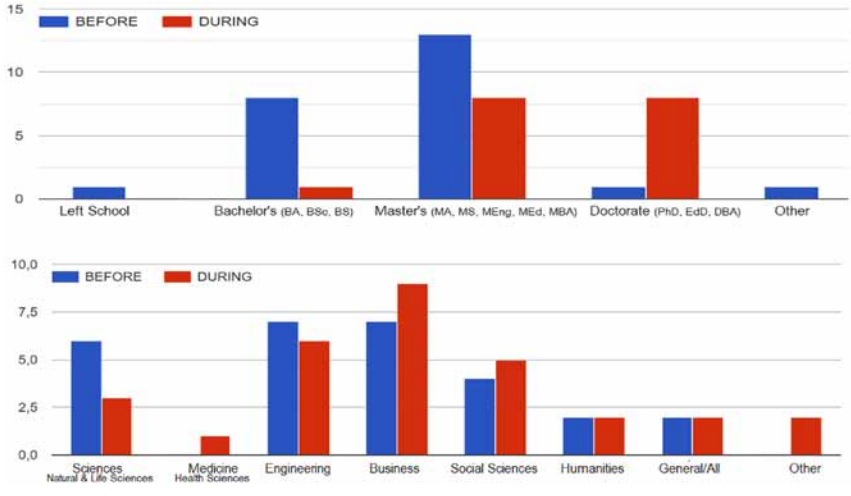

Fig. 5.21.6. Educational Attainment Level and Academic Background in Cyprus: before Becoming an RMA and During Employment as RMA.

30% in Business and 30% in Social Sciences or Humanities. During their employment as RMAs, 15% attained a background in Sciences, 30% in Engineering, 25% in Social Sciences, 10% in Humanities and 45% in Business (Fig. 5.21.6).

Although the vast majority of respondents do not have a professional RMA accreditation (such as the European CRA/CRM – Certificate in Research Administration/Management), there is very high participation in professional development classes/courses relating to 'Project Management'. Also, professional development classes/courses regarding: 'Communication Skills, Presentations, Reporting', 'Teamwork and Collaboration', 'Problem Solving and Suggesting Solutions', 'Adaptability and Change Management' and 'Coaching and Providing Advice and Support' are also very popular among RMAs responding to the 'RMA in Cyprus Questionnaire'. Such classes/courses are usually provided by paid professional external (to the RMAs' organisations) trainers, consultants and counsellors (Fig. 5.21.7).

In the adaptation of the RAAAP-3 survey into the 'RMA in Cyprus Questionnaire', the authors also included questions enquiring whether the creation of a 'Research Managers and Administrators Association of Cyprus' would be favoured, and whether there would be interest for membership. It should be noted that the large majority of respondents replied to both with very positive expressions and remarks, stressing the

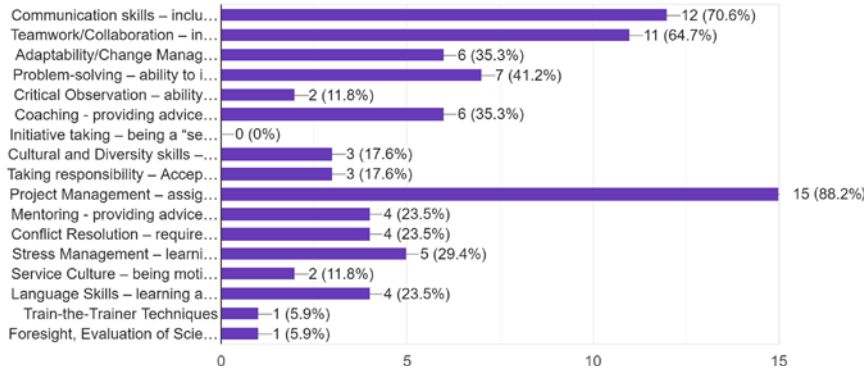

Fig. 5.21.7. Professional Development Classes Taken by RMAs in Cyprus.

importance of such an association for setting guidelines, providing support and sharing best practices, as well as for advocating and helping recognise the 'profession' of the RMA in Cyprus, which has increased in numbers, especially after the establishment of H2020-TEAMING and other Centres of Excellence in research. The remarks section contained enthusiastic comments, showcasing that the responders greeted the suggestion for the creation of a Cypriot RMA association with excitement; indicatively: 'YES, by all means', 'Yes, 100% and active involvement' and 'Yes, I would be very much interested in being one of the establishing member of such an association'.

Summary and Future Directions

In conclusion, it can be expected that the research landscape in Cyprus will continue to enlarge, the volume of R&D expenditures to increase, hence also the numbers of people engaged in R&I activities will go up in the upcoming years. Subsequently, the number of RMAs are also expected to increase, while there will be a growing need for RMA skill-sets of higher and more competitive qualifications, thus underlining the requirements for homogenising, standardising and professionalising the RMA services in Cyprus. Within an RTDI ecosystem as the one depicted above, the authors put emphasis on the necessity to establish the 'CyARMA – Cyprus Association of Research Managers and Administrators', as the body that would advocate the standardisation, professionalisation and indeed the recognition of the RMA profession in Cyprus.

References

Allen-Collinson, J. (2009). Negative 'marking'? University research administrators and contestation of moral exclusion. *Studies in Higher Education*, *34*(8), 941–954.

Cypriot Chief Scientist for Research and Innovation. (2020, October 9). *Speech of chief scientist for Research and Innovation of the Republic of Cyprus*, Dr. Nicolas Mastroyiannopoulos – Reflect Festival. Retrieved August 11, 2022, from https://chiefscientist.gov.cy/speech-of-chief-scientist-for-research-and-innovation-of-the-republic-of-cyprus-dr-nikolas-mastroyiannopoulos-reflect-festival-09-october-2020/

CYSTAT – Cyprus Statistical Service. (2021, July 15). *Research and development activities in Cyprus in 2019* [Press Release]. Retrieved August 11, 2022, from https://www.cystat.gov.cy/en/PressRelease?id=58482

CYSTAT – Cyprus Statistical Service. (2022). *Publications: Business sectors – Tourism*. Retrieved August 11, 2022, from https://www.cystat.gov.cy/en/PublicationList?s=51&p=1

DMRID – Deputy Ministry of Research, Innovation and Digital Policy. (2022a). *Centres of excellence*. Retrieved August 11, 2022, from https://research-innovation.dmrid.gov.cy/dmrid/rd/rd.nsf/pagek0_el/pagek0_el?opendocument

DMRID – Deputy Ministry of Research, Innovation and Digital Policy. (2022b). *National research and innovation system*. Retrieved August 11, 2022, from https://research-innovation.dmrid.gov.cy/dmrid/rd/rd.nsf/pagea0_el/pagea0_el?opendocument

Dutta, S. (2012). *The Global Innovation Index 2012: Stronger innovation linkages for global growth*. INSEAD.

EURAXESS Cyprus. (2022). *Cyprus research landscape*. Retrieved August 11, 2022, from https://www.euraxess.org.cy/cyprus/information-assistance/research-landscape

Hollanders, H., & Es-Sadki, N. (2013). *Innovation union scoreboard 2013*. European Union.

INORMS. (2022). *Research Administration As A Profession (RAAAP) taskforce*. Retrieved August 11, 2022, from https://inorms.net/activities/raaap-taskforce/

Poli, S. (2018a). Who are today's research managers – Understanding who we are. In J. Andersen, K. Toom, S. Poli, & P. F. Miller (Eds.), *Research management. Europe and beyond* (pp. 1–29). Academic Press – An imprint of Elsevier. ISBN: 9780128050590

RIF – Research and Innovation Foundation. (2020). *Cyprus secured more than €250 million from "Horizon 2020"*. Retrieved August 11, 2022, from https://www.research.org.cy/en/cyprus-secured-more-than-e250-million-from-horizon-2020/

RIF – Research and Innovation Foundation. (2022). *Cyprus National RTDI Strategy.* Retrieved August 11, 2022, from https://www.research.org.cy/en/strategic-planning/national-strategy/#ethniko_plaisio

Rhoades, G. (2010). Envisioning invisible workforces – Enhancing intellectual capital. In C. Whitchurch & G. Gordon (Eds.), *Academic and professional identities in higher education: The challenges of a diversifying workforce* (pp. 35–54). Routledge – An Imprint of Taylor & Francis Group. ISBN: 978-0-203-86525-5

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Chapter 5.22

The Profession of Research Management and Administration in Czechia

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Abstract

The chapter describes the emergence of the profession in Czechia. The major driver for universities and research and technology organisations (RTOs) was the country's accession to the European Union (EU) in 2004. The country has a rich system of national research, development, and innovation (R&D&I) funding and EU Framework Programmes are witnessing a slowly growing interest and success of Czech researchers.[1] Yet, the major force in changing the research management and administration (RMA) culture and addressing the need of professionalising the environment of research administration, management, intellectual property rights, and technology transfer (TT) was European Structural and Investment Funds (ESIF). The Czech government repeatedly, through four EU programming periods, stressed the need for investments to reshape the research infrastructure, environment, and conditions on a scale not experienced by the universities or the RTOs ever before. The availability of EU funds and increasing emphasis on international cooperation enabled Czechia to witness slow, yet steady growth of demand to deliver better service in the field of RMA. This is illustrated through several EU-funded projects focussed on RMA skills development and the recent

[1] Science|Business. (2022, August 25). *Czech Republic scores 20% Horizon Europe success rate – but only a third of excellent proposals get funding*. https://sciencebusiness.net/news-byte/czech-republic-scores-20-horizon-europe-success-rate-only-third-excellent-proposals-get.

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establishment of the Czech Association of Research Managers and Administrators (CZARMA) in 2022 (Masaryk University, 2022a).

Keywords: Czechia; research management and administration; professionalisation; internationalisation; RMA; CZARMA

The Czech Republic Research Ecosystem

The current ecosystem of Czech research was starting to be rebuilt in the early 1990s after the end of the communist era. The first research funding body to offer grant funding was the Grant Agency of the Czech Republic (Czech Science Foundation[2]), founded in 1993 to support basic research regardless of the field of science. Public universities were already set up in almost every region in the early 1990s, yet the major systemisation, which included replacing various outdated legislation (some from the 1960s), came with the Higher Education Act in 1998.[3] The act confirmed the existence of 27 public and 2 state (Police Academy, and the University of Defence) universities and opened the stage for private universities. The second state agency to support the research was established in 2009, through the modernisation of the second law crucial to the Czech research ecosystem – Act No. 130/2002[4] on the support of research, experimental development, and innovation. Accordingly, the mission of the Technology Agency of the Czech Republic[5] established support for applied research and innovation, while the Grant Agency of the Czech Republic remains responsible for basic research.

An increasingly important role in the scene of public research belongs to the Czech Academy of Sciences, which dates back to 1890. The existence of the Academy was reconfirmed in 1992 and today it presides over 50 scientific institutes. Until the 1990s, the role of the academy was mainly to perform research, while the universities were expected to educate. The Czech Academy of Sciences, with more than 6,400 employees, is, without a doubt, the largest research institution in the country. In 2005, the Act on Public Research Institutes[6] was released, which introduced harmonisation into the field of non-teaching public bodies having research as their primary goal. Thus, the Czech Academy of Sciences, together with a number of other research bodies belonging to the various ministerial agencies, was given the legal status of a Public Research Institute.

Participation of private research within the ecosystem of public funding is harmonised through two main channels: the Act No. 130/2002 on the Support of research, experimental development, and innovation – mentioned above – and the list of research organisations maintained by the Ministry of Education, Youth, and Sports (MEYS).[7]

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[2] https://gacr.cz/en/

[3] Higher Education Act, Czech Law, No. 111/1998 Col., https://www.msmt.cz/areas-of-work/tertiary-education/the-higher-education-act?lang=2.

[4] R&D Support Act, Czech Law, No. 130/2002 Col., https://www.zakonyprolidi.cz/cs/2002-130.

[5] Technology Agency of the Czech Republic. (2023, February 15). https://www.tacr.cz/en/.

[6] Public Research Institutes Act, Czech Law, No. 341/2005 Col., https://www.zakonyprolidi.cz/cs/2005-341.

[7] Czech Ministry of Education, Youth and Sports. (2022a, June 8). *The list of research organisations*. https://www.msmt.cz/vyzkum-a-vyvoj-2/seznam-vyzkumnych-organizaci.

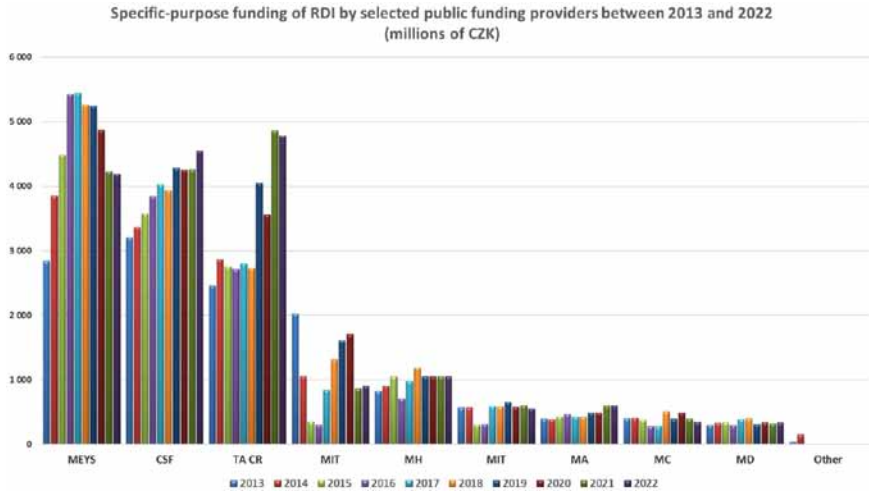

Fig. 5.22.1. Total RDI Spending by Selected Public Funding Providers Between 2013 and 2022 in Czechia.
Source: https://www.comtesfht.cz/media/document/pruvodce_2022-en-a-isbn-kor.pdf

While being on the list means that the organisation qualifies for the acquisition of institutional funding, the Act 130/2002 translates the requirements and conditions introduced on the EU level through EU framework for state aid for R&D&I.

Governance of R&D&I is executed through the Council for Research, Development, and Innovation[8] – a professional and advisory body of the Government of the Czech Republic, which prepares, in particular, the national R&D&I policy and ensures the control of its implementation. The chairman of the Council is appointed and removed by the government on the proposal of the prime minister. The members of the Research, Development, and Innovation Council, with the exception of its chairman, are appointed by the government on the proposal of the chairman. The Council evaluates science in the Czech Republic according to the currently valid methodology.

According to the EU country profile, Czechia is a moderate innovator, holding tenth place in EU27.

Fig. 5.22.1 shows the history of total funding by 10 public funding providers, which are: MEYS, Academy of Sciences (AS CR), Czech Science Foundation (CSF), Technology Agency (TA CR), Ministry of Health (MH), Ministry of Industry and Trade (MIT), Ministry of Agriculture (MA), Ministry of Interior (MI), Ministry of Culture (MC), and Ministry of Defence (MD). The data for four other providers – Ministry of Environment, Ministry of Labour and Social Affairs, Ministry of Transport, and Ministry of Foreign Affairs – are indicated as 'Other'. MEYS is definitely the largest of the funders, as it is directly responsible for the public universities, with the budget steadily remaining close to 600 mil EUR.

Evolution of the Profession in Czechia

These days the RMA profession is primarily understood as a part of grant writing and processing support within the context of various EU funds. The support they

[8] Council for R&D&I. (2023, February 15). https://www.vyzkum.cz/FrontClanek.aspx?idsekce=630.

offer can stretch from the formal checking of applications, reporting, financial management, accounting, dissemination, and public relations. Even these days it is not unusual that all the above mentioned tasks are required to be performed by a single person. While in ESIF applications, having a dedicated budget for an administrative position is a must, national R&D funds, in many cases, consider these tasks as part of the general overhead budget, which rarely can exceed 20% of the project budget. This shows how little the funders consider RMA to be an important component of any research project. If projects are still limited to overhead staying between 7% and 20% of the budget, it becomes obvious how the evolution of the general R&D&I system in Czechia has stagnated since the early 1990s, giving little opportunity for the RMA profession to emerge. Still even these days the applications submitted to the Grant Agency of the Czech Republic are rather simple: individual PIs, leading small teams within their institutions, giving descriptions of foundational research activities, CVs, and targeting a rather low number of papers. Little attention is paid to the project management or broader ecosystems' understanding or impact. Thus, with the exception of budgeting, there is truly very little space left for RMAs to help. The assistance even on the institutional level was therefore limited to the budget, formal control, and processing the delivery of the application to the agency. Such support which can be handled by one person with secondary education is usually located in the office of the vice-rector for R&D.

The major change of requirements appeared in 2004 with Czechia's accession to the EU. This membership opened the door for Czech universities to have access to the ESIF. The first period from 2004 to 2006 was a careful trial time for what was about to come. While in 2004–2006, only 30 million EUR was dedicated to the projects coming from universities on the level of the single measure of the Human Resource Development Operational Programme, the next programming period brought two Operational Programmes almost solely dedicated to the development of education and R&D&I environment with the total budget of nearly 4 billion EUR. For those who paid little attention to the previous operational programme, the impact was sudden and huge. Previous experience with Grant Agency projects was of little to no help, as suddenly the requirements for project management and administration were brought to a new level.

Universities and the MEYS,[9] which were responsible for the implementation of the programmes, were learning along the way, which brought several provisions:

- *Growth of the projects*: a large number of small projects (most of the money was dedicated to salaries and small equipment), which were implemented on the departmental level, resulting in high administrative pressure for the Ministry. Therefore, the second part of the implementation period led to the calls for larger, faculty level projects, which resulted in the transfer of the administrative burden to the universities as more project management skills were required and addressing that by utilising some of the time of researchers was no longer possible.
- *Support to the developing professions*: with the growing complexity of projects, both the Ministry and the universities realised the need for administrative support. Thus, in 2008, the first call within the Operational Programme Education

[9] Ministry of Education, Youth and Sports of the Czech Republic. (2023, February 15). https://www.msmt.cz/.

for Competitiveness, enabling the investments in supporting the development of specific professions was released with the following supported activities:

- Further training of research and development staff.
- Further training of R&D personnel in R&D management, in areas of popularisation and communication, dissemination of the results of science and research into practice, in TT issues, and in the acquisition of knowledge about protection, evaluation, and intellectual property management of R&D personnel.
- Support for the creation of quality research and development teams and their further development.
- Preparing for the involvement of individuals and teams in international research networks and projects.
- Promoting intersectoral mobility, in particular, mobility between research institutions and private and public sectors.

Similarly, the year 2011 brought a strong push to establish the TT profession. A call was announced where the complementary activity was further training of R&D personnel, with the aim to establish technology transfer offices at the universities.

Among the early attempts to bring the RMA community together, another project fuelled by the structural funds was the Grant Office Network of the Czech Republic,[10] realised between 2011 and 2014. The aim of the Grant Office Network of the Czech Republic project was to create partnerships between existing and emerging project centres and their gradual transformation into the newly created Grant Office, which provided qualified support for preparation and management of national and especially international scientific research projects. The target group of the project were academic and other employees of the Czech universities and employees dealing with education, research, and development.

Since these beginnings in the 2010s, a number of other projects were realised, yet compared to resources and efforts invested into university TT departments, the effort was much less systemic, especially when we take into account the fact that the volume of public funding universities gets through grants is much larger compared to the volume of income gained through TT, which shall focus especially on generating revenue.

While it was reported[11] that the total spending of the Czech universities in 2017 was 1,490 mil EUR, the expenses in the TT chapter were 42 mil EUR while the spending in national project funding was 158 mil EUR and non-CZ project funding was 42 mil EUR. The support of the two professions (TT and RMA) was and still is unbalanced, given the fact that TT cared about the volume of 42 mil EUR, while RMA oversaw over 250 mil EUR. Despite the larger volume of funding on the side of RMA, their professional organisation (CZARMA) was founded a decade later than the organisation of TT (TRANSFERA[12])

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[10] Czech Ministry of Education, Youth and Sports. (2011, December 27). *Operational programme education for competitiveness*. https://www.op-vk.cz/cs/siroka-verejnost/projekty/individualni-projekty-ostatni-ipo/grant-office-network-czech-republic.html.

[11] Czech Ministry of Education, Youth and Sports. (2022b, November 5). *Annual reports of the Czech universities processed by the Ministry of Education, Youth and Sports*. https://www.msmt.cz/vzdelavani/vysoke-skolstvi/vyrocni-zpravy-o-hospodareni.

[12] TRANSFERA. (2022, September 30). https://www.transfera.cz/.

The Czech RMA Community

In 2005, the Association of University Administration Staff (APUA, 2022[13]) was founded by an initiative of several university provosts, where membership was mainly institutional based. The mission of the organisation, according to its statutes is: *The purpose of the association and its main activities is to create an effective platform for cooperation and mutual assistance of APUA members, to exchange theoretical and practical experience, gain new knowledge and increase their professional level, and to contribute to public welfare employees and the services they provide*. Although the APUA and its benefits to the education of university administration staff are widely accepted by the universities, the portfolio is very basic and far from what would be needed for RMAs to attain substantial professional development.

TRANSFERA, an NGO founded in 2008 gained its momentum in 2017 and since then is very active towards both the TT community and the governmental bodies as *a unified functional platform protecting the interests of the Czech transfer community; its objective is to advance and strengthen TT*. Having gained the attention of the community and the public administration, TRANSFERA may be the closest inspiration for the RMA community to show the direction of further steps.

Among the initiatives to bring the RMA into the light was the attempt to bring the EARMA Annual Conference to Prague, the Czech capital. When the author of this chapter was approached in 2018 to take part in the preparation of the conference application, EARMA had only one Czech university as an institutional member. Now, in 2022, there are four Czech universities and the Czech Academy of Sciences. More Czech universities are expected to join as Prague will host the EARMA Annual Conference in 2023. Having achieved that, local organisers are hoping to also attract researchers and show how the investment into further RMA professionalisation can materialise in delivering better research.

The very recent result of previous efforts is the foundation of a formal association for the RMA profession CZARMA, an NGO registered in late 2021. The decision was made following the organisation of regular meetings, over several years by the Masaryk University in Brno, within the Regon project.[14] The audience the meetings were able to attract reached far beyond one university, and the topics discussed surpassed the regional and even national matters. Speakers were from all over Europe; including some members of EARMA, discussing the content of European projects and touching on the issues of the RMA profession. In June 2022, the Regon project has celebrated 115 monthly meetings since its beginning in 2011, recent list of events can be seen at the project's website.[15] Eventually, the step towards formalising the project, which grew far beyond one university, into a national platform seems logical and it is hoped that it will succeed. The inspiration and justification of such activity can be seen all around the world.

The Future of RMA in Czechia

Counting the number of employees reported in annual reports of the Czech universities, we find that for the 10 largest universities it exceeds 15,000 people working in

[13] APUA. (2022, September 30). https://apua.cz/.
[14] Masaryk University. (2022b, September 30). *Regional grant office network*. https://improve.muni.cz/regon.
[15] Regon project. (2022, September 30). https://improve.muni.cz/regon.

services. Together with the other universities, the Academy of Sciences, and private RTOs, we may get to a community of 20,000–25,000 people. Of course, not all of them are working with grants, it might be around 5% of them, thus we may estimate around 1,000–1,250 crore RMAs. Since its start, CZARMA gathered over 300 members. In the RAAAP-3 survey (Kerridge, Dutta, et al., 2022), 62 participants from Czechia responded, 80% of them are women; 23 respondents are having experience in the field longer than 10 years, while new to the profession (less than five years) are 19 respondents; 30 identify themselves as project managers, 10 as research managers/administrators, and none of them as research developers. Compared to Sweden, a country with the same size population, we see a difference in the ratio of academic qualification: while Sweden has the percentage ratio of bachelors, masters, and PhDs 19–47–29, Czechia has 11–77–10, and the UK has 29–25–38. The level of education might be interpreted as related to the prestige of the job as well as the maturity of the profession within the society. Looking at the number of respondents in the UK, where the RMA profession is very probably the most mature in Europe, we count 476 respondents. When comparing the size of the population in Czechia (10 million) and the UK (67 million), UK is nearly 7 times bigger, we can see a similar ratio of respondents in the RAAAP-3 survey. Therefore, we may assume that the topic of RMA has gained high attention in Czechia in recent years.

When we look at the volume of funding coming from both public and private sources, the evidence of the need for RMA professional development is clear. Especially when the main stakeholders (government, universities, and the general public) want to increase the volume of research expenditures, focussing on assets coming from the international funding landscape, or make the universities more attractive and relevant to the contractual research, the need for the RMA profession becomes obvious. The self-awareness and the inner need to improve, become better professionals, and gain recognition is demonstrated through the recent set-up of the CZARMA. Reading interviews[16] with young scientists returning to Czechia, who are trying to continue the successful careers they have had in research ecosystems in the foremost universities and research institutes abroad, they all have one thing in common. They call for higher standards of university services, releasing them from administrative tasks, and allowing them to focus on the research in the quality and intensity they would wish.

Therefore, we believe that there is ample room for improvement in the field of RMA, which gives a wide scene for all enthusiasts to engage. Recognition of the profession may bring government support, and with the backup of university leadership, the investment into the profession will multiply on several levels: existing profession and offering a career path will likely attract better quality RMAs. Thus, universities would be able to offer better services, which is one of the main components of raising, attracting, and retaining better researchers.

References

APUA. (2022). *Asociace Pracovníků Univerzit*. Retrieved September 30, 2022, from https://apua.cz/

Czech Ministry of Education, Youth and Sports. (2011). *Operational programme education for competitiveness*. Retrieved December 27, 2021, from https://www.op-vk.cz/cs/siroka-verejnost/projekty/individualni-projekty-ostatni-ipo/grant-office-network-czech-republic.html

[16] Vedavyzkum.cz. (2022, September 30). *Interviews*. https://vedavyzkum.cz/rozhovory/rozhovory.

Czech Ministry of Education, Youth and Sports. (2022a). *The list of research organisations*. Retrieved June 8, 2022, from https://www.msmt.cz/vyzkum-a-vyvoj-2/seznam-vyzkumnych-organizaci

Czech Ministry of Education, Youth and Sports. (2022b). *Annual reports of the Czech universities processed by the Ministry of Education, Youth and Sports*. Retrieved November 5, 2021, from https://www.msmt.cz/vzdelavani/vysoke-skolstvi/vyrocni-zpravy-o-hospodareni

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Masaryk University. (2022a). *Czech Association of Research Managers and Administrators*. Retrieved September 30, 2022, from https://www.czarma.cz/

Masaryk University. (2022b). *Regional Grant Office network*. Retrieved September, 30, 2022, from https://improve.muni.cz/regon

Science|Business. (2022). *Czech Republic scores 20% Horizon Europe success rate – But only a third of excellent proposals get funding*. Retrieved August 25, 2022, from https://sciencebusiness.net/news-byte/czech-republic-scores-20-horizon-europe-success-rate-only-third-excellent-proposals-get

TRANSFERA. (2022). *Home page*. Retrieved September 30, 2022, from https://www.transfera.cz/

Vedavyzkum.cz. (2022). *Interviews*. Retrieved September 30, 2022, from https://vedavyzkum.cz/rozhovory/rozhovory

Chapter 5.23

Research Management and Administration in Poland

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Abstract

This chapter outlines milestones and circumstances that led to the evolution of the profession of research management and administration (RMA) in Poland. The RMA has a history stretching back around 20 years, with the breakthrough year being in 2007, when the Polish National Council for Research Project Coordinators (KRAB) was established. Currently, the Polish community of RMA is scattered across universities, scientific and research institutes; and its RMAs are employed in research support centres, national/international research programmes offices or welcome offices. At the national level, main activities concerning RMA are centred around KRAB and its pool of activities related to research project management implemented by International Project Management Association (IPMA) Poland. In some respects, RMA can still be considered a semi-profession in the country; and RMAs are that part of the administration staff engaged with the development of scientific excellence in research institutions: they are more often an invisible workforce, but necessary to project development and related activities. There are no dedicated RMA certifications available yet, however, support for RMAs in Poland has been

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consistently becoming stronger and more widespread over the years in the higher education system (HES) and beyond.

Keywords: Poland; research management and administration; professionalism; educational/training network; KRAB; RAAAP

Research Ecosystem in Poland

Poland is the ninth largest country in Europe with a population of over 38.2 million people (38th most populous in the world and 5th in the European Union, EU). Poland is a unitary state divided into 16 administrative subdivisions (voivodeships) with a capital in Warsaw. Poland has been a member of the EU since 2004. The Polish gross domestic product (GDP) amounts to 17,815 USD/per capita (38th place in the world) (Statistics Poland, 2021b).

The main long-term strategic document concerning science and technology policy in Poland is the National Research Programme which was published by the Ministry of Education and Science (MEN)[1] in 2011 (National Research Programme, 2011) that includes seven priorities of research and development (R&D). EU funds for R&D activities are distributed in Poland in 13 areas listed in the national smart specialisation strategy published in 2014 and updated annually by the Ministry of Development and Technology.[2] Regional funds are distributed primarily to projects fitting into the regional smart specialisations of 16 voivodeships.

In the 1990s, after changing the political system,[3] there was an increase in the number of universities in Poland. In parallel, there was also an increase in the funding for research. The Polish MEN distributes the state budget resources for scientific research and evaluates scientific institutions. The reform of science in 2010 resulted in the creation of two funding agencies of the MEN: the National Science Centre (NCN – basic science[4]) and the National Centre for Research & Development (NCBR – applied research[5]) (Fig. 5.23.1). In 2017, the National Agency for Academic Exchange (NAWA – mobility programmes, welcome offices[6]) was created. The largest, non-governmental organisation involved in the financing of scientific research, personnel exchange with foreign institutions, and support of the transfer of technology to the economy is the Foundation for Polish Science (FNP[7]).

There were 891 dedicated research entities in Poland in 2020 (Statistics Poland, 2021a). The Polish HES includes both public and non-public institutions. There were 349 universities in 2020, including 130 public and 219 private universities. In addition, a crucial component of the scientific sector in Poland is institutes including the following types of entities:

- 68 Scientific institutes of the Polish Academy of Sciences (PAN[8]).
- 2 International research institutes.

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[1] https://www.gov.pl/web/edukacja-i-nauka
[2] https://smart.gov.pl/en/ – the Polish national smart specialisations.
[3] The trade union solidarity won in a partially free election, leading to the fall of communism in Poland.
[4] https://ncn.gov.pl/en – the Polish public funding agency for basic science.
[5] https://www.gov.pl/web/ncbr-en – the Polish public funding agency for applied science.
[6] https://nawa.gov.pl/en/ – the Polish public funding agency for mobility.
[7] https://www.fnp.org.pl/en/
[8] https://pan.pl/en/

		POLICY LEVEL			
		Ministry of Education and Science			other ministries
		FINANCING/SUPPORT UNITS			
NCN	**NCBR**	**NAWA**	**National Information Processing Institute**	**NCP-PL**	FNP
		RESEARCH INSTITUTIONS			
universities	institutes of the Polish Academy of Sciences		research institutes & Łukasiewicz Network	enterprises	other institutions

Fig. 5.23.1. Overview of the Polish Institutions in the Field of Science.

- 76 Sectoral research institutes.
- 26 Łukasiewicz Research Network institutes.

In the same year, there were 1.2 million students and 293.4 thousand graduates in Poland. Altogether there are 377 students of HES per 10,000 population which is almost equal to EU average (378) (Statistics Poland, 2021a).

The level of gross domestic expenditure on research and development (GERD) in Poland reached 32.4 billion PLN (7.2 billion EUR) in 2020. The proportion of GERD to Polish GDP has risen over the last years from 0.96% in 2016 up to 1.39% in 2020. The expenditures on R&D in the HES were 11.3 billion PLN (2.5 billion EUR), which constituted 35% of the national expenditures. The HES devoted over 90% of expenditure on scientific research (basic and applied) and less than 10% on experimental development projects. The HES accounted for 64.7% of the national expenditures on research (Statistics Poland, 2021a).

According to Statistics Poland, more than 10.5 thousand domestic research projects with a total value of 1.92 billion PLN (0.4 billion EUR) were financed by the state units (MEN, NCN and NCBR) in 2020. The number of international research projects amounted to 968 with a total value of 233.6 million PLN (51.9 million EUR) (Statistics Poland, 2021b).

The share of foreign funds as the share of GERD in Poland has risen from 5.5% in 2016 up to 7.2% in 2020. At the same time, the share of the European Commission funds as the share of GERD in Poland has risen from 2.8% up to 5.3%. The number of entities in R&D using European Commission funds has risen threefold from 333 in 2016 up to 1,124 (incl. 144 HES) in 2020. The above data show the increasing significance of international R&D projects which generates need for RMAs with experience in international cooperation (Statistics Poland, 2021b).

The reform of science in Poland in 2018 within Law 2.0, also called the Constitution for Science (Law on Higher Education and Science of 20.07.2018, 2018), introduced a number of changes in the field of university management, education of students and doctoral students, as well as conducting and evaluating scientific research. Introduction of the new Law 2.0 was preceded by a consultation process and recommendations prepared by the international experts. The report *Peer Review Poland's Higher Education and Science system* (European Commission, 2017b) underlined the need to secure a new governance system at universities to address the needs for more powerful and professional institutional management. Around 10 research-intensive universities were selected for the Polish excellence initiative

involving additional multi-year funding. In this context and through the initiatives supporting research and knowledge transfer based on European/international networks of cooperation, perspectives for development of the RMA profession can be also tracked down.

Evolution of the Profession

State of the RMA Profession When Poland Joined the EU

From Copernicus and Maria Skłodowska-Curie to contemporary times, Poland is present on the world's scientific stage. When Polish scientific institutions started their involvement in the EU Framework Programmes (FPs) in 1999, it became progressively obvious for institutions that international research projects, which are by nature complex and of high risk, require professional RMAs. When Poland became a full EU member in May 2004, the scientific institutions experienced the lack of research managers and professional research support offices (RSOs) able to cope with the growing demand on these projects. Research teams were supported mainly by administrative staff of the research offices. In the period 2004–2006, the National Contact Point for Research Programmes of the EU[9] (NCP-PL) initiated a series of workshops on project management for the R&D sector, conducted by certified project managers. We found however that the so-called behavioural competences developed by the IPMA were pertinent for project managers dealing with international collaborative research projects. Definitely, there was a strong interest expressed by the scientific institutions to educate the staff involved in RMA to a higher level and more consistently (Krasiński, 2013). Late in 2006, the NCP-PL organised the Inauguration of the 7th FP in Poland, which included Project Management Working Groups meetings that saw even the participation of the EARMA President.

Year 2007 – The Breakthrough in RMA in Poland

'Excellence in science requires excellence in the management of science' – this message given by Janez Potočnik, the former Commissioner for Science and Research, was fully agreed by participants of the EARMA Annual Conference in 2007 held in Warsaw. The same was concluded by panellists of the special Plenary Panel on Research Project Management, organised during the 21st IPMA World Congress 2007 in Krakow. Furthermore, in 2007, the KRAB was established and driven by the search of the best practices and exchange of experience in RMA. KRAB and NCP-PL started a close cooperation with EARMA[10] and NCURA[11] organisations that were already part of the INORMS family.[12] The liaising between EARMA and NCURA were initiated by the occasion of the Warsaw EARMA Conference 2007. Thus, the role played by these international professional associations in the development of RMA in Poland cannot be underestimated (Krasiński, 2013) and should be regarded as a milestone.

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[9] In the period 1999–2020, the implementation of FPs in Poland was supported by NCP-PL, a unit located at the Institute of Fundamental Technological Research Polish Academy of Sciences (IPPT PAN); IPPT PAN is an institutional EARMA member since 2004.
[10] https://earma.org/
[11] https://www.ncura.edu/
[12] https://inorms.net/

Current Community

There is a great potential for the RMA sector in Poland working in scientific institutions. Over the past decade, Poland's effort to develop capacities in RMA can be observed. The current community of RMAs is mainly scattered across universities and scientific/research institutes. On the national level, the community is centred around the KRAB association open for individuals (80 members). KRAB is the member of the Leiden Group.[13] The main activities of KRAB are focussed on organising the national symposia encouraging institutions for active participation in FPs and other international initiatives as well as the promotion of RMA profession, exchange of best practices among research administration systems and enhancing international research collaboration. RMAs are also involved in activities related to research PM implemented by IPMA Poland (i.e. IPMA certification system and Project Master Award) since the behavioural competences developed by IPMA are about intersectoral and cross-cultural competences. Some of KRAB members were engaged in several projects, that is, implementation of the EARMA/NCURA International Research Management Fellowship Programme,[14] BESTPRAC[15] and V4WB RMA Network.[16] The dedicated RMA certification system is not available yet in Poland but support for RMAs in Poland is becoming stronger and more consistent. Representatives of the Polish RMA community are aiming to actively participate in new initiatives concerning RMA development financed by Horizon Europe (HEU), including, for example, RM Roadmap project.[17]

Demographics

The unique geopolitical location of Poland, as the bridge between the Western and Eastern parts of Europe, makes Poland unique in developing capacities as a 'central-regional lighthouse' of excellence of the European Research Area and as a 'vehicle' of European widening and neighbourhood strategies. The current total expenditure on R&D in Poland is still below the EU average, but the situation has systematically improved in recent years. According to Statistics Poland, the R&D personnel amounted to 283.4 thousand people in 2020 and 48.7% of them work in the HES. Women account for 38.6% of total R&D personnel, however, in HES the women participation is higher and reaches 50.2%. In 2020, nearly 32% of R&D employees had at least PhD degree (Statistics Poland, 2021a).

However, there is no separate definition of RMAs or data collected specifically for these personnel in the national statistics. Overall, the R&D personnel in Poland is divided into three categories: researchers (69.3%), technicians and equivalent staff (18.4%) and other supporting personnel (12.3%, incl. RMAs). In the HES, the percentage of researchers was higher (75.4%) while the percentage of other supporting personnel was nearly the same as in the total population (12.4%). The share of other supporting personnel in R&D personnel in the business enterprise sector was a little lower than in HES (11.8%). Taking into account only dedicated research entities, the total number of other supporting personnel in 2020 was 17,047 (incl. 12,097

[13] Leiden Group consists of representatives of the national professional RMAs associations in Europe.
[14] https://www.ncura.edu/Portals/0/NCURA-EARMA_1.pdf
[15] https://bestprac.eu/home/
[16] https://hetfa.eu/international-projects/v4wb-rmas/
[17] https://www.rmroadmap.eu/

women) and they were divided as follows: higher education institutions – 11,927 (8,677 women), institutes – 3,910 (2,684 women) and others – 1,210 (736 women).

It may be estimated that there are about 3,000–4,000 project management and administration experts who identify with the RMA profession in Poland. RMAs are employed, for example, at the research support centres, national/international research programmes' offices or welcome offices on different positions (assisting, managerial, strategic or operational experts). The support provided by Polish RMAs include a 'variety' of knowledge and skills – for example, project governance, proposal development, project portfolio management, financial, legal and IPR aspects, research mobility support, science communication, dissemination and outreach, innovation management and results exploitation.

Research Administration as a Profession surveys (RAAAP-1, RAAAP-2 and RAAAP-3) elicited rather weak response levels from Polish RMAs. Nevertheless, from the RAAAP-3 data (Kerridge, Dutta, et al., 2022) as it is common around the world, Polish RMA professionals are predominantly female (61% out of 18 responses). Furthermore, as it happens to be in many other regions, the profession is highly qualified academically with 41% holding doctorates, and 53% holding masters. The predominant role levels were research administrator (39%) and project manager (33%). The most common period of employment was 5–14 years.

Unique Educationall Training Network for Research Managers and Administrators

Even if it was not a common practice in Europe to use a systematic approach to education and training of RMAs, a pioneering project entitled 'Research Project Management and Commercialization of Research Results. The Postgraduate Studies for Employees of Scientific and Research Institutions' was successfully implemented in Poland between 2010 and 2013.[18] The project was coordinated by Krakow University of Economics[19] and co-financed by the European Social Fund (through the Operational Programme Human Capital[20]) and consisted in a two-semester long programme; the course was then implemented by seven Polish universities, which cooperated with other project partners, namely Education for Entrepreneurship, NCP-PL[21] and IPMA Poland.[22]

The uniqueness of the project concerned the development and implementation of a uniform programme of studies, of a common database and of consistent criteria for recruitment of lecturers at all participating universities. Seventeen postgraduate courses at seven universities were completed by over 400 academic and administrative staff from 45 universities and 99 research institutes from across Poland. In general, over 60% of the graduates received the status of Certified Project Management Associate on IPMA Level D. It was an exciting venture and the results achieved exceeded all expectations. According to foreign experts, it was the first initiative of this type and scale in Europe.

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[18] https://biznes.uek.krakow.pl/zarzadzanie-projektem-badawczym-komercjalizacja-wynikow-badan/
[19] https://uek.krakow.pl/en/
[20] https://www.gov.pl/web/rodzina/program-operacyjny-kapital-ludzki-2007-2013
[21] https://www.kpk.gov.pl/
[22] https://ipma.pl/

Although all the efforts depicted above and the new initiatives that can be found in the field of RMA education and training in Poland, the overall offer in this area is still incomplete. The examples of existing educational initiatives include: (1) preparation of Master courses, for example, in the project 'Education for R&I Development' (funded from Norway Funds[23]), (2) supporting research and knowledge transfer, for example, in the project 'International Networks Supporting Research and Knowledge Transfer – The Platform of Cooperation for Polish and Norwegian Universities' (Norwegian Funds); (3) postgraduate studies and doctoral schools' courses on research project management implemented by several universities and (4) tailored-made trainings provided by universities and consulting companies. As a result of the project 'Education for R&I Development', the handbook on *Research Project Management* was published (Rzempała, 2015).

Besides, in addition to the national experience and offer, the country can benefit from the longstanding strong collaboration with several professional associations in RMA education/certification (e.g. EARMA Academy, training programme of SRA International).

Moreover, resulting from the efforts in training and professional development for RMAs recapped above, institutions invest more widely in RSOs.

National Studies on RMA

There is an ongoing discussion in Poland about the separation of the roles of the project leader and manager among the KRAB members and research institutions. The systemic and professional support for research project leaders in management area is crucial. Research project leaders are usually people with deep substantive knowledge who have acquired management skills through life experience. The significant role of the project manager, who takes over some of the project leader's functions in the area of organisation, supervision and reporting, was revealed during the qualitative research on R&D project management in the science sector (Gryzik & Knapińska, 2012). The manager usually stands lower in the hierarchy of the institution than a project leader, also does not have the authority to make key management decisions, such as delegating tasks or accepting costs, but knows perfectly well what is happening in the project, prepares solution proposals, takes care of documentation and cooperates with internal and external administration. Project managers are usually young researchers (PhDs or PhD students) or people with experience in administrative and organisational project activities.

According to the report on the role of university administration in the process of striving for scientific excellence published in 2020 as part of the ministerial project Dialog, the position of the university administration staff in Poland can be described by three words: invisible, non-existent but indispensable (Nicolaus Copernicus University, 2020). The role of administration in the process of striving for scientific excellence was analysed based on interviews with 60 representatives of this group employed at six universities in Warsaw, Poznań, Gdańsk and Toruń. From the interviews, it emerges how the administration is often overlooked; this is the common perception in institutions although without administrative support any goals, even those easily measured by rankings, including the number of grants or the results of recruitment, would have been unattainable.

[23] https://www.eog.gov.pl/

Arising from the report above, we see that it is the commitment, competence and efficiency of thousands of employees of dean's research offices, knowledge transfer centres, departments, such as human resources, finance, international cooperation, legal services, public procurement, promotion, as well as project managers and coordinators that largely determines how the university will be perceived not only in their surroundings, but also more broadly – compared to others.

These employees talk about prestige, stability and professional satisfaction, but on the other hand they mention limited career development opportunities, including the lack of clear rules for promotion. They complain about being overloaded with duties and working under serious time pressures. Some respondents pointed to the lack of an unambiguous strategy on the priority directions of scientific research, which directly translates into more difficult resource management. In addition, there are large inequalities in the status of administration and scientists, and double standards in treating both groups, since 'scientists are allowed more'. The employees appreciate the system of motivational tools as well as the availability and attractiveness of the training offer. The results were used to develop a diagnosis in the field of professional development, and then to create a proprietary training programme, which is currently being implemented (Nicolaus Copernicus University, 2020).

The KRAB plans to conduct regular analyses of the RMA profession across Poland. The questions that will be asked in a questionnaire will cover issues of educational background, experience and most recent research administration role of RMAs, RSO model in the institution as well as RMA education, the level of skills required for RMA and current trends and challenges.

The Current Challenges and Opportunities for RMA in HEU

So far, in total, more than 8,000 Polish research teams have participated in FP projects. More importantly, the roles of Polish teams in FP projects are constantly increasing and this is also reflected in the higher co-financing of the EU absorbed by Poland. The rules of the former FPs were not properly designed to use the whole innovation potential of the EU-13. Despite serious efforts by the EU and the Member States as well as the inclusion of the 'Widening package' in Horizon 2020, significant gaps remain among European regions in terms of research and innovation performance. The current challenges and opportunities for RMAs in HEU are related to:

- new measures which should support the opening of the so-called *closed clubs* in HEU, namely introducing new horizontal instruments (e.g. new ex-aequo selection criterion based on geographical diversity); and
- continuation of the significantly strengthened 'Widening package' and need for professional management of Teaming, Twinning and other projects.

It is beneficial that in all HEU Twinning applications it is obligatory to include work package devoted to strengthening the RMA skills. Since Twinning calls are well received in Poland, it can give a new boost to professionalisation of research management.

Future Directions

Over the past decade, we observe Poland's effort to develop its capacity in RMA. Still, in Poland, there is a substantial need for highly qualified RMAs and professional

RSOs. The need for professional RMAs is increasing as a result of current opportunities in national programmes implemented by the NCBR and EU funded/international projects, in particular HE, whereas we expect the roles of Polish teams will be constantly increasing. We believe that the new reform of science and systematic growth of funds for research, will create better conditions for scientific teams but also for the RMA profession in Poland. The KRAB has an ambitious plan to develop a strong position in Poland, with membership stretching into the hundreds and almost all research organisations. The KRAB plans to keep good ties with international RMA organisations as well as the national funding agencies and the EC and will regularly consult on matters such as support instruments and research efficiency. A goal is to implement a regular certification programme for RMA (in cooperation with EARMA and IPMA) and promote better understanding of RMA professionals who are notably situated between the academic and administrative spheres. There are ambitious plans, including active support for Polish participation in HEU. The goal for the Polish RMA profession is clear, it strives to be even more visible on the European level.

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References

European Commission. (2017b). *Peer review Poland's higher education and science system*. Horizon 2020 Policy Support Facility, Directorate-General for Research and Innovation.

Gryzik, A., & Knapińska, A. (Eds.). (2012). *Research and development project management in the science sector*. National Information Processing Institute – National Research Institute (in Polish).

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA Main Dataset*. figshare. https://doi.org/10.6084/m9.figshare.2112005.

Krasiński, Z. (2013, May 23). *View from Poland – Laying the foundations*. Research Europe Supplement.

Law on Higher Education and Science of 20.07.2018. (2018). *Dziennik Ustaw. poz. 1668* (in Polish). https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20180001668/U/D20181668Lj.pdf

National Research Programme. (2011). *Uchwała Rady Ministrów nr 164/2011 z dnia 16 sierpnia 2011 r*. https://archiwum.mrips.gov.pl/download/gfx/mpips/pl/defaultopisy/10411/1/1/zal.%201%20do%20uchwaly%20RM.pdf

Nicolaus Copernicus University. (2020). *Report on the qualitative research of employees of the central administration of Polish universities as part of the project "Invisible, non existent, indispensable – University administration for scientific excellence*".

Rzempała, J. (Ed.). (2015). *Research project management*. University of Economics in Krakow (in Polish).

Statistics Poland. (2021a). *Research and experimental development in Poland in 2020*.

Statistics Poland. (2021b). *Statistical yearbook of the Republic of Poland*.

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Chapter 5.24

The Profession of Research Management and Administration in Romania

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Abstract

Research management and administration (RMA) is a globally emerging field, but it is not yet established in Romania. The chapter analyses what are the formal expectations regarding RMA in the Romanian research system, and how these tasks are resolved on the ground. First, policy documents and informational packages of the major research funding calls are examined. Second, interviews are conducted with research project leaders, who undertook projects in different research organisations (state financed or private universities, state financed research institutions, or private foundations) in Romania. The interviews focussed on the challenges project leaders experienced in the grant seeking and implementation process, and on how they see the institutional and policy environment they work in.

In the concluding parts of the chapter, concrete policy recommendations are formulated that could help in resolving the research management related challenges, and in establishing RMA as a profession in the country.

Keywords: Romania; RMA; research projects; project life cycle; managing research projects; professional identity

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Introduction

Many argue that a strong research sector is very likely to be linked to the situation of RMA, because conducting science is not only about good researchers and innovative ideas but also about attracting and managing funds efficiently (Landen & McCallister, 2006; Schützenmeister, 2010; Tauginienė, 2009). However, RMA is not a recognised profession in Romania, since there are no training or professional organisations who would train research project managers, and therefore projects are managed by the researchers involved in these projects. In fact, there is hardly any debate about the introduction of RMA as a profession, and analysis on the educational reforms (e.g. Dobbins & Knill, 2009; Nicolescu, 2002; Vasilache et al., 2012) and the R&D sector (Goschin et al., 2015; Sandu, 2018) seldom tackles the issue.[1] Thus, the main objective of the present chapter is to understand how researchers cope with this situation, what are the main problems they face during planning and implementing their projects, and how the institutions they work in help them in their work. As we will show, there is no legal possibility to hire RMA personnel in most projects and therefore most researchers have a hard time when doing their own research and carrying out tasks in the project's administration at the same time. Nonetheless, there are some emerging organisational models through which host institutions try to ease their situation with more or less success.

Being aware of the fact that RMA includes all kinds of non-project related activities, such as researcher development, governance, ethics, and strategy, in this chapter, we focus only on a subset of the field, and assume that RMAs are working on projects. As the profession is not recognised in Romania, we consider that any description of the state of the art should start at the grassroot level. In our assumption, strengthening the profession on this level will entail the development of the profession and the appearance of more complex tasks.

The chapter has two main goals. First, it analyses the Romanian research environment, focussing on policy documents and information packages of calls to understand how RMA is defined and perceived by the different funding programme documents. Second, relying on expert interviews it presents how RMA is perceived by project leaders, describing the different strategies and on the institutional approaches they mention.

The Romanian Research Environment

According to Eurostat data, Romania is the last among European Union (EU) countries in research and development (R&D) spending, both in terms of share of governmental expenditure[2] and percentage of gross domestic product (GDP).[3] Also, the country is laggard in the percentage of the population participating in research PhD programmes and the number of researchers per capita. The underdevelopment of the sector is explained by the lack of strong and competitive R&D centres in the country and the lack of interest of the private sector in research and innovation. The currently ending *National Research, Development, and Innovation Strategy 2014–2020*[4] (SNCDI) tried to address these issues, foreseeing a more proactive approach of the government in stimulating public–private partnership. Additionally, the plan stimulates the

[1] A refreshing exception from this trend is the article by Marin et al. (2017), which presents an academic managers' perspective on research management.
[2] https://ec.europa.eu/eurostat/databrowser/bookmark/2f9a7f0b-5780-43ec-a88d-17a04915da9f?lang=en
[3] https://ec.europa.eu/eurostat/databrowser/bookmark/999ebe67-78b5-4e71-910e-29166b557063?lang=en
[4] Government Decision 929/2014.

formation of research clusters with the involvement of research institutes, universities, and private companies as an opportunity for scientific innovation and progress.

SNCDI 2020 formulated three general objectives to increase: (1) the competitiveness of the Romanian economy through innovation, (2) the contribution of Romanian involvement in frontier research, and (3) the role of science in society. Furthermore, based on public consultations, SNCDI 2020 defined a few focus areas (bioeconomy, informational technology, energy and climate, eco-nanotechnologies, health, new technologies, heritage, and cultural identity) that are expected to help in achieving the three objectives. More specifically, the first five focus areas were created to attract private actors and to promote investments in the region, while the last three were constituted in line with public interest.

The implementation of the national research strategy was planned mostly through two instruments, namely the National Plan of Research, Development, and Innovation (PNCDI), and the Competitiveness Operational Program (POC). While POC channelled funds from the European Regional Development Fund, PNCDI operated with other research resources such as national funds, the Horizon Europe programme, and the EEA & Norway Grants.[5]

PNCDI III is structured into five programmes: P1: Development of national R&D system, P2: Increasing the competitiveness of the Romanian economy through research, development, and innovation (RDI), P3: European and international cooperation, P4: Fundamental and frontier research, and P5: Research in areas of strategic interest. Most of these programmes are addressed to public and private research organisations. PNCDI integrated European cooperation research programmes such as Horizon 2020, COST, and EUREKA in its P3 program.

POC has two priority axes, AXA1 for developing research investment and infrastructure and stimulating innovation, and AXA2 for developing infrastructure in information and communication technology. From a research perspective, only AXA1 is relevant.

A third specific programme that needs to be mentioned is the EEA Financial Mechanism, a programme financed by the Norwegian, Icelandic, and Lichtenstein governments with the objective to reduce economic and social inequalities in Europe. The programme has been operating in Romania since 2007 and names research as one of the major areas of interest, facilitating cooperation between research institutions from the donor countries and Romania.

Although some of the most recent literature on RMA shows that a working and strong RMA sector is crucial to the development of the research environment (Bezecný, 2017; Garrido et al., 2019; Langley, 2012), RMA is not mentioned in any of the existing policy documents, efficiency being linked solely to strengthening infrastructural and organisational aspects of research.

Structurally, the Romanian research environment can be divided into two main categories: one programme focussing on research organisations and on the increase of competitiveness of the Romanian research sector, and another addressing private companies interested in the usability of research and innovation in the economic sector. Without neglecting the importance of this latter category, the current chapter addresses the situation of RMA in the former programme.

Managing Research Projects. A View on the Field

Although the policy documents do not mention RMA at all, the situation of the sector can be examined through the way in which different calls define and treat the subject, and also through the way in which research organisations resolve management and

[5] https://eeagrants.org/about-us

administration. Accordingly, first we analyse the information packages of different calls to understand what the formal and structural conditions are in which RMA functions, and second, with the help of sociological interviews conducted with project leaders, we reconstruct how RMA works in different institutional settings and what are the main problems that project leaders encounter.

The Formal and Structural Characteristics of RMA

Since SNCDI 2020 was adopted, there were several open calls that targeted research organisations. In order to understand how the Romanian research environment defines RMA, we analysed how informational packages, frequently asked questions' documents, and evaluation materials refer to RMA. In each case, we were looking for the following information:

- How project leaders were defined, and what were the eligibility criteria for becoming one?
- What was the expected role of project leaders?
- What were the eligibility criteria for project team members?
- How management related costs appear among eligible costs?
- How are expert evaluators selected?
- How management related criteria appear in the evaluation procedure?

After inspecting all documents, the results are rather grim.

1. As a general norm, the Romanian research environment is an academia-centred system; this means that eligible projects are those that are led by designated researchers, who hold a PhD degree and have expertise and experience in the field. This is usually measured by the scientific quality (publications, citations, etc.) of the researcher/applicant and with no major or visible intervention by RMAs.
   Additionally, some calls explicitly mention that all project participants should be researchers with PhD or should be enrolled in a doctoral program. Only some POC subprogrammes treat project management as a separate entity, making available a limited number of posts for administrational personnel.
2. Project leaders are responsible for every task of the project, from research to administration, finances, reporting, and dissemination. Thus, while selection and eligibility criteria are scientific in nature, the needed expertise are both research and administrational, for which not all project leaders are prepared for.
3. The position of RMA personnel is made even more ambiguous, if we look at how eligible costs are defined. PNCDI calls do not mention administration costs separately, these are included in the overhead costs category. In some calls (Horizon 2020, EEA Grants, and POC), management and administration costs are defined as staff costs.
4. Evaluators, if mentioned, are researchers, who have expertise in the field, meaning that they have publications and some experience in project administration. However, only in the case of POC projects, managerial qualities of the application are decisive.

Consequently, based on programme descriptions, a gloomy picture of the RMA profession in Romania emerges. Officially, all project leaders must be experienced researchers, but managerial experiences are not mandatory. Furthermore, most projects

cannot employ RMA personnel directly, and therefore these costs are included in the employing institution's overhead costs. These structural characteristics foreshadow a system where the internal logic and culture of each institution determine what type of administrative and managerial assistance is available for researchers. As it is shown in the following part, institutions – depending on how centralised they are, and how open their administration is to help researchers – develop different strategies to assist project leaders in their management duties. As research funds become more and more important, institutions begin to adapt as well.

Research Project Leaders and RMA

To get a more precise image on RMA, in the spring of 2022, seven at least one-hour long interviews were conducted (online or face-to-face). We have chosen to interview researchers, who have active, or recently closed research projects financed through the Romanian research system. The interviewees were selected based on two criteria: (1) we targeted people from a wide range of institutions, with diversified experience in the field; and (2) we tried to cover all possible research programmes and research domains – in order to mitigate our assumption that the perceived problems could differ between research calls and the domain the researcher comes from. Furthermore, in selecting participants, we strived to keep gender and age balance as well.

The interviews addressed issues such as professional identity of the interviewee, attitudes towards RMA, and the perceived tasks of project leaders. In addition, how research organisations help in project management, the list of most important management related problems, and the situation of the research environment in Romania were explored.

In the following section, we present the situation on RMA in Romania focussing on three topics: (1) how researchers cope with project administration; (2) what are the main problems they encounter; and (3) what kind of institutional support they receive.

Researchers' Professional Identity and RMA

Most of the interviewees have a strong identity as researchers; however, only a few associate this with a managerial approach. These persons usually are consciously looking for calls and develop and write research project proposals with ease. Also, they excel in time management, keeping their projects organised and on track. However, those who feel comfortable with managerial roles are the minority. Most researchers do not necessarily consider the task hard but see it more as a burden rather than an opportunity. Many of them think that it would be better to delegate these administrative tasks to someone more familiar with their management.

Furthermore, despite the strong sense of identification with their discipline and with research more generally (Becher & Trowler, 2001), identification is a much more complex issue for staff/researchers working in universities. This is because in Romanian universities most people are employed as full-time professors, meaning that research projects are understood as additional tasks, which can be done after fulfilling other tasks, for example, teaching, and so when all their classes are finished. Ongoing projects therefore do not relieve researchers of the burden of teaching, and because project leaders are doing both the research coordination and project administration work, there is significant pressure on their shoulders, which often goes to the detriment of performance.

In conclusion, most project leaders do not choose to do RMA purposely, and so they would gladly delegate it to someone else more competent and familiar with the duties required by calls.

Problems Encountered When Managing Research Projects

Our interviewees reported several problems related to project management, which spread through the whole management process. We order these according to the project life cycle: first, we present problems related to planning phase; second to writing the project; third to implementation and reporting; and last to dissemination.

Planning. One of the major problems mentioned by all interviewees is the lack of plannability. In the past seven years, Romanian national agencies did not open calls regularly. This made planning extremely hard, research organisations cannot foresee when the next call is expected to be published. Some of our interlocutors believe that lack of plannability makes the Romanian grant-system weak and rely on it only as a last resort, while others are used to this and do research without major funding.

The problem above has a different lens of understanding though. Most research institutions rely on state financed or managed sources, and only a few of them are able to look for alternative resources. As most institutions do not offer help in attracting funds or monitoring calls, researchers can rely only on their own skills in this matter.

Writing the Proposal. Interviewees agreed that writing the project proposal is the responsibility of the project leader and only some of them asked for help in this task. The level of help they ask for varies on a person-by-person basis. Some project leaders discuss the project in their research team and then begin writing on their own, while others allocate some of the work to team members. Also, it is a common practice that younger researchers are guided by senior researchers in writing their first project. This usually means oral guidance or a review of the first draft. A less common practice was found at some of the state universities, where some research support is provided already in this phase, and the financial parts of the project proposal are allocated to the administrative department. This is usually a huge help for researchers who believe that the budget is one of the hardest parts to compile.

A specific situation is the one of those involved in POC projects. As EU structural funds are the most complicated to apply for, only a few researchers venture on these realms. One of our interviewees explained that there are some project writing companies in the market, who undertake research projects applications, and if the project is successful, they usually help with project implementation as well.[6]

Implementation and Reporting. In line with other research on the topic (Sunindijo, 2015), implementation and reporting were mentioned as the most important parts of any project, and most problems that arise in the project lifecycle may be related to this phase. Only a few of our interviewees had experience with EU structural funds (POC), however they say that there is a huge difference between implementing a project financed by these programmes and working on national research projects (PNCDI). In the former, procedures are very strict, there is a lot of paperwork, but administrational personnel can be hired for the purposes of the project. Even so, the administrative and

[6] See Researcher in Chemistry, 'RMA in a private foundation', available at the Repository of the Sapientia University.

financial pressure on project leaders is very high, monitoring focussing on these issues. As a result, in many projects assessing the quality of research is only secondary.

In the case of PNCDI projects, research project management is not that hard but depends on the support made available by the institution. At state institutions for example, researchers usually oversee the preparation of necessary documents, timetables, and reporting materials. Furthermore, the involvement and attitude towards research/research groups shown by the administration unit of the department is crucial. In some institutions administration is overly cautious, while others participate proactively in the project helping researchers in administrational tasks.

Most of our interviewees agreed that for a project leader, the most important resources to be equipped with are problem solving skills and the level of trust and cooperation that they have been able to build. Also, in many cases administrative personnel are hired informally, or tasks are delegated to one of the colleagues involved in the project. This, however, needs a certain kind of openness and flexibility from administrative departments, as in this way an extra researcher or technician position needs to be created.

Dissemination and Exploitation of Project Results. A last set of problems that was reported is related to dissemination. On paper project leaders are responsible for disseminating the project. Although in most projects, this usually refers to scientific publications and conference participations, dissemination is more complicated in projects funded by EU operational programmes, and projects involving patents.

EU funded projects have strict regulations regarding knowledge reaching society. Project leaders need to think about how they will achieve this target much in advance. Usually, these actions involve the creation of websites, social media accounts, press releases, and conferences for experts or the wider public; while open dialogue with local stakeholders rarely takes place.

Totally different problems arise when the result of the project is a patent. In many cases, project leaders must figure it out for themselves, what are the procedures, what kind of paperwork must be presented, and what institutions they need to refer to. Research organisations in many cases are as inexperienced as the researchers themselves in these matters.

Institutional Support of Research Project Management and Administration

When talking about how institutions support research, two topics need to be addressed: how research organisations encourage participation in research, and what type of institutional help they offer to researchers and project leaders.

As for the first question, facilitating participation is relevant mostly for universities having significant budget in addition to the research projects. In these cases, institutions offer financial motivation for those who publish in top papers and who manage to attract research funds. This model is universal to both state and private universities and those working in research do feel motivated.

At smaller and private research organisations things work differently. As their core budget is smaller, all research projects are vital for keeping employees. Therefore, these organisations develop a more proactive support for their researchers. As they are not restricted by the strict financial protocol characteristic to state institutions, they can use the overhead costs of research projects more freely and can hire personnel with expertise in project management if they want. Some researchers are aware of these possibilities and look for private organisations to host their project. However, this type

of movement is not becoming a general trend, because only a few non-governmental organisations or foundations have the needed financial security to venture into this area and even if they do so, because of the already mentioned problems in planning, they are having a hard time offering continuity for their researchers.

As for the institutional help, the pattern depicted above depends largely on the type of the institution. Private research organisations may have a lot of manoeuvring possibilities since they usually work with a few researchers and conduct only a handful of projects. They can offer administrational help for their researchers. State funded research institutes and universities are in a more complex situation. Prior to 2014, when it was less common to manage many projects, researchers were offered no help at all, and the institutions did not provide a healthy research environment for these projects to flourish. Most interviewees agree that from 2014 onwards some universities created departments that help researchers in some of the administrative issues, such as gathering needed signatures, support in financial matters, while others reformed their existing administrational offices to participate more proactively in projects, offering help to researchers when needed. This can be understood as a first step towards the set-up of research support services, and researchers feel the importance of these changes, because they do not have to worry about financial matters, how much of the budget was spent, or how to resolve some of the legal situations that arose. Problem solving capacities of the administration accelerated as well.

Without downgrading these developments, it is important to emphasise that the offered support covers only a small part of what an RMA expert could do. Institutions do not offer systematic help in the project writing or reporting phase and do not follow research projects closely. This means that they do not have the wider picture of the process, do not have information about how the project develops, or what are the most important deadlines. Their involvement is occasional, mainly of financial or legal nature and happens at the request of the research project leader. This is partly explained by the fact that in most cases, administrational personnel cannot be linked directly to projects, administrational and managerial departments are maintained from core budgeting and overhead costs.

The Future of RMA in Romania

Both the policy documents and the interviews confirm that RMA in Romania is not considered as an important part of research, and that more often researchers must solve everything by themselves. As the number of research projects began to grow, institutions recognised the need of administrational support, but this usually meant occasional involvement in financial and basic administrative tasks.

Another characteristic of the Romanian research system is its academia-oriented approach. Project leaders and even project staff in most projects need to be designated researchers who hold a PhD degree. This, however, is not measured through RMA experience but through publications. As a result, those researchers, who want to do high quality research, need to lead projects both from a research and managerial perspective, which is a burdensome work for most of them. Although some of them manage to get help informally, in the end this largely depends on the flexibility and the attitude of the institution.

Researchers becoming project leaders encounter several problems throughout most stages of the project cycle. Although they would like to focus on research, they need to focus on grant-writing, cumbersome implementation, keeping deadlines, administrative work in procurement of materials, and societal dissemination. Most of these problems, however, could have been avoided if their projects had designated RMA

personnel, who have the necessary managerial, communicational and problem-solving skills to address these issues.

From a policy perspective, to solve these problems and to strengthen the administrational quality of projects, two important steps should be taken. First, RMA needs to be recognised as a profession, which could allow universities to hire and train personnel. Without this, RMA will be lost in a system of administration departments, who do not understand how research works. Second, RMA should be introduced in projects as possible budgetary spending allowing research institutions to hire designated personnel to monitor not only the basic administrative and financial tasks, but also to understand the implications of the project, follow the development of projects closely, and meet all the deadlines. These two simple tasks would allow institutions to build up their capacity in RMA and would take the administrative burdens off research leaders so as to enable them to carry out more competitive and excellent research.

References

Becher, T., & Trowler, P. (2001). *Academic tribes and territories: Intellectual enquiry and the culture of disciplines* (2nd ed.). Open University Press.

Bezecný, I. (2017). We can't do excellent research without excellent research management. *NCURA Magazine*, *XLIX*(6), 46–47.

Dobbins, M., & Knill, C. (2009). Higher education policies in Central and Eastern Europe: Convergence toward a common model? *Governance*, *22*(3), 397–430.

Garrido, R., Trowbridge, C. A., & Tamura, N. (2019). Ten simple rules for providing optimal administrative support to research teams. *PLoS Computational Biology*, *15*(10), e1007292.

Goschin, Z., Sandu, S., & Goschin, G.-G. (2015). How soon could Romania close the R&D gaps against EU-28? *Procedia Economics and Finance*, *22*, 160–167.

Landen, M., & McCallister, M. (2006). The research administrator as a professional: Training and development. In E. C. Kulakowski & L. U. Chronister (Eds.), *Research administration and management* (pp. 75–82). Jones & Bartlett Publishers.

Langley, D. (2012). Research management and administration: A reflection of where we are and where we need to go as a profession. *Perspectives: Policy and Practice in Higher Education, 16*(3), 71–76.

Marin, E., Iftimescu, S., Ion, G., Mihaela, S., & Proteasa, C. (2017). *Academic managers' perspective on research management in higher education institutions across Romania* [Conference presentation]. 3rd International conference on higher education advances, HEAd'17, June 21–23 , Valencia.

Nicolescu, L. (2002). Reforming higher education in Romania. *European Journal of Education*, *37*(1), 91–100.

Sandu, S. (2018). A century of scientific research and innovation in Romania. *Romanian Journal of Economics*, *47*(2), 82–105.

Schützenmeister, F. (2010). *University research management: An exploratory literature review*. UC Berkeley, Institute of European Studies.

Sunindijo, R. Y. (2015). Project manager skills for improving project performance. *International Journal of Business Performance Management*, *16*(1), 67–83.

Tauginienė, L. (2009). The roles of a research administrator at a university. *Viesoji Politika ir Administravimas – Public Policy and Administration*, *30*, 45–56.

Vasilache, S., Temesi, J., & Dima, A. M. (2012). Higher education reforms in Eastern Europe. A Hungarian–Romanian case study. *Management & Marketing Challenges for the Knowledge Society*, *7*(2), 295–322.

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Chapter 5.25

Evolution of RMA in Slovenia

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Abstract

This chapter outlines the research management and administration (RMA) as a profession and work field in Slovenia. Thus, we present an overview of the Slovenian research system, describing how this system has evolved over time. In addition, we explain the emerging need for RMA skills, including its self-organisation component and the challenges that lie ahead. A section is dedicated to Slovenian RMA demographics using RAAAP-2 and RAAAP-3 surveys. The conclusions of the chapter focus on a forecast for the future of RMA in Slovenia and several possible paths to follow for its community.

Keywords: Slovenia; Research management and administration; professionalisation; KOsRIS II; RAAAP; research ecosystem

The Slovenian Research Ecosystem

The beginning of the institutionalisation of Slovenian research can be associated with the establishment of the first research institution in Slovenia in 1898, the Agricultural

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Institute of Slovenia,[1] and later with the establishment of the University of Ljubljana in 1919, the first Slovenian higher education institution. The second most important milestone is the establishment of the Slovenian Academy of Sciences and Arts[2] in 1938. Before that, shortly after World War II, the research community and its ecosystem had been enriched by various research institutes, including the National Institute of Chemistry (1946),[3] the Geological Survey of Slovenia (1946),[4] the Slovenian Forestry Institute (1947),[5] and the Josef Stefan Institute (1949).[6] By this time, the foundations for successful research in Slovenia had been laid. Nevertheless, the role of research managers and administrators (RMAs) was not yet recognised at that time, and it took quite a while for this topic to receive the attention it needed.

Since then, the profile of RMAs in Slovenia has evolved over time. It began as a response to the emerging need for a more professionalised workforce, which increased with the introduction of project-based grant research.

Slovenia was part of the Yugoslav Republic until 1991. On 25 June 1991, Slovenia became an independent state and sought closer integration with the European Union (EU; Republic of Slovenia, 2020).

When Slovenian organisations were able to participate in EU research funding programmes, a need arose for new skills in RMA. Slovenia became a full member of the EU on 1 May 2004, but had already participated in research projects during the accession phase as a candidate country since the Fifth Framework Programme in 1999 (European Commission, 2014). Slovenian institutions/research organisations submitted 1,350 applications in the 5th Framework Programme and 921 applications in the 6th Framework Programme (Rašula, 2004). Since 2004, when Slovenia became a full member of the EU, Slovenian researchers have participated in various EU programmes. The most recent known data on performance in the Horizon 2020 programme show that Slovenia submitted 4,142 applications in 2014–2017 involving Slovenian institutions either as partners or coordinators, of which 450 were successful (Republic of Slovenia, Ministry of Infrastructure, 2018).

Investments in R&D in Slovenia peaked in 2012 and 2013 at more than 2.5% of gross domestic product (GDP). Since then, relative investments have declined and will only account for about 2% of GDP in 2020 (Statistical Office of the Republic of Slovenia, 2022).

The development of the profession of RMA in Slovenia is full of challenges. The process began with the emergence of RMAs at the institutional level – this is why we refer to 'institutionalisation' at the beginning of the chapter. Professional development of these colleagues took place through expert seminars organised by consulting companies and through self-initiated collaboration between research institutions. Support at the national level was less visible, although the profession was known and recognised, for example, through the inclusion of basic RMA job titles in the catalogue of civil service jobs that is part of the Public Sector Salary System Act passed on 28 December 2009 (Zakon o sistemu plač v javnem sektorju, 2009).

RMAs meet regularly in a network of RMAs called KOsRIS II (Koordinacija samostojnih raziskovalnih inštitutov), which was established on the basis of good

[1] www.kis.si
[2] www.sazu.si
[3] www.ki.si
[4] www.geo-zs.si
[5] www.gozdis.si
[6] www.ijs.si

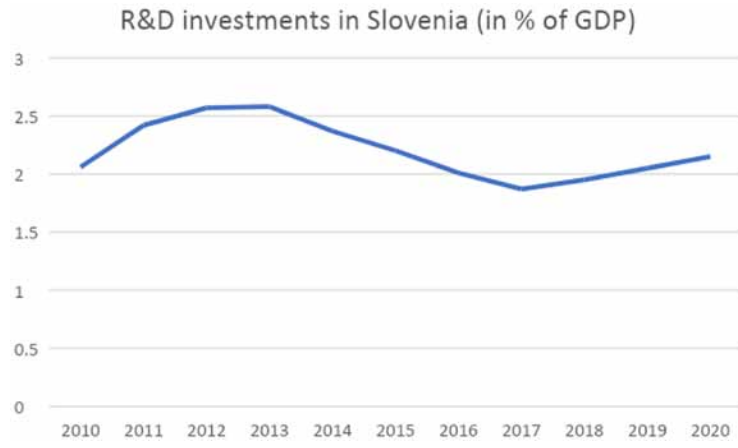

Fig. 5.25.1. R&D Investments in Slovenia (in % of GDP). *Source*: Statistical Office of the Republic of Slovenia (2022).

informal cooperation between research institutions. Since its inception, it has developed into an open network that embodies the spirit of inclusion. It brings together mainly RMAs from independent research institutes. The background of KOsRIS II is the establishment of KORIS, which was founded on 10 January 1996.

The research community in Slovenia founded KORIS out of a need to network and look for ways to improve conditions for research work by signing membership agreements in 1996. KORIS stands for Coordination of Research Institutes of Slovenia. The members were public research institutes as well as other institutes within universities that were not independent legal entities. According to the 1996 work programme of KORIS, the basic goal was to coordinate cooperation with the Ministry of Science and Technology in defining research policy in Slovenia. With the adoption of the new Rules of Procedure on the Functioning of the Coordination of Research Institutes of Slovenia on 29 May 2009, KORIS was renewed. In the new Rules of Procedure, membership was limited to independent, non-profit research institutions. The amended Rules of Procedure also brought about the change of the name to KOsRIS (abbreviation for Coordination of Independent Research Institutes of Slovenia), emphasising the independence of the member organisations.

In the period 2009–2022, KOsRIS became an active and important player in shaping the research field. KOsRIS is making significant efforts to increase the budget for science and the share of stable funding, which was fully competitive by the end of 2021. In addition, KOsRIS is taking initiatives to remove red tape, overcome administrative barriers, and improve research infrastructure. Its members also work with legislators to find ways to improve working conditions, draft sectoral legislation, point out irregularities, and participate in organising the March for Science. The greatest achievement of KOsRIS was its participation in the drafting of the new Act on Scientific Research and Innovation Activities (Zakon o znastvenoraziskovalni in razvojni dejavnosti (ZZrID), 2021), which was adopted by the National Assembly of the Republic of Slovenia on 18 November 2021. The Act recognises KOsRIS as an active player in the regulation of the research field and regulates its activities for the first time in Article 53 (ZZrID, 2021).

At this point, it should also be noted that for-profit entities which participate in research activities, receive less than 1% of the national research budget in 2020, according to the Slovenian Research Agency (ARRS, 2020).

Evolution of the Profession in Slovenia

Nowadays, the profession of RMA is becoming more and more recognised in Slovenia, although it is still mainly limited to financial reporting, administrative project management, and legal advice. The national landscape is quite diverse: in larger research organisations, on one hand, there are extended project offices where basic and additional services are provided. In smaller organisations, on other hand, these RMA tasks are often delegated to department members (i.e. general managers and administrators, not necessarily RMAs), so staff must be trained to perform some RMA tasks. For that purpose, tacit knowledge exists, albeit fragmented and not used to its fullest extent. However, the importance of soft skills has to be underlined as well, which are often not directly visible and are part of intangible human capital.

The RMA profession in Slovenia continues to evolve and faces many challenges. In addition to developing additional profiles on a broader basis (e.g. research consultant, technology transfer officer, data manager, etc.), it is of immense importance to strengthen and upgrade the existing profiles of the RMA. There is a need for continuous, lifelong learning of RMAs. This could be achieved in the initial phase through formal training (currently there are no accredited programmes for RMAs at university or national level) and should be complemented at the same time by fostering appropriate development within national and international networks of experts. We anticipate that various RMA networks would broaden the horizons of RMA staff. As a consequence, this could lead to better access to important information representing an important advantage in the demanding research market (e.g. better information on relevant calls for proposals, facilitated solutions to specific administrative problems, IT tools comparisons, etc.).

As for RMA personnel in Slovenia, they are mostly employed in universities, research institutes, private research organisations, and professional consulting firms. The RMA community is therefore growing rapidly due to the awareness that RMAs do not perform standard tasks, which, on the contrary, are the main characteristics of positions in general administration; on the contrary, RMAs are those who are called to provide support and solutions related to high profile and rather specialised tasks. There is another important difference between RMAs and traditional administrators in terms of qualifications; in general, RMAs have a better formal background and can access more training opportunities not only at the national level but also abroad. General administration is ubiquitous and therefore some basic standardisation already exists. On the other hand, RMAs are still evolving, and it is rather common to find it difficult to provide a complete list of required tasks that should be assigned to an RMA.

The Slovenian RMA Community

Directors of research institutes, as members of KOsRIS, very early acknowledged the need to involve the professional support of RMAs in the work of the network. The collaboration called KOsRIS II was initially informal part of KOsRIS and started in 2010. Since then, this collaboration, became an important part of KOsRIS and has proven to be indispensable as the directors, members of KOsRIS were in need of professional support in the field of research management and this high-quality type of support could have only been provided by competent and high calibre RMA staff. The formal process of integrating RMAs in KOsRIS II lasted until the year 2017, when the Rules of Procedure of the Coordination of Independent Research Institutes of Slovenia were amended. The chapter on KOsRIS II formally established a network of

RMAs under KOsRIS as umbrella network. During the years and with formalisation of the network, it has become clear that KOsRIS II needs to have an appointed Head of KOsRIS II. With the change of the Rules of Procedure of the Coordination of Independent Research Institutes of Slovenia in 2013, the function of Head of KOsRIS II was also formally introduced.

The main tasks of KOsRIS II are to contribute to the preparation of expert opinions and bases for KOsRIS actions, to do networking and to cooperate among institutes at the professional and operational levels, to carry out joint actions and search for solutions, and to organise professional trainings and meetings. In consideration of increasing demand from funders, the profession has emerged and slowly developed its main track. RMAs provide professional support to management in decision-making, in producing professional materials and guidelines, and in communicating with stakeholders (such as the ministry responsible for science and the national research funding agency). The good practice of networking and knowledge sharing at the management level has also fostered networking at the operational level, since it became soon clear to all that these directors united and supported by professional staff with relevant professional competencies could play a better role and be much more successful in communicating with key stakeholders.

Slovenian RMA Demographics

At the same time as the development of KOsRIS II, the RMA profession has further evolved. The growth of demands of funders at national and EU level has required specialisation and expertise. Institutes started to establish different research or project management offices where colleagues collaborated and specialised in carrying out activities in the pre-award and post-award phases of project application and implementation. In addition to deputy directors, heads of financial and accounting services, lawyers, financiers and human resources managers, project managers also became members of KOsRIS II forming a group dedicated to addressing common challenges in project management or financial management of European and national projects.

We estimate that there are approximately 1,000 RMAs working in Slovenia, mostly employed by universities and research institutes; this approximate number of RMAs is provided on the basis of data openly accessible and in some cases on the basis of estimations. In this group, we include a large workforce of those active in RMA in the country, so those who deal with finance, accounting, law, human resources, general research administration, and of course the ones who do project management.

Furthermore, we assess that one quarter of the workforce of RMAs working in Slovenia is employed in research institutes. These institutes vary in size but would be considered small organisations in the global context having them between 100 and 500 employees. Even many smaller organisations rely on RMAs to cover a varied, large set of roles, from finance, legal to project management, and proposal development, each carried out within the same role. While this general set of tasks allows for a successful flow of information, agility, and independence in project management, it also presents a challenge where more specialised knowledge and skills would be highly needed. Networking is, therefore, of utmost importance to fill in these knowledge gaps; and overall, this networking is assured through KOsRIS, which brings together mostly RMAs from public research institutes; KOsRIS also represents a strong RMA community in the country, even though the profession in RMA has still room for growth in Slovenia in a number of directions. One of these could be reached through enhanced connections among different national organisations employing RMAs.

Looking at some figures from the RAAAP-2 survey from 2019 (Kerridge, Ajai-Ajagbe, et al., 2022), we observe that 80% (n=10) of RMAs in Slovenia are female, which corresponds to the overall RAAAP results. This may be linked to the average salaries which do not attract male employees. Figures also show that RMAs are mostly employed through permanent contracts, and this proves the importance of having a stable RMA environment to advance the continuous need for these high-quality RMA services. Concerning the figures on education and academic credentials, we notice that RMAs in Slovenia mainly hold master's degrees and RMAs and leaders tend to have 10–14 years of experience in the profession.

Half of the respondents work at operational level and the other half is involved in managerial and leadership tasks. Since only 10 respondents from Slovenia managed to answer this survey, it is hard to make more definite conclusions on the grounds of such a small sample. We assume that there is a greater number of RMA colleagues that are involved on an operational level. On that basis, we can hypothesise that RMAs that work on an operational level are not sufficiently included in existing RMA networks.

On the basis of RAAAP-3 survey from 2022 (Kerridge, Dutta, et al., 2022), we observe that 82% of RMAs in Slovenia are female, which is close to overall RAAAP-3 results. There is a preponderance of permanent contracts. Most RMAs in Slovenia hold bachelor's degree and most of RMAs have 10–19 years of experience in the profession. Most of RMAs in Slovenia previously worked as administrators in other non-research sectors. Approximately 24% of RMAs have a research background. We estimate that among those RMAs quite some work outside management departments. We make this latter assumption based on the fact that only 60% respondents work in central management. The majority of RMAs work in non-profit organisations, which gives substrate for further conclusions. We assume that scope of RMA activities is closely related to scope of research activities. On that basis, we conclude that majority of R&D activities are executed in non-profit sector. We think that public entities focus more on research part of R&D and private entities focus more on development part of R&D. We draw this conclusion on basis of Aghion et al. (2008) who claim that academia (usually public) deals with early-stage research and private sector deals with late-stage research. We also think that late-stage research is much closer to development part of R&D activities. Consequently, we conclude that research sector is more systematically funded compared to development sector.

When we compare RAAAP-2 and RAAAP-3 surveys, we can conclude that proportion of female RMAs is pretty constant (around 80%) and that permanent contracts are prevailing. There is, however, difference at highest attained education degree – in the most recent survey, most of RMAs held bachelor's degree, whereas in the prior survey, RMAs held most often master's degree. There could be two reasons for the mentioned deviation; first, samples are relatively small and second, this could be due to a change in higher education system of Slovenia which went through Bologna transition period. Formally comparison between new and old system is placed, but there are still some inconsistencies which blur comparability.

In the contemporaneous RAAAP-3 survey, there are a greater number of respondents involved from Slovenia – 22 compared to 10 in RAAAP-2, which makes results in this most recent survey more useful. Although a bigger response had been hoped for, especially in view of the growing Slovenian RMA network. It is hoped that a larger number of participants could be foreseen within future similar surveys. Establishment of a Pan Slovenian society which would bring together RMAs from different working environments (such as universities and private research organisations) would be immensely beneficial and could consequently contribute to a much higher number of future responses.

Reflections on the Slovenian RMA Community

Although RMAs frequently interact with funders and policymakers, their communications are limited to specific requirements, such as pre-grant questions and financial review in the post-grant phase. Moreover, there is currently no mechanism for funders, decisionmakers, and RMAs to work with each other and lead to meaningful change, nor are RMAs recognised as relevant interlocutors. In our experience, an initiative usually has a bigger impact when it comes from researchers. There is little or no framework or funding for the development and professionalisation of RMAs.

Regarding the background of RMAs, we report that a detailed analysis of the previous professions of RMAs in Slovenia has not yet been conducted, but according to our assessment, RMAs come from different disciplines and career paths. There is some bias towards financial skills that facilitate the performance of future RMA tasks. Otherwise, according to an American study (Spencer & Scott, 2017), which could also be applicable to the current situation in our country, RMAs often come with a scientific background or they have previously held non-research jobs. Career pathways of RMAs were also analysed in a Nigerian study (Okonji et al., 2018). Compared to the career path of researchers, there is still much room for the career advancement system of RMAs.

The career path of RMAs in Slovenia is largely dependent on organisational factors. The level of experience and specialisation required, as well as lifelong learning, depends on the role that the RMA profession and RMAs play in their organisations. Whitchurch et al. (2021) note that organisations provide a more or less 'limited' roadmap for career advancement. However, individuals are able to flex formal requirements to accommodate activities that were not necessarily included in institutional career scripts. It therefore depends on institutions and whether they know how they are able to or want to support and encourage wider range of contributions from RMAs.

Some studies confirm that RMA is an area that has not been recognised internally (Virágh et al., 2020). In Slovenia, this field is considered only as a support service for the core business, which is primarily performed by researchers in their own way. This unbalanced relationship between RMAs and researchers is also reflected in salaries and other allowances. Thus, there is a gap between the two groups that can even affect the organisational climate of the institution. There is also usually a difference in terms of educational level – researchers usually have a PhD, while RMAs usually have a master's or bachelor's degree. It is then up to the individuals (researchers and RMAs) how they deal with this imbalance and how they mitigate potential tensions. However, the approach an institution chooses can play an important role in bringing together these two groups of staff with their different but complementary profiles.

Summary

In this chapter, we have provided an overview of RMA in Slovenia and its development over time. Its beginnings can be traced to the emerging need for more professional staff, which resulted from changes in research funding and more project-based grant research. Especially when Slovenian organisations were able to participate in EU programmes, new skills in RMA were needed. The RMA profession has been gaining recognition in Slovenia in recent years. However, their tasks are still mainly focussed on financial reporting, administrative project management, and legal advice. The situation varies quite a bit from organisation to organisation: in larger research organisations there are extensive project offices providing a variety of services, while in smaller

organisations RMA tasks are often performed by staff from different departments who are not necessarily trained RMAs. The challenge, then, is how to organise and leverage the fragmented knowledge that exists.

The career path of RMAs in Slovenia is largely dependent on organisational factors. The level of experience and specialisation required, as well as lifelong learning, depends on the role that the RMA profession and RMAs play in their organisations.

In Slovenia, RMA is considered only as a support service for the core business, which is primarily performed by researchers. This unbalanced relationship between RMAs and researchers is also reflected in climate of the institution. The approach an institution chooses can play an important role in bringing together these two groups of staff with their different but complementary profiles.

References

Aghion, P., Dewatripont, M., & Stein, J. C. (2008). Academic freedom, private-sector focus, and the process of innovation. *RAND Journal of Economics*, *39*(3), 617–635.

ARRS. (2020). *Funding and control*. http://www.arrs.si/sl/finan/letpor/.

European Commission. (2014). *Fifth RTD Framework Programme, 1998–2002*. https://cordis.europa.eu/programme/id/FP5

Kerridge, S., Ajai-Ajagbe, P., Kiel, C., Shambrook, J., & Wakefield, B. (2022). *RAAAP-2 datasets (17 linked datasets) (Version 1)*. figshare. https://doi.org/10.6084/m9.figshare.18972935.v1

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Okonji, P. E., Okiki, O. C., Idowu, I. A., & Alo, B. I. (2018). Assessing university research governance practices and structures in developing countries: The Nigerian universities experience. *Research Management Review*, *23*(1), 1–10.

Rašula J. (2004). *6. Okvirni program EU s poudarkom na postopkih prijave in sodelovanju Slovenije*. Univerza v LJubljani, Ekonomska fakulteta.

Republic of Slovenia. (2020). https://www.gov.si/novice/2020-12-22-pomembni-datumi-za-slovenijo/

Republic of Slovenia, Ministry of Infrastructure. (2018). *Ministry of infrastructure.* https://www.gov.si/en/state-authorities/ministries/ministry-of-infrastructure/

Spencer, T., & Scott, J. (2017). Research administrative burden: A qualitative study of local variations and relational effects. *Research Management Review*, *22*(1), 1–29.

Statistical Office of Republic of Slovenia. (2022). *Home page.* www.stat.si

Virágh, E., Zsár, V., Balazs, Z. (2020). Research management and administration: The relevance of special education and training programs. *HETFA Working Paper Series 2020*. https://doi.org/10.13140/RG.2.2.29780.83847. ISSN: 2062-378X.

Whitchurch, C., Locke, W., & Marini, G. (2021). Challenging career models in higher education: The influence of internal career scripts and the rise of the "concertina" career. *Higher Education*, *82*, 635–650. https://doi.org/10.1007/s10734-021-00724-5

Zakon o sistemu plač v javnem sektorju. (2009). *Newsletter Official Gazette of the Republic of Slovenia.* https://www.uradni-list.si/glasilo-uradni-list-rs/vsebina/2009-01-4891?sop=2009-01-4891

Zakon o znastvenoraziskovalni in razvojni dejavnosti (ZZrID). (2021). *Newsletter Official Gazette of the Republic of Slovenia.* https://www.uradni-list.si/glasilo-uradni-list-rs/vsebina/2021-01-3695?sop=2021-01-3695

Chapter 5.26

Research Management and Administration in the Western Balkans

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Abstract

In this chapter, we provide further insights into challenges and opportunities as perceived by Research Managers and Administrators (RMAs) and previously described in Chapter 4.6 (Professionalism section, Part 1). The study provides a bird's-eye view of the current state of the RMA profession in the Western Balkans (WB) and offers a set of recommendations for future research.

Keywords: Research management and administration; research manager and administrator; RMA; RMA profession; higher education; BESTPRAC; V4+WB

The focus group discussion that was fully explained in Chapter 4.6 (Marčić & Pepić, 2023a) revealed several important challenges and obstacles that stand in the way of recognising the RMA profession in the WB. Before engaging with those challenges, we first provide an overview of the research ecosystem in the WB.

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Research Ecosystems in the Western Balkans (WB)

To understand the context within which the profession is developing, it is important to emphasise that the population of the WB is estimated at 17.6 million (OECD, 2021a). As opposed to the European Union (EU), where research and development (R&D) expenditure as a percentage of gross domestic product (GDP) stood at 2.3% in 2020 (European Commission, 2021b), average expenditure in the region was significantly lower at around 0.4%. In 2020, R&D expenditure in Serbia accounted for 0.9% of its GDP, followed by Montenegro's 0.5% in 2018, North Macedonia (0.4% of GDP), and Bosnia and Herzegovina at 0.2% in 2019.

The share of R&D personnel in total employment follows a similar distribution. Serbia is the frontrunner at 0.71%, Montenegro 0.24% in 2019, and North Macedonia at 0.22%. Similarly, compared to the EU average of 1.44% of R&D personnel in total employment in 2020, the WB is largely lagging behind.

Since the collapse of communism, the number of higher education institutions (HEIs) has increased several times (Table 5.26.1). As an illustration, at the moment of the disintegration of Yugoslavia – that included Croatia and Slovenia without Albania – in 1991, there were 19 public universities in a country of 21 million people (Zgaga et al., 2012, p. 13).

All WB economies are fully associated to the EU's Framework Programme 9 on Research & Innovation 'Horizon Europe' meaning that researchers and research entities can take part in the programme with the same status as their EU counterparts. Five countries have been fully associated to the previous EU research and innovation programme 'Horizon 2020', whereas Kosovo was associated to Horizon Europe in 2021. Considering modest R&D investments in the WB, association with the EU's Framework Programmes has proven the most instrumental vehicle for increased cooperation and capacity building in these fields with nearly 1,000 organisations participating and 170 million EURO being received in direct EU contribution through Horizon 2020.

Similar to other regions, the RMA profession has been evolving from the necessity of managing and administrating projects funded by the EU Framework Programmes (and other R&D programmes) in the WB. Thus, the existence of the EU and other funding schemes has been one of the catalysts for the RMA profession's development in WB. Against this background, we look into this evolving profession in the WB.

Discussion

Some studies have shown that understanding and researching the RMA profession is challenging for many reasons, including the small population of RMAs doing research into the profession, scarce knowledge of the surrounding HE contexts, or low response levels to online surveys (Kerridge & Scott, 2018a). The present study's findings are similar to other studies conducted in Europe (Virágh et al., 2019). While the authors cannot accurately identify the number of RMAs, we estimate that there are less than 250 RMAs in the entire WB. Considering the size of the region's population, this is a tiny and unstructured group of professionals. However, this is not surprising bearing in mind the level of research intensity in the WB compared to many Western universities. Having in mind our 7 focus group participants and 16 online respondents, this number can be broadly considered to be representative of the RMA profession.

It appears that RMA is a dominantly female profession although additional research is needed to reach reliable conclusions. These findings are broadly consistent with previous findings in Europe (Virágh et al., 2019) and globally (Kerridge & Scott, 2018a; Oliveira, Trindade, et al., 2022; Shambrook & Roberts, 2011), although Nembaware

Table 5.26.1. Number of Accredited HEIs in the WB.

Country	Total HEIs	Universities
Albania	29[a]	13
Bosnia and Herzegovina	41[b]	25
Kosovo	38[c]	7
Montenegro	10[d]	3
North Macedonia	23[e]	15
Serbia	164[f]	15

[a]https://www.ascal.al/en/accreditation/accredited-institutions
[b]https://cip.gov.ba/images/pdf/ListaVSU/Lista_VSU.sr.pdf
[c]Zgaga et al. (2012, p. 48).
[d]https://www.enic-naric.net/page-Montenegro
[e]https://www.enic-naric.net/page-North-Macedonia
[f]https://www.stat.gov.rs/sr-latn/oblasti/obrazovanje/visoko-obrazovanje/

et al. (2022) have found that African countries have twice as many male RMAs compared to the UK. RMA professionals are mostly situated within public HEI/Research Performing Organisations (RPOs).

As expected, the RMA profession is not recognised either institutionally or by appropriate policies. Many managers and researchers are not even aware of the existence of the RMA profession. That is the case with some RMAs who have not realised that their job description makes a standalone profession until joining broader networks. Having in mind that most RMAs are not aware of networking opportunities, we argue that most RMAs in the WB are not familiar with the RMA profession either. Unsurprisingly, RMAs have very limited institutional and policy support. In the view of Respondent 2:

> RMA is something that is niche and needs to become mainstream. At the moment it is very ad hoc and linked to individuals who have been very proactive and successful. It is not something that has to do with the strategy and policy of the university.

This partly explains why institutional and policy support is missing. The present study also identified that without structured institutional support, the EU research and innovation funding schemes appear to be the main driving force of the RMA profession's growth in the region (see e.g. Bonnici, 2018). Respondents 1 and 4 elaborated that a powerful engine towards institutionalising the RMA profession in the region could be the so-called 'ring-fenced' twinning projects for the WB funded by the EU and to be implemented as of 2022. Experiences from such projects may have a 'spill-over effect at the university level and maybe even in the region'.

Studies have found that organisational culture has a significant impact on knowledge management (Lehman, 2017). We argue that the overall HEI/RPO's organisational culture determines the RMAs' institutional embeddedness. Overall, there are no rules since some RMAs tend to be embedded in the Rector/Dean's offices or other organisational units at RPOs. HEI/RPOs that cherish and support competitiveness are more likely to have RMAs and value RMA at large. Some cases from Serbia indicate that faculties with such prevailing cultures make the most of their institutional autonomy to build their internal capacities.

Networking has proven an 'eye-opening' activity for many RMAs. Before joining networks that promote the RMA profession some RMAs were not aware of the profession's existence. BESTPRAC network is regarded by many RMAs from the region to have contributed the most to the emancipation of the RMA profession in the WB. This is largely due to the fact that before BESTPRAC there have been no such actions targeting or involving the professionals from the region apart from the usual National Contact Point (NCP) structures. Furthermore, BESTPRAC included many researchers from the so-called inclusiveness or widening countries (WB included) that enabled them to access the community on a European level more easily, share experiences, and learn from their peers across Europe. It is worth noting that none of the respondents mentioned existing opportunities for professional development offered by the EARMA (for an overview of the EARMA qualification see Poli et al., 2018). On the surface, this partly indicates the lack of awareness about the Association. However, the authors know that at least four focus group members are knowledgeable about the EARMA. One of the possible explanations may be the high costs associated with the EARMA membership and additional costs of attending conferences and competency-based training programmes that are not affordable to many RMAs from the WB. In addition to this, some scholars have contended that existing training programmes for RMAs are mainly available in the north and likely to differ between countries offering content that does not equally address the needs of less developed countries (Campbell, 2010; Nembaware et al., 2022).

Recommendations and Future Research

The surveyed respondents have identified several groups of recommendations that may empower RMA professionals in their institutions and regions. The first group of suggestions are linked to the undefined status of the RMA profession. RMAs believe that the general promotion of the profession would serve them well. Such actions were mentioned by both, the focus group participants and online respondents and revolved around promotional events, training opportunities, sharing 'tips and tricks' on where to start reading and learning, etc. Respondent 6 put it simply: 'keep promoting the importance of the profession hoping that it will eventually stick in the minds of decision-makers'.

The RMA professionals in the region desperately need training opportunities. These could be non-formal education sessions, workshops, or trainings for project managers in the WB or formal post-graduate courses similar to those emerging in the USA, Europe, and Africa (Langley & Barsby, 2020; Smith & Torres, 2011). Considering their relatively modest payment grades, it is essentially important to secure external funding to ensure that such training opportunities are either free or less expensive for RMAs.

The surveyed RMAs understand the importance of their roles in project implementation but feel their profession is poorly understood by both the management and academic staff. RMAs find support from upper management extremely important on par with other benefits such as positive relationships in the work environment or adequate compensation (Welch & Brantmeier, 2021).

In addition to this, RMAs in the WB share concerns that neither managers nor researchers understand the key trends in higher education and the direction in which academia is likely to develop in the future. With continuing pressure to secure limited resources for research excellence, the need for RMAs will grow in the future. Therefore, the RMAs need wider promotion within their institutions, at the state and regional levels. Some studies have contended that the promotion and advancement of the

profession should rely on various macro and micro-level strategies from introducing incentives to organisational flexibility (Derrick & Nickson, 2014). Both institutional management and policymakers should consider ways of recognising the RMA profession in the future.

Networking is another avenue of cooperation that could propel the RMA profession in the region, both at the country and wider regional level. Networking provides avenues for the exchange of best practices, but also a space for collaboration and mutual learning.

This research shows that there is a need for increased networking opportunities between the RMAs both within the WB region and between WB and Europe as a whole. On the other side, there is a need for greater recognition of the RMA profession as such within the WB countries, which corresponds to the overall concerns of the RMA profession at the European level. Furthermore, the research shows that the RMA professionals are yet to discover their belonging to this particular profession, largely due to their participation within the networks, such as BESTPRAC. Thus, it is necessary to work further on networking but also empowering and raising awareness among the RMAs in the region themselves to self-identify with the profession to be able to argue for their recognition at the institutional and country level as well.

References

Bonnici, C. (2018). *University research management in European small island states: The case for Cyprus, Iceland and Malta*. [Doctoral thesis]. University of Malta]. Retrieved November 27, 2022, from https://www.um.edu.mt/library/oar/bitstream/123456789/36895/1/18PHD%20management%2001.pdf

Campbell, D. (2010). *The role and development of the research administration profession in higher education*. Washington State University.

Derrick, G., & Nickson, A. (2014). Invisible intermediaries: A systematic review into the role of research management in university and institutional research processes. *Journal of Research Administration*, *45*(2), 11–45.

European Commission. (2021b). *Eurostat – R&D expenditure, enlargement countries – Statistics on research and development*. Retrieved October 2, 2022, from https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Enlargement_countries_-_statistics_on_research_and_development

Kerridge, S., & Scott, S. F. (2018a). Research administration around the world. *Research Management Review*, *23*(1), 1–34.

Langley, D., & Barsby, J. (2020). *Business case for creation of a masters degree in research management and administration* [StoRM – Masters in RMA].

Lehman, D. W. (2017). Organizational cultural theory and research administration knowledge management. *Journal of Research Administration*, *48*(2), 52–66.

Marčić, S., & Pepić, A. (2023a). A Profession in the Making: Insights from Western Balkan Countries. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 385–394). Emerald Publishing.

Nembaware, V., Glasser, S., Priest, A., Davies, A., Skelton, M., Bodzo, P., & Dandara, C. (2022). Competency-based training needs assessment for research managers and administrators in Africa and the United Kingdom to strengthen equitable partnerships [version 1; peer review: awaiting peer review]. *AAS Open Research*, *5*, 11. https://doi.org/10.12688/aasopenres.13272.1

OECD. (2021a). *Multi-dimensional review of the Western Balkans: Assessing opportunities and constraints*. Retrieved September 24, 2022, from https://www.oecd.org/development/mdcr/countries/western-balkans/

Oliveira, C., Trindade, M., Varela, C., Campelo, D., Domingues, A., & Martins, M. (2022). foRMAtion International Curriculum for Future Research Managers and Administrators. *Curriculum developed within the project 'Innovative and smart module for potential Research Managers and Administrators in higher education – foRMAtion'*. https://doi.org/10.34619/9bxl-h4cg

Poli, S., Andersen, J., Toom, K., & Wilkman, L. (2018). *Introducing the EARMA European certificate in research management*. Higher Education and Research Institutions.

Shambrook, J., & Roberts, T. (2011). 2010 Profile of a research administrator. *Research Management Review*, *18*(1), 19–30. https://files.eric.ed.gov/fulltext/EJ980454.pdf

Smith, J. A., & Torres, L. (2011). The process of establishing a new master of research administration program. *Research Management Review*, *18*(1), 1–18.

Virágh, E., Zsar, V., & Balázs, Z. (2019). *Research management and administration: A profession still to be formalized*. HÉTFA Research Institute and Center for Economic and Social Analysis. https://doi.org/10.13140/RG.2.2.23699.09765

Welch, L., & Brantmeier, N. K. (2021). Examining employee retention and motivation trends in research administration. *Journal of Research Administration*, *52*(2), 70–86.

Zgaga, P., Klemencic, M., Komljenovic, J., Miklavic, K., Repac, I., & Jakacic, V. (2012). *Higher education in the Western Balkans: Reforms, developments, trends. Key findings from field research*. Centre for Educational Policy Studies, Faculty of Education, University of Ljubljana.

Western Europe

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Chapter 5.27

Areas of Research Management and Administration in Austria

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Abstract

Austria has not yet established a single national organisation for research management and administration (RMA). Various research related institutions are organised in individual professional networks within their categories of organisational structure – public, private, and industry. Hence, the creation of a joint RMA association is a good aim to target in the near future. The obvious need of a strong networked community of RMAs across disciplines and organisational structures, especially in a setting of a growing global research arena, shall exemplify the development of such an Association of Research Managers and Administrators-Austria (ARMA-T). Furthermore, external factors play an increasingly important role in research development and RMAs. It depends on how their home organisations – universities, industry, and intermediaries – will understand the need for cooperation, platform building, and continuous development and professionalisation. Vision and foresight from several constituents and stakeholders will have to play a starring role as well as supporting the whole community. On top of it, international knowledge exchange helps to create those necessary conversations and networks for such a development.

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Keywords: Austria; research management and administration; AUFOS; AURAM/ARGE FoFoe; OEPUK WG-RM; EFF; ARMA-T

The Austrian Research Ecosystem

The Austrian Research Ecosystem has a long-stemming tradition with the founding of the first university in the 14th century, University of Vienna[1] in 1365 as Alma Mater Rudolphina. For the longest time, there has been a stronghold of public university education and research, in alliance with the Austrian Academy of Sciences[2] founded in 1847 and other research institutions to follow suit. Furthermore, the Austrian research scene is also strongly driven by industry-led scientific development.

In recent decades, policy changes in the higher education landscape brought forward new creations of tertiary institutions. In addition to public research and scientific endeavours, a new environment took shape in various forms of new higher education institutions. Namely with the foundation of 21 universities of applied sciences (FHs) since the early 1990s, and with the installation of the private university law in 1999, a further 16 private higher education and research institutions. Furthermore, several industry-led research centres, as well as a series of public–private–partnership organisations mainly focussing on fundamental research (LBG,[3] CDG,[4] ISTA,[5] Vienna Biocenter/IMBA/IMP,[6] etc.), were created. Governing bodies and organisations for research management thereof are now manifold; the University of Applied Sciences FFH-Forum, public universities' AURAM,[7] industry-led AUFOS,[8] or OEPUK[9] for private universities are some of the examples and will be described in the next sections. The developments of new institutions, in parallel and coupled with a strong industrial driven research area, have also brought changes into the overall national research funding institutional structures, combined with a stronger focus on European and international cooperation since the late 1980s and early 1990s with Austria becoming a full member when joining the European Union (EU) in 1995.

In 2022, there are roughly 5,570 research executing institutions (including companies) as stated by Statistics Austria. The estimated research volume is EUR 14.15 billion, up 0.9% since 2020, consisting of roughly 32% public sources, roughly 50% industry-sponsored research, and the rest being international funding sources (Austrian Ministry of Education, Science and Research, n.d.).

The following institutions are the main Austrian public funding agencies:

The *Austrian Research Promotion Agency (FFG)*[10] is the national funding agency for industrial research and development in Austria. FFG was founded on

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[1] https://www.univie.ac.at/en/
[2] https://www.oeaw.ac.at/en/1/austrian-academy-of-sciences
[3] https://lbg.ac.at/?lang = en
[4] https://www.cdg.ac.at/en/
[5] https://ist.ac.at/en/home/
[6] https://www.viennabiocenter.org/about/vbc-at-a-glance/who-is-here-members/institute-of-molecular-biotechnology-imba/
[7] Arbeitsgemeinschaft Forschungsförderung (ARGE FoFoe)/Austrian Universities' Research Managers and Administrators Network (AURAM), www.forschungsservice.at.
[8] AUFOS – Ausseruniversitäre Forschungsorganisationen und Services non-university research organisations grant office services.
[9] OEPUK – WG-RM – Austrian Conference of Private Universities, Working Group on Research Management.
[10] https://www.ffg.at/en

1 September 2004 (pursuant to the FFG Act on establishing a research promotion agency, Federal Law Gazette I No. 73/2004). FFG is wholly owned by the Republic of Austria, represented by the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation, and Technology (BMK) and the Federal Ministry for Digital and Economic Affairs (BMDW). As a provider of funding services, however, the FFG also works for other national and international institutions. FFG offers free training and consulting for the Austrian RMA community through specific workshops or information multiplier events in research organisations (as members of AURAM, OEPUK, AUFOS, or other stakeholders).

The *Austrian Fund for Scientific Research (FWF)*,[11] founded in 1969, is the national funding body for basic research programmes. The purpose of the FWF is to support the ongoing development of Austrian science and basic research at a high international level. In this way, the FWF makes a significant contribution to cultural development, to the advancement of our knowledge-based society, and thus to the creation of value and wealth in Austria.

The *Austria Wirtschaftsservice Gesellschaft (aws)*[12] is an Austrian federal development and financing bank for the promotion and financing of companies. The bank provides around €1 billion (2008) in development aid, mainly as grants, loans, and guarantees to finance projects in the value of almost €11 billion. aws is focussed on four different areas: technology and innovation, equity and capital markets, promotion and financing, as well as services for research and development management. According to the OECD (2021c), official development assistance from Austria increased by 8.7% to EUR 1.5 billion, representing 0.31% of gross national income.

Evolution of the Profession in Austria

The Austrian RMA Community

As initially stated, there is no formal organisation that ties those working as RMAs in public, industry-led, private institutions in Austria. What follows is an overview of the RMA communities for the main categories of research institutions – public, industry-led, private, and applied.

AURAM – ARGE FoFoe

Legal changes in the late 1990s into the early 2000s mentioned above led to a multitude of new tasks for Austrian universities, for example, research evaluation, knowledge transfer and exploitation of inventions, research marketing, and the development of research databases.

In reaction to these new developments, the AURAM was first established in 2001 in a bottom-up initiative, led by Medical University Graz. AURAM was set up as and still remains as an informal network of university employees who work in research support and management units at public universities, offering space for exchange of experience, best practice, and discussion of new developments in the funding landscape and research management. Today, general AURAM meetings are held twice a year, and meetings of working groups take place as needed.

[11] https://www.fwf.ac.at/en/
[12] https://www.aws.at/

Over the years, several topics initially covered by AURAM warranted the establishment of specialised networks, dedicated, for example, to technology transfer or research information systems. At the heart of AURAM is support, information, and management of and for researchers in research projects funded from national and European programmes. In addition, contract research, and the growing number of topics surrounding these projects, for example, open and citizen science, gender dimensions in research, or Responsible Research and Innovation (RRI) are also covered.

AUFOS

In 2015, RMAs of the eight biggest non-university research organisations met for the first time for an informal meeting and knowledge exchange. Years later, the group grew to a total of 12 organisations working informally and on a voluntary basis. The community has grown to 40 RMAs, dealing with organisational issues (internal processes and structures for research management) and best practices in the management of funding programmes (national and EU). The portfolio of exchanges ranges from legal and financial issues, discussion on ethical and open science matters to issues surrounding interinstitutional networking. The AUFOS community includes organisations that are mainly active in basic research (e.g. ÖAW Austrian Academy of Sciences and ISTA Institute of Science and Technology Austria) or in applied research (e.g. AIT Austrian Institute of Technology GmbH and Joanneum Research).[13] Austrian research organisations accounted for 25% of all Austrian participations in the past 8th Framework Programme, HORIZON 2020.[14] This can also be seen as an indicator of the high-quality work of RMAs in supporting their researchers, in terms of the success rate of participation.

OEPUK WG-RM

Private universities are currently active in 12 working groups with the aim of tackling the challenges and developments in the sector, comprehensively across universities. With the latest addition in 2020, the OEPUK has established its own RM WG. Its members, RMAs representing the 17 institutions, meet three times per year to foster knowledge exchange, learn, and establish guidelines for cooperation. The general purpose is to make RMAs' working structures more efficient by sharing and exchanging good practices.

FFH[15]

Creating impact – jointly becoming effective. The motto of the latest annual forum of over 340 RMAs from 21 FHs – universities of applied sciences – is showcasing the different dimensions which are important factors in this university sector: cooperation and impact for joint resilient research with a strong focus on industry uptake and application, with a local focus and cross-border impact. This vehicle for the exchange of knowledge started over 15 years ago, with FHs in existence since the mid-1990s, strongly supporting the network is the Conference of Universities of Applied Sciences, which was established in 1996.

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[13] ÖAW, ISTA, AIT, and Joanneum Research.
[14] FFG: Monitoring Report to Austrian Performance in H2020, March 2021.
[15] FFH – Forschungsforum der FHs – Research Forum of Universities of Applied Sciences; https://www.fhstp.ac.at/en/newsroom/news/research-forum-of-universities-of-applied-sciences

Austrian RMA Demographics

The RAAAP-3 data (Kerridge, Dutta, et al., 2022) shine a little light on the RMA demographic in Austria, but with only 41 responses cannot be seen as representative. However, of those responses 30 (73%) identified as female, consistent with the picture for Europe as a whole where the profession is predominantly female (77%, of $n = 1{,}004$). In terms of age range, only 7 (17%) Austrian responses were in the 25–34 bracket, with none under 25; the European picture is similar with 14% (of $n = 992$). At the other end of the spectrum, only 15% of Austrian responses were 55+ with the European-wide picture being 12%. The gender and age of Austrian RMAs appear typical of the overall European picture.

The Future of RMA in Austria

As stated in the beginning, the creation of an 'ARMA-T' consisting of representatives of existing professional RMA organisations might be the most beneficial path towards platform establishment, knowledge exchange, and mutual learning. Hence, streamlining activities, uptaking platform thinking, learning, sharing, and taking into consideration a global setting of research management is the name of the game.

Summary

In this chapter, we presented the backdrop of RMAs in Austria as well as a scope for a necessary development: a joint professional society of research managers and administrators in Austria – the ARMA-T comprising various organisations and networks of research managers from public, private, and industry-led institutions. We have presented the current status of the research ecosystem and hinted at possible scenarios for research management in a global future – hence, the need for a globally interconnected international community of RMAs.

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References

Austrian Ministry of Education, Science and Research. (n.d.). *Wie entwickelt sich die Forschungsfinanzierung?* https://www.bmbwf.gv.at/Themen/Forschung/Forschung-in-%C3%96sterreich.html

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

OECD. (2021c). *OECD Economic Surveys Austria*. OECD Economic Surveys: Austria. https://www.oecd.org/economy/surveys/Austria-2021-OECD-economic-survey-overview.pdf

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Chapter 5.28

The Profession of Research Management and Administration in Denmark

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Abstract

The creation of the research management and administration (RMA) profession in a small country is probably well exemplified by the development of the Danish Association of Research Managers and Administrators (DARMA). Many external factors in Denmark are similar to other European countries (like the growth of research, international cooperation, and competitive funding for research). The crucial point is how universities and especially staff react to the need for development and professionalisation. It takes committed and visionary individuals to kick-start the movement. Equally important is the buy-in and engagement from many colleagues necessary to make real change. This can only happen by

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finding enough volunteers to build and run a professional society. Furthermore, international networking and conference participation is crucial to get relevant inspiration for this development.

The next step for a society like DARMA is to move towards a commonly recognised job function or title. This could also mean certification or at least a comprehensive, national training programme.

Keywords: Denmark; research management and administration; professionalisation; DARMA; EU-ERFA; NUAS; RAAAP

Research Ecosystem – Denmark

Research Policy

The Danish government sets the general direction and priorities for research in catalogues, published every five years and established by a process involving a wide variety of stakeholders. The current version is *RESEARCH2025* (UFM, 2018), outlining national research priorities until 2025. A similar process relates to the European Commission's framework programmes, where the Ministry of Higher Education and Science plays a coordinating role. In the research council system, the Danish Council for Research and Innovation Policy is officially tasked with furthering the development of Danish research, technology, and innovation.

Major Funders of Research

Like most other countries, research in Denmark is funded by both public and private funders. Public research funding has undergone substantial changes over the past two decades, with a tendency towards more coordination and more political control, although with broad involvement and dialogue between stakeholders. An unusual Danish feature is the significant role played by private research foundations.

Public research funders: The Danish research councils were established in 1968, and the five councils reflected the universities' division into faculties. After numerous reforms, the modern public research funding system in Denmark is designed to cover the entire value chain of research, from idea to product/benefit for society, or as one minister of research put it: 'from research to invoice'.[1]

The main Danish public funding agencies are (total awards in 2020 in brackets, sourced from the respective websites):

1. *Independent Research Fund Denmark (DFF)*[2] was formed in 2003 by merging the original five research councils. DFF funds specific research activities based on researchers' own initiatives, that is, bottom-up, investigator-initiated research. DFF is the only public funding agency that retains a role of counselling the government in science matters. DFF's main funding instrument is individual research projects (€200 million).

[1] The point being that the title presents a push towards understanding research as instrumental to economic development.
[2] https://dff.dk/en/

2. *Danish National Research Foundation (DNRF)*[3] funds outstanding basic research of the highest international level within all research fields, with the aim to strengthen the development of Danish research. DNRF's main funding instrument is Centres of Excellence (€45 million).
3. *Innovation Fund Denmark (IFD)*[4] strengthens and fosters strategic research and innovation in Denmark, supporting projects with a strong emphasis on benefit for society. IFD's main funding instrument is large collaborative development projects (Grand Solutions) (€304 million).

Private research funders: According to the overview of European foundations for research and innovation – the EUFORI Study (Karamat Ali et al., 2015) – Denmark has the highest amount of private research funding per capita in Europe, with Novo Nordisk, a private foundation, being the largest research funder in the country. A particular Danish legislation: the laws on industrial and non-industrial foundations provide important benefits for companies owned by charitable foundations. The legislation was established in the 1980s, but the tradition of charitable foundations originated in the Catholic social institutions of the Middle Ages. The Carlsberg Foundation, founded in 1876, was the first Danish industrial foundation, focussing on research and development. The Danish legislation on foundations has multiple purposes, including tax benefits, better protection for creditors, for other partners, and for employees. Donations are encouraged by the laws, and foundations can deduct 125% of their charitable expenses.

There are about 1,300 industrial and over 10,000 non-industrial foundations, and more than half of their donations go to research. Private funding is rapidly growing in importance in Denmark, and in 2020, the total amount donated by private foundations was €2.635 billion. The three large, public funders have an annual budget of around €550 million.

According to the organisation for collaboration between Danish foundations, *Fondenes Videnscenter*,[5] the six largest Danish private foundations, based on their total donations to research in 2020 (in brackets) are:

1. Novo Nordisk Foundation[6] (€731 million).
2. A.P. Møller og Hustru Chastine McKinney Møllers Fond[7] (€157 million).
3. LEGO Foundation[8] (€155 million).
4. Villum Fonden[9] (€135 million).
5. Carlsbergfondet[10] (€99 million).
6. Lundbeck Foundation[11] (€81 million).

Research-performing Institutions

From 1479 until 1928, when Aarhus University was established, Copenhagen University was the only university in Denmark. More universities and research institutions were

[3] https://dg.dk/en/
[4] https://innovationsfonden.dk/en/about-innovation-fund-denmark
[5] https://fondenesvidenscenter.dk/ (In Danish only).
[6] https://novonordiskfonden.dk/en/
[7] https://www.apmollerfonde.dk/the-ap-moller-foundation/
[8] https://learningthroughplay.com/about-us/the-lego-foundation
[9] https://villumfonden.dk/en/about/fondsfamilien
[10] https://www.carlsbergfondet.dk/en
[11] https://lundbeckfonden.com/en

founded in the second half of the 20th century. A major revision of the Danish University Act in 2003 (Danish Ministry of Higher Education and Science, 2011)[12] changed the universities away from the traditional and collegial management with elected officials, towards a more streamlined (and at the time controversial), business-like model where rectors, deans, and department heads are employed on regular contracts. The University Law also defines universities' status as self-owned public institutions. The Danish university system was further consolidated by large-scale mergers in 2006–2007, resulting in the current eight public universities. There are no private universities in Denmark.

Approximately half of all Danish high school graduates attend college or university.

Research is also performed at hospitals, government-approved institutes, the so-called Approved Technological Service Institutes (GTSs, *Godkendte Teknologiske Serviceinstitutter*), university colleges, and other types of institutions.

Evolution of the Profession

In Denmark, there has always been a culture of cooperation (ScienceNordic, 2020). Being a small country with a limited number of universities, the notion has always been that we need to cooperate and not compete at the national stage to be successful on the international stage. Hence, there has been a long tradition of running national expert groups focussing on subject matters like EU funding or specific funding tools. Typically, administrative staff did not have a job title to identify their profession. Instead, there was a generic title covering general administration. In the 1990s, two administrators (Jan Andersen and John Westensee) started the first expert group (EU ERFA, Danish Ministry of Higher Education and Science, 2022) with a focus on EU funding. From the outset, all Danish universities participated. The group has grown ever since and is still in existence. The Danish Ministry of Research has recognised the group and acts as a secretariat for the group.

Over the years, it became evident that Denmark needed to identify RMA as a profession. One of the main drivers for this was the growth in competitive funding. It was of marginal importance in the beginning, but now it is a crucial driver for the development of universities. Therefore, DARMA started its operations in 2008 to support the development of the profession. Now, we see job titles like research support officer, research advisers, etc.

The main driver for this development has been soft skills: the willingness of people to get involved and take the initiative.

Current Community – Denmark

Danish Association of Research Managers and Administrators

The purpose of DARMA[13] is to support Danish research through the professionalisation of RMA. DARMA is active in establishing RMA as a recognised profession in Denmark. DARMA, with more than 300 members and still growing, is for any individual with a professional interest in support, administration, and management of research. DARMA is driven by volunteer engagement by members. DARMA hosted the INORMS 2012 Conference in Copenhagen.[14] The research management community in Denmark beyond the higher education sector covers hospitals, regional

[12] https://www.retsinformation.dk/eli/lta/2019/778 (in Danish only).
[13] https://Darma.dk
[14] https://web.archive.org/web/20120120213439/http://www.inorms2012.com/programme.html

authorities, and funding bodies – both private and public. Even though there is an increase in RMAs in these sectors, this is not significant. There might be a significantly larger number of RMAs especially in industry, hospitals, and regions, who are not aware or do not have the possibility of organising themselves yet. This has led to a discussion in DARMA on how to broaden training and how to facilitate and support the problems and needs from these sectors. Despite good daily working relations with the ministry and public and private funding bodies, this is not yet reflected in the membership composition. Occasionally members move to the private sector and maintain DARMA membership, but there is no real stronghold in the private sector. This might be caused by the Danish industry sector being dominated by small- and medium-sized companies. Even though the membership in funding bodies (public and private) is very low, less than 5%, the connections between the foundations and funding agencies are more or less formalised, with an annual meeting (the Funding Forum) at the DARMA Annual Meeting, an informal working group between the major research funders and DARMA, discussing issues of mutual interests, like indirect costs, administrative procedures, coherence between the funders and its uptake in the research community (e.g. complementarity to EU funding).

The EU ERFA Networking Group is a group for administrative staff in the public sector working with Horizon Europe. The purpose of EU ERFA is to enhance knowledge about Horizon Europe among administrative staff members at public research institutions. This activity has been supplemented by the *EU-DK Support*[15] network, where there is a much broader membership.

NUAS – the Nordic University Administrator's[16] *collaboration* is a member-driven collaborative organisation established in 1976. NUAS's membership base includes 65 universities and university colleges from the seven Nordic countries: Denmark, the Faroe Islands, Finland, Greenland, Iceland, Norway, and Sweden. NUAS has 14 interest groups that focus on specific administrative disciplines, with a total of 125 active members.

None of these communities offer certification. Recently DARMA has reached out to the Graduate Schools and our colleagues working in PhD Administration. The kick-off meeting on a SIG for this segment had nearly 70 people attending and thereby showing there is a need for network in this area of RMA as well.

Demographics

The typical Danish RMA is a 45-year-old woman, who has been working in the central research office for the last eight years. She has been employed in a permanent position in a public higher education institution, most likely a research-intensive university, her major task is proposal development. She has a master's degree from the Social Sciences and Humanities (SSH) but is working in Science, Technology, Engineering, and Medicine (STEM). She stays in RMA, mostly because she enjoys working with scientists, but also because she likes her work and thinks it is fun. She speaks two foreign languages, and if she could, she would like to improve her communication skills. She is of course a member of DARMA, and also of EARMA and sees active participation in the national and international research management and administrator network as a benefit for her personal development, data based on Kerridge, Dutta, et al. (2022) (n=54).

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[15] https://ufm.dk/en/research-and-innovation/funding-programmes-for-research-and-innovation/eu-and-international-funding-programmes/horizon-2020/About-eurocenter-and-eu-dk-support?set_language=en&cl=en

[16] https://www.nuas.org/group/research-and-innovation/

Almost two-thirds of the RMA community is female, but when looking at the roles, less than one-third women are in leadership positions, so there is a clear gender bias, regarding career perspectives. Almost all RMAs in Denmark are Danish, but there seem to be an increasing number are internationals, partly due to international job advertisement and an increased number of international PhDs and postdocs choosing to stay in Denmark. Normally, the working language is Danish, but in offices with non-Danish speaking colleagues English would serve as a second working language. With an increasing number of researchers being recruited abroad, strong language skills are required to be able to work in research support.

Almost all Danish RMAs have an academic background at master's or PhD level. Less than 10% have a different background, such as a bachelor's degree or clerical background. There is no tradition for blended professionals in Denmark, so very few combine a career in research with a career as an RMA.

The number of RMAs with a doctorate degree has been growing in the last five years. These RMAs are often employed by research departments and thus work close to the researchers. The fact that many RMAs with graduate degrees, particularly in the STEM field, choose to work close to research environments indicates that the RMA career is a viable and attractive alternative career path for this group of academics (Poli, Kerridge, et al., 2023, Chapter 2.4).

Most RMAs work in Science, Health Sciences, and Technology while SSH only represent a small part of RMA positions. The educational background of RMAs often mirrors the kind of research they support. The very high emphasis on the STEM areas comes from the fact that most Danish private foundations funding research are in the areas of STEM. Especially within Health, Biotechnology, and Science, the private funding of research is significant. For some universities, funding from private foundations exceeds funding from public bodies. This also means that relation building and communication play a more important role, which also has translated into a demand for training in communication and working with impact.

RMAs work across the country, reflecting the geographical spread of higher education institutions. Due to the small size of the country, it is easy to meet and share knowledge and know-how.

Most RMAs have been employed for less than 15 years, following the emergence of jobs defined as research support. It seems that the community in recent years has grown, with almost 24% of RMAs being in their positions for less than five years. This can probably be traced back to reforms in the higher education sector, with mergers of smaller research organisations and universities forming larger institutions and departments, thus enabling more professional and visible research support functions.

The profession of RMAs in Denmark is not well defined, so research support offices will have varying names across institutions and departments. There is no formal recognition of the profession, meaning that recruiting new RMA staff depends on ad hoc formulated needs for skills and competences. Only very few have a formal certificate in research management from the EARMA Certificate for Research Managers[17] or other providers. The motivation to become a research manager does not come from the profession itself, only 20% have directly chosen to become a research manager. Asked if formal recognition would have changed their view on the profession and getting into it, less than 20% agree. The reason for this is probably that RMAs like to have a high degree of freedom to shape their own job.

[17] https://earma.org/media/documents/crm-brochure.pdf

Almost two-thirds of the community define themselves as working primarily in pre-award functions: research policy, funding information, and project development. As the post-award functions are more often placed in research departments and research groups, there is a tendency that post-award RMAs have a number of different functions, for example, in finance, communication, HR, or graduate schools. Therefore, there might be a discrepancy between the number of actual RMAs working in pre- and post-award, because some post-award RMAs could see themselves as more generalist administrative support staff rather than identifying themselves as research managers. Being an RMA is also an issue of identification, and feeling being a visible part of the profession, enabling commitment (Yang-Yoshihara, Poli, et al., 2023).

RMAs in Denmark are very active in the international community of RMAs and volunteer as chairs, presidents, and board or committee members in international associations like EARMA,[18] SRAI,[19] NCURA,[20] and INORMS. Many have several international memberships, enhancing cross fertilisation of new concepts and ideas.

Despite the fact that many RMAs are happy with their jobs and functions, Jensen and Korsgaard (2013) report that almost one-third were considering leaving the RMA profession, primarily due to lack of career perspectives or progression.

In order to help mitigate this, DARMA has initiated work towards a revised strategy for the development of DARMA, some perspectives on the future of the profession, and its implications for the working conditions for RMAs in Denmark were discussed. These are listed in the next section.

In response to these challenges, DARMA has a focus on the creation of communities of practice and platforms for collaboration; support career development and best practice; secure relevance and engagement of members; and continue the strong international profile of DARMA. The goal is to respond to the challenges in an ever more complex research and innovation sector through innovation in research management.

The profile of the RMA has changed radically over the last 20 years of the profession, and new challenges in research and for researchers will have an enormous impact on the future of the profession. The core of the research management profession in Denmark, with a flexible and adaptable approach to what RMA is, will be a cornerstone in the continuation of the profession.

Directions/Future

DARMA adopted its new strategy in December 2021,[21] and an important aspect is the involvement and engagement of the membership. There are five strategic priorities for the near future:

1. Creating communities of practice and platforms for collaboration.
2. Supporting career development and best practice.
3. Relevance and engagement of volunteers.
4. Internationalisation.
5. Innovation in research management.

[18] https://earma.org/
[19] https://www.srainternational.org
[20] https://www.ncura.edu/
[21] https://darma.dk/wp-content/uploads/DARMA-Strategy.pdf

We see two major trends in the future, which require a broader/new set of competences in a research support office:

1. Increased scope and complexity in research administration – for example, open science, data management, inclusiveness, bibliometrics, open innovation, extra large and complex projects, many compliance issues, impact, and linking research and innovation. Closer cooperation with technology transfer officers, and many other experts.
2. Massive use of artificial intelligence where expert knowledge will be replaced by skills like strategic thinking, networking, relationship building, handling of complex processes, and negotiation. Standard processes and projects will be completely automated. Research and especially data analysis will be affected as well.

Summary

In this chapter, we presented the development of the professional society of research managers and administrators in Denmark towards the formation of the DARMA, and the profile of the archetype research administrator. We have presented the current trends in research and research administration as a vehicle for a DARMA strategy towards the future. Finally, we have touched upon the necessity of being integrated into the international community of research management of administration.

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References

Danish Ministry of Higher Education and Science. (2011, June 28). *The University Act, Act No. 695*. https://ufm.dk/en/legislation/prevailing-laws-and-regulations/education/universities

Danish Ministry of Higher Education and Science. (2022, April 12). *The EU-ERFA Networking Group*. https://ufm.dk/en/research-and-innovation/funding-programmes-for-research-and-innovation/eu-and-international-funding-programmes/horizon-europe/counselling/network-groups/the-eu-erfa-networking-group

European Commission, Directorate-General for Research and Innovation, Karamat Ali, D., Schuyt, T., & Bekkers, R. (2015). *EUFORI study: European Foundations for Research and Innovation: Synthesis report*. European Commission. https://data.europa.eu/doi/10.2777/13420

Jensen, L. B., & Korsgaard, H. (2013, June 7). *Projekt RACC – Research administration as a choice of career* [DARMA annual meeting]. Retrieved August 30, 2023, from https://darma.dk/wp-content/uploads/2013_Research_Administration_as_a_Choice_of_Career.pdf

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2023). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Poli, S., Kerridge, S., Ajai-Ajagbe, P. A., & Zornes, D. (2023). Research management as labyrinthine – How and why people become and remain research managers and administrators around the world. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 141–154). Emerald Publishing.

Tinggaard, G. (2020, April 1). Researcher: Denmark's world-record level of trust is helping us in the fight against corona. *ScienceNordic*. https://sciencenordic.com/denmark-politics-society-and-culture/researcher-denmarks-world-record-level-of-trust-is-helping-us-in-the-fight-against-corona/1662939

UFM. (2018). *RESEARCH2025 – Promising future research areas*. Danish Agency for Science and Higher Education. Retrieved July 11, 2022, from https://ufm.dk/en/publications/2018/filer/forsk25_katalog_eng_enkelt.pdf. ISBN 978-87-93468-65-8 (ebook).

Chapter 5.29

The Profession of Research Management and Administration in Finland

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Abstract

Finland aims to increase its research and development (R&D) expenditure to 4% of gross domestic product (GDP) by 2030. The parliamentary working group proposed to advance Finland's research, development and innovation objectives which are now strongly committed by the Finnish government. This will allow universities to invest in the research and innovation not only more in the future but also in the long-term and sustainable way.

This would also provide opportunities and challenge the national research management and administration (RMA) community to develop the RMA profession, not only to increase the number of RMAs, but also to better meet the more diverse and complex tasks of the future RMA profession. Finn-ARMA creates a good platform for co-operation between RMAs in various positions and for the professionalisation of the current community and its future new members.

Keywords: Finland; research management and administration; professionalisation; Finn-ARMA; research liaison officers; RAAAP

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The Finnish Research Ecosystem

The Ministry of Education and Culture[1] ensures the overall functioning of higher education and science in Finland. The Ministry is responsible for the planning and implementation of higher education and science policy, and it prepares the related statutes, national budget proposals and government decisions.

The Ministry of Economic Affairs and Employment[2] is responsible for preparing and implementing Finland's innovation policy. The Research and Innovation Council,[3] chaired by the Prime Minister, coordinates the development of Finland's innovation system.

In Finland, both public and private sectors invest heavily in R&D. In 2020, the total investment for R&D was 6.9 billion euros, with private sector funding constituting around two-thirds and public sector one-third of the total. The government is the main source of funding for universities. Additionally, private foundations support the research in many fields in Finland.

The Finnish higher education system consists of 13 universities and 22 universities of applied sciences (UASs) that operate under the Ministry of Education and Culture. The number of universities' research staff in 2020 was approximately 24,700, of which 4,400 were teaching and research support staff.

Additionally, 12 public research institutes work under related ministries. Technical Research Centre of Finland (VTT)[4] under the Ministry of Economic Affairs and Employment is a key cooperation partner for companies, research institutes, higher education institutions and policymakers both nationally and internationally. Other public research institutes are more mission-oriented, with a broad range of research objectives. Their mandate can vary from research (both basic and applied) to additional responsibilities, such as monitoring, data collection and management, certification and inspection.

Universities' total R&D expenditure is about 1.4 billion euros out of which one-third is basic funding from the state. Most of the competitive project- and programme-based research funding comes from the Academy of Finland,[5] Business Finland[6] and European Union (EU).[7]

The Parliamentary Working Group on Research, Development and Innovation[8] made a remarkable proposal for R&D funding at the end of 2021. It proposed a new legislative act[9] (Ministry of Social Affairs and Health, 2021) to increase funding. The parties in the parliament, all of which are represented in the working group, are committed to the target of raising R&D expenditure to 4% of GDP by 2030 and to increasing central government R&D funding as needed in order to meet the target. This would require an increase of the public R&D expenditure to 1.33% of GDP,

[1] https://okm.fi/en/frontpage
[2] https://tem.fi/en/frontpage
[3] https://valtioneuvosto.fi/en/research-and-innovation-council
[4] https://www.vttresearch.com/en
[5] https://www.aka.fi/en
[6] https://www.businessfinland.fi/en/for-finnish-customers/home
[7] https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en
[8] https://vnk.fi/en/parliamentary-working-group-on-research-development-and-innovation/background
[9] https://stm.fi/en/-/10616/parliamentary-rdi-working-group-proposes-legislative-act-to-increase-funding-for-research-and-development

assuming that the public sector accounts for one-third of R&D investments and the private sector for two-thirds. At the moment, the public R&D expenditure varies annually but is clearly less than 1% of GDP.[10] The government has appointed recently a new Parliamentary Working Group on Research, Development and Innovation 2022 (RDI Working Group)[11] to draw up a plan for research, development and innovation funding that extends beyond the spending limits period, and to follow the implementation of the decisions and policy outlines of the RDI Working Group 2021.

The Finnish universities welcomed the decisions of the government. Finland's RDI investments are to be increased in the coming years towards the target of 4% of GDP. The massive cuts in science funding planned for 2023 will be reversed and an RDI tax incentive, making RDI investments tax deductible in companies' taxation, will be introduced.

Evolution of the Profession in Finland

The RMA profession originated in Finland in the 1980s, when external research funding became more common, and the need for administrative support was identified. The concept of research funding was not new at that time although the amount of external funding at universities was small and managed by the researchers. There was a growing number of business-funded projects, which meant that legal issues became more important. As funding grew and diversified, more conditions had to be taken into account and interpreted into the relational context of the organisation.

The first RMAs were called Research Liaison Officers. RMAs focussed on the pre-award support, helping researchers to find funding opportunities and understand the funding guidelines as well as assist with technical issues. The tasks were quite administrative and reactive.

Legal Counsels were hired for research funding agreements and legal aspects. Next up were the Innovation Managers who were needed to support the technology transfer activities.

Over time, as the competition increased, pre-award tasks evolved strictly from administrative to support proposal writing and content development. Grant Writers and Grant Coaches positions were established. Research Funding Specialists were hired for other pre-award tasks. Project Coordinators or Project Managers were needed for administrative support in coordinated projects.

Participation in the EU's research and innovation framework programmes brought many new compliance requirements. Organisations also had to take more responsibility to apply for and receive funding. For example, research ethics, open science and impact stood out. Large universities have RMA experts who focus exclusively on these issues.

The Finnish RMA Community

In Finland, Finn-ARMA[12] is an umbrella organisation covering a multitude of RMA areas of interest. It brings together research administration and management experts from higher education institutions and research institutes in Finland. Finn-ARMA's

[10] https://research.fi/en/science-innovation-policy/science-research-figures/s1_4
[11] https://vnk.fi/en/parliamentary-working-group-on-research-development-and-innovation
[12] https://finn-arma.fi/

core mission is to promote co-operation, exchange information and enhance the professional development of its members.

Currently, the network has ca. 500 members working in ∼20 thematic groups where most of the actual activities take place. The thematic groups range from research funding to bibliometrics, research information systems, responsible research, research policy and so on. The network is open to all and there is no membership fee. The Finn-ARMA network co-operates with other national parties providing its expertise for joint projects and contributing to the general development of its field.

In Finland, there is no certification system for RMA. In many cases, having a doctoral degree is seen as an advantage in recruitment, but the hiring decisions are made case by case. To support the RMAs in their work, especially those in managerial positions, University of Tampere offers a national study module in HEI management and leadership, but only a minority of people working in RMA enrol to the study module.

Finnish RMA Demographics

As Finn-ARMA, the national network of research administrators, has approximately 500 members, and we estimate that half of RMAs in Finland belong to the network, the total number of RMAs is estimated roughly as 1,000. The research management community in Finland covers universities, universities of applied sciences, research institutes and national funding bodies.

About three-quarters of RMAs work in research-intensive universities, and the rest of them work in universities of applied sciences or research institutes. Before their current position, they have most typically worked as a researcher, sometimes also in another public sector or in the corporate sector.

In terms of gender balance, the authors estimate that about two-thirds of RMAs are female. The international survey RAAAP-3 in 2022 (Kerridge, Dutta, et al., 2022) shows that the division between male and female respondents has been even wider. The proportion of female respondents was 88% and that of male respondents was 12% ($n = 76$).

According to the RAAAP-3 survey (Kerridge, Dutta, et al., 2022), almost two-thirds of the survey respondents have worked for less than 10 years and about 85% have worked for less than 15 years. The number of respondents in this survey was $n = 76$ for Finland. The number of RMA positions has increased in recent years, and this is also visible in the survey which indicates that over 26% of RMAs have been in position for less than 5 years.

In the above-mentioned survey, 40% of RMAs are in the age range 35–44, almost as many are 45–55 years old, 22% are 55–64 years old and only a small minority are 25–34 years old.

According to the RAAAP-3 survey, 91.9% are permanently employed and 73.3% work in research administration central offices.

Almost all Finnish RMAs have an academic background at the master's or PhD level. Almost half of them have a doctoral degree while the other half have a master's degree, with only a few exceptions having a bachelor's degree only.

Their academic background is typically in Science or Humanities, but any discipline can provide a successful background for RMA work.

The Future of RMA in Finland

We estimate that the profession will more and more emphasise compliance in many ways: supporting open science, research ethics, responsibility, export control, etc.

aspects which the surrounding society is expecting from the researchers, and where RMAs can help.

At the same time, we estimate more and more emphasis on supporting the societal impact of research: supporting multidisciplinary, innovations, outreach, etc. This is also something that the society is demanding from the universities and the research sector.

The role of the RMA has already shifted from administrative support to high-level expertise support, and this trend is continuing. The diversity of the RMA profession seems to be increasing, and the requests posed to RMAs are more and more complex. RMAs not only interact effectively with the research teams but are valued and trusted actors of those research teams.

Summary

In this chapter, we have seen that RMA originated in Finland in the 1980s, when the administrative support need was identified. Since 1980, the RMA profession has grown, diversified, shifted from administrative support to high-level expertise support and has become more professional.

References

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset.* figshare. https://doi.org/10.6084/m9.figshare.21120058

Ministry of Social Affairs and Health. (2021). *Parliamentary RDI Working Group proposes legislative act to increase funding for research and development*. https://stm.fi/en/-/10616/parliamentary-rdi-working-group-proposes-legislative-act-to-increase-funding-for-research-and-development

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Chapter 5.30

The Profession of Research Management and Administration in France

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Abstract

The contemporary French public research and higher education environment is complex and diverse. This chapter is based on major evolutions that occurred since 2000, particularly for universities. This timespan reflects the period during which the research management and administration (RMA) profession developed in this country. The development of this profession is closely linked to the new need for universities to obtain external resources. The changes in universities occurred differently according to their size and internal organisation. Research Managers and Administators (RMAs) acquired visibility to become important elements in the smooth running of research activities of universities and research organisations. Yet, there are still some challenges to face at organisational level for the profession to become essential and well-recognised, such as the lack of a national network.

Keywords: Call for proposals; EU; France; higher education institutions; pre- and post-award; R&I; RéFérens; research funding; research managers and administrators; research performing organisations; universities

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Research Ecosystem

Public research is mainly funded and steered by France's Ministry of Higher Education and Research (MESR[1]), which defines national policies and determines core budgets. In France, research is undertaken by different types of institutions, including 160 higher education institutions (HEIs) and 30 national research performing organisations (RPOs), with the National Scientific Research Institute (CNRS),[2] the French Alternative Energies and Atomic Energy Commission (CEA)[3] and the National Scientific Research Institute of Health (Inserm)[4] being the largest. Around 70 HEIs are public universities, the others have different statuses and can be public or private (*Grandes Ecoles* and *Grands Etablissements*). In the 2019–2020 academic year, 2.73 million students enrolled in HEIs in France, 60% of which were in universities.

In all universities and especially those considered as 'research-intensive', the majority of research units are jointly managed by one or more universities and one or more RPOs (the so-called 'joint research units' or JRUs). In practice, facilities are managed by one of the partners, while staff and yearly funding comes from all of the partners. These 'mixed' research units are probably the biggest peculiarity of the French system, not limited to scientific discipline, university or region: it exists in all disciplines and throughout the country. CNRS has 1,100 JRUs with universities and employs around 32,000 people, around 16,000 researchers and 16,000 administrative and scientific staff, all over the country.[5] Likewise, Inserm has 256 JRUs spread over universities and hospitals.

While many universities in France were founded in the Middle Ages, RPOs were created after the World War II. However, it is often recognised that multidisciplinary modern universities in France were born 50 years ago with the reforms of 1968 (Forest, 2021). The involvement of universities in research has become more and more important over the years. They are today at the forefront in delivering their missions of education and research and innovation (R&I), sharing research ambitions with RPOs.

With this context in mind, we argue that *there have been three major events that have transformed the French R&I landscape in relation to the RMA profession*: the creation of the National Research Agency (ANR) in 2005,[6] the law on the Liberty and Responsibility of Universities (LRU) in 2007 (Légifrance, 2007) and the launch of the *Programme d'Investissements d'Avenir* (PIA, Investments for the Future) Programme in 2009.[7] Competitive funding started in France in the Health sector through private foundations or associations, then developed with the European Union (EU) framework programme (FP), which began in 1984 with very little funding. The current FP (Horizon Europe) is 95.5 billion € of funds and France is the third largest beneficiary with 1.19 billion € (European Commission, 2023).

With the creation of the ANR in 2005 a completely new era began in France, when obtaining competitive research funds became common practice. French participation in Horizon 2020 accounts for 7.45 billion € (2014–2020), the annual ANR budget is 1 billion € and the one of the current PIA programme (2021–2025) is around 20 billion €.

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[1] https://www.enseignementsup-recherche.gouv.fr/
[2] https://www.cnrs.fr/
[3] https://www.cea.fr/
[4] https://www.inserm.fr
[5] https://www.cnrs.fr/sites/default/files/pdf/RA_CNRS2020_CHIFFRES.pdf
[6] https://anr.fr/
[7] https://www.gouvernement.fr/le-programme-d-investissements-d-avenir

When the ANR launched its first calls for proposals, universities and research organisations were mostly understaffed and under equipped to face these changes. The birth and subsequent development of competitive-funded research put researchers under increased pressure because of the administrative burden calls and competitive funding bring along. Competitive research funding not only changed the way that research was done in universities, but also triggered the recruitment of RMAs in France to manage ANR grants. This is the beginning of RMAs, at the interface between administration and research, becoming an important component of HEIs.

Among other French funders there are regional funds for R&I specialised agencies such as ADEME for energy and environment,[8] several associations, foundations and agencies for biomedical research such as the FRM[9] (Foundation for medical research), ARC[10] (cancer research) and many others, like BPI France[11] for Innovation and start-ups.

In 2007, the adoption of the LRU law of Enlarged Responsibilities and Competencies of universities played an important role in the change of research environment. Universities are since then entitled to manage a 'global budget', which includes the recruitment of their staff, management of their equipment, facilities and property and an increased autonomy. As a result, universities started to recruit on the basis of short-term contracts (post-doctoral fellows and administrative staff). The autonomy of universities is nevertheless not total, since the bulk of its staff are still recruited through national competitions (*concours*) and are civil servants with permanent positions (around 75% of total staff).

Several changes progressively allowed universities to experience new governance models and the launch of the PIA in 2009 paved the way for a revolution within the French university ecosystem and included mergers into bigger universities, some of which are labelled Excellence Initiatives (IDEX), others I-Site (Initiative-Science – Innovation –Territories – Economy). There are now 17 excellence-labelled universities. Both IDEX and I-Site are a label and a funding, a recognition of their achievements and structuration. They thus represent prestigious national awards allowing laureate institutions to invest in research and education, helping them to gain visibility and to compete in the international arena.

Evolution of the Profession

The first RMAs were recruited as Project Managers or Grant Advisors of R&I projects at RPOs. One can say that the profession developed mainly in the 2000s, when universities started to manage both national and EU funds. So there were only a few RMAs in France before the 2000s, and not identified as a specific profession. Today, universities need to manage grants and diversify their funding sources, thus RMAs play quite an important role.

RMAs are now present in both HEIs and RPOs. Notably due to their larger size, the first beneficiaries of Horizon 2020 in France are RPOs with 2.5 billion € of funding. CNRS is the biggest recipient not only at French level but also at EU level for both H2020 and Horizon Europe. The first university in Fig. 5.30.1 is Sorbonne Université (at the 7th position) with around 100 million € in EU funding. There are

[8] https://www.ademe.fr/
[9] https://www.frm.org
[10] https://www.fondation-arc.org/
[11] https://www.bpifrance.fr/

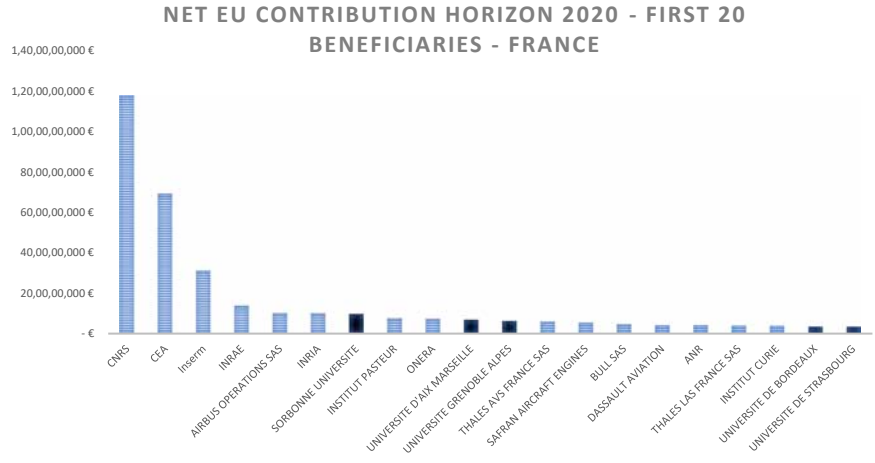

Fig. 5.30.1. Funds from the Horizon 2020 (8th FP) Managed by RPOs and HEIs. *Source*: Data retrieved from the Horizon Dashboard in January 2023.

only 5 universities among the top 20 French beneficiaries, accounting for around 300 million € of funding all together.

This imbalance in participation and funding is due to many factors, both historical and organisational. RPOs have been the main research organisations in France since World War II. They are larger in size than universities; in 2020, CNRS employed around 16,000 full researchers while, for example, a large university like Sorbonne Université around 2,500, Université Paris Cité around 2,600, Nantes Université around 1,500, most of all devoting half of their time to teaching.[12] They had time to structure and organise at the national level, with procedures defined at the central level for the whole country. Their scope is national, whereas universities act at a 'site' level. Moreover, their mission is doing research, whereas universities have a double mission of R&I and education but have mainly focussed on education until recently, as the national competitive funding ecosystem blossomed. In general, associate professors at universities, in contrast with researchers employed by RPOs, find it difficult to dedicate time to research, since they have an important teaching load.

Both HEIs and RPOs employ RMAs. Differences pertain more to the organisational model of each individual institution (centralised, decentralised, thematic or not) than to the type of institution (HEI or RPOs).

The main profiles of French RMAs are:

- Project Officers (*Chargés d'affaires*): assist in setting up projects, primarily with administrative and financial aspects and negotiate contracts with all partners (collaboration, partnerships, material transfer agreements, etc.), not only grants (pre-award). These profiles are often located in the CNRS regional offices and in some universities.

[12] https://www.sorbonne-universite.fr/sites/default/files/media/2021-12/Bilan_social_2020.pdf; https://u-paris.fr/wp-content/uploads/2022/04/Rapport-Social-Unique-UP-2020_8022022_compressed.pdf; https://www.univ-nantes.fr/decouvrir-luniversite/fonctionnement/bilan-social-de-luniversite-de-nantes

- Grant Advisers (*Chargés de projets/Chargé de contrats*): experts in project set-up, knowledge of funders, their rules (eligibility and financial) and applications (pre-award). They are the most widespread type of RMAs in universities. They also monitor funding opportunities and disseminate information to the scientific community through communication activities (newsletters and mailings) and awareness-raising activities (webinars, training and on-site meetings). Once funding is granted, Grant Advisers are responsible for formalising legal commitments.
- Research Administrators/Grant Managers (*Managers de projets*): RMAs who are placed within research units that have reached a sufficiently critical size to internalise such specified missions. They are responsible for liaising with other departments for the legal and financial follow-up of the grants obtained or they support the research unit in other research tasks (communication, transfer, certifications and Open Access).
- Project Managers: these are profiles recruited with their own dedicated funding. They are generally committed 100% to one or two projects (national or European). They take on project coordination, communication and post-award tasks and are located at central or unit level.
- Heads of Offices/Directors of Research Support Offices (*Responsables de département Ingénierie de projet, Directeurs de services recherche*): these are less specialised profiles or senior profiles with management responsibilities overseeing the implementation of research policies in the university.
- Post-award Officers (*Gestionnaires financiers*): these professionals are in charge of declaring and reporting costs.
- Legal Officers or Valorisation Officers (*Chargés de valorisation*): they work on engagement and transfer activities with industrial partners.

National competitions as well as job descriptions for RMAs in both HEIs and RPOs are based on job types, which are outlined and described in the directory of professional activities called RéFérens. In this directory, there are specific referential sheets (*Fiches RéFérens*), which outline the type of competences and tasks for administrative and technical staff, mainly (French Ministry of Higher Education and Research, 2023):

- J2B44 – Chargé-e d'appui au projet de recherche (typically Grant Advisers).
- 2B43 – Chargé-e du partenariat et de la valorisation de la recherche (typically Project Officers or Valorisation Officers).
- J1B43 – Responsable du partenariat et de la valorisation de la recherche (typically Directors of Research Support Offices).

Since the 7th European R&I FP, the success rate of French participation has been very satisfactory,[13] but participation remains below the estimated potential.[14] To address this, the Ministry targeted a plan called PAPFE to improve French participation (French Ministry of Higher Education and Research, 2018). Actually, researchers tend to disregard EU grants if they can obtain national funding (in particular, ANR funds). National funds seem more accessible and easier to manage to researchers, even though it is not necessarily true. Still, EU grants are key instruments for HEIs and

[13] 17% versus an average EU rate of 12.2%.
[14] France represents around 15% of research forces in % of FTE of R&I staff in the EU, but only 11% of allocated funding.

RPOs not only from a financial point of view (EU grants are generally larger than national ones), but also and maybe above all, for scientific prestige and international visibility.

The PAPFE plan has highlighted *the importance of European Grant Advisers in the French R&I landscape*. Research Support Offices have thus focussed their recruitment strategies on these profiles. A good European Grant Adviser needs to speak English fluently (which is not the case of all French RMAs) and have skills in training and communication in order to motivate researchers to participate in the FPs, bridging researchers with the European Research Area.

Nonetheless, *Pre-award support is not always followed by an equivalent quality in Post-award support*, as the latter is not very highly valued or professionalised. This in return often discourages researchers from wanting to attempt the European project adventure and possible funding despite all of the efforts and support provided upstream. They fear that their funding will be mismanaged. In fact, university administration is not always adapted nor used in managing projects. These positions are too often reduced to a purely financial dimension. This is one of the main difficulties observed and is one of the reasons why *RMA professions in France are still not entirely recognised in their diversity of profiles*. It is thus important to put the same effort in recruiting and organising post-award teams and procedures as in specialising European or national pre-award Grant Advisers.

Current Community

RMAs in HEIs and RPOs do not participate in the same networks and there is limited exchange of good practices between them, partly because institutions are in competition to get funds, and this even if they always collaborate. This is perhaps one of the reasons why there is no national RMA network in France (such as ARMA or DARMA respectively in the UK and Denmark) and no professional certifications. However, there are a few Master's programmes to prepare RMAs in some universities like Université Paris 8, Cergy, Strasbourg, among others – a full list is compiled on the blog *Projets européens*.[15] This blog is a job search reference for all RMAs interested in European projects because it publishes all open positions in French HEIs and RPOs.

Instead of having one national RMA network, there are however a few networks focussing on specific aspects of research support or funders.

Most EU Grant Advisors working in French universities are part of a large network called *Correspondants Europe*.[16] The network is managed by the French Rectors Conference (*France Universités*). It brings together around 80 people from around 100 HEIs twice a year in Brussels and benefits from presentations of different representatives of the EU institutions or professionals from lobbying associations. Working groups are organised to work on specific topics such as interactions between Structural Funds and Horizon Europe, European Alliances or the preparation of guide on H2020/Horizon Europe projects.

Another important organisation for RMAs in France is *CapRecherche*.[17] Born as CapANR, a self-help network on the management of ANR projects, it quickly became essential. Its operation and animation has been provided by the active participation of those who had specific experience in the setting up and management of ANR projects

[15] Website curated by Vincent Arnoux: https://projetseuropeens.com/formations/
[16] https://franceuniversites.fr/
[17] https://www.capanr.fr/

and were willing to share their experience with others. CapANR was so dynamic that it evolved to become an association devoted to several national funders, not only ANR. At present CapRecherche has a website that counts 120 members and 330 participants.

Another useful network is the *C.U.R.I.E. network*[18] that has been federating professionals in the field of public research for 30 years and totals 180 members. Its main mission is to promote valorisation and technology transfer.

There are also regional networks such as CAP Europe,[19] an action supported by the Pays de la Loire Region in the West of France and European Development Funds. Support is provided to the three universities in the region, the universities of Angers, Le Mans and Nantes, to fund initiatives that promote the participation of the scientific community in European projects.

Demographics

It is difficult to have access to data because there is no central collection of data regarding RMAs in France. This is also a sign of a profession, which is very much scattered and not fully recognised. In the last RAAAP-3 survey (Kerridge, Dutta, et al., 2022), there were 61 respondents working in France. The demographic from this small sample appears similar to other parts of Europe. The profession seems particularly feminine (70%) and with Master's degrees (61%) or Doctoral degrees (34%).

There are about 86,000 non-academic personnel in French HEIs (French Ministry of Higher Education and Research, 2022), among which the authors have estimated 4,000 are RMAs, which grows to perhaps 6,000 RMAs if we also count staff at RPOs. This estimation is based on the numbers of non-academic personnel and size of Research Support Offices on average.

Directions and Future of the Profession

The RMA profession offers several possibilities to young graduates. It is clearly a challenging profession and in continuous evolution, making it attractive and interesting. It represents an opportunity to work in an inspiring and stimulating environment without necessarily being a researcher. However, there are also major challenges to face in the short as well as the long term.

The importance of RMA is increasing and leaders of HEIs and RPOs are becoming more and more aware of the key role that these professionals play in their institutions. They acknowledge the fact that RMAs are the administrative staff that researchers rely on for many aspects linked to their projects. The French government is perfectly aware of the need for French HEIs to modernise their structure and functioning: in addition to the PAPFE plan, it is launching new programmes to better support researchers in the submission of European projects. For example, the PIA opened a call of 200 million € at national level focussed also on attracting European grants in 2022.[20]

The most recognised role of RMAs lies in their involvement as interfaces and translators of the complexity of the EU funding system towards researchers, thus as European pre-award Grant Advisers. Nonetheless, most universities manage very little funding coming from the EU FPs as shown in Fig. 5.30.1. The importance of most 'non-EU

[18] https://www.curie.asso.fr/
[19] https://www.univ-angers.fr/fr/international/projets-et-financements/cap-europe.html
[20] https://anr.fr/fr/detail/call/acceleration-des-strategies-de-developpement-des-etablissements-denseignement-superieur-et-de-reche/

oriented' RMAs and of post-award Officers is not fully visible, thus a majority of RMAs are not fully recognised.

Moreover, although RMAs are generally well identified, the organisation of research support offices vary according to the policy and size of the institution, therefore *the community is quite diversified and it is difficult to speak about a homogenous* RMA *community*.

What is complicated for RMAs is the type of employment contract that they are offered. As mentioned earlier, most RMAs start working on the basis of fixed-term contracts. The contracts are often renewed, but they do not always evolve into permanent ones. Salaries are not particularly high and management or strategic positions are very rare. Although all these positions concern the highest category for civil servants (A and A+ category in public service), the starting salary in the profession is around 1,400–1,600 € net per month, the minimum net salary in France being about 1,350 €. This represents an obstacle for universities to recruit highly qualified professionals. Quite frequently, RMAs stay at the same level for many years with no change of status, almost no salary raise or obtain just small bonuses. As for fixed-term contracts, salaries vary according to the funding source of the recruitment creating disparities among RMAs and consequently a feeling of dissatisfaction (Stromboni, 2016). On top of this, the attractive salaries offered by the private sector do not make things any easier: it is not rare that RMAs leave for similar positions at consulting companies. Moreover, the difficulty of drafting winning proposals often leads universities to subcontract these tasks to private consultants (either for EU projects or national PIA projects). This externalisation can result in losing internal expertise. Given the salary limitations and these considerations, one could argue that the retention of RMAs in universities is not easy. It is worth noticing that a recent article in the French daily newspaper *Le Monde* (Le Nevé, 2022) addressed recruitment difficulties as a crucial issue that French universities are facing when it comes to filling administrative positions (and not limited to RMA positions).

It is clear that RMAs are thus recognised as key staff for research institutions, the future of the profession seems thus not to be at risk. However, this does not necessarily mean it will be bright because of organisational and economic reasons explained above. Their recognition as specialised professionals and the attractiveness of the profession are not yet fully achieved.

References

European Commission. (2023). *Horizon-dashboard. For data concerning Horizon 2020 or Horizon Europe*. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/horizon-dashboard

Forest, F. (Dir.). (2021). *Les universités en France*. Presses universitaires de Rouen et du Havre.

French Ministry of Higher Education and Research. (2018). *PAPFE. Plan d'action pour l'amélioration de la participation française aux dispositifs européens*. https://www.enseignementsup-recherche.gouv.fr/fr/plan-d-action-national-pour-/l-amelioration-de-la-participation-francaise-aux-dispositifs-europeens-46886

French Ministry of Higher Education and Research. (2022). *Etat de l'Enseignement supérieur, de la Recherche et de l'Innovation en France n°15*. https://publication.enseignementsup-recherche.gouv.fr/eesr/FR/EESR-FR.pdf

French Ministry of Higher Education and Research. (2023). *RéFéRens*. REFérentiel des Emplois-types de la recherche et de l'Enseignement Supérieur. https://data.enseignementsup-recherche.gouv.fr/pages/la_bap/?refine.referens_bap_id=J

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Le Nevé, S. (2022). *Les universités d'Ile-de-France en proie à une pénurie de personnels administratifs et techniques*. Le Monde. https://www.lemonde.fr/societe/article/2022/06/18/les-universites-d-ile-de-france-en-proie-a-une-penurie-de-personnels-administratifs-et-techniques_6130961_3224.html

Légifrance. (2007). *Loi n° 2007-1199 du 10 août 2007 relative aux libertés et responsabilités des universités*. https://www.legifrance.gouv.fr/loda/id/JORFTEXT000000824315

Stromboni, C. (2016). *Université: la fracture se creuse entre administratifs titulaires et contractuels*. L'Etudiant. https://www.letudiant.fr/educpros/enquetes/universite-l-emergence-de-differentes-categories-chez-les-personnels-administratifs.html

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Chapter 5.31

The Profession of Research Management and Administration in Germany

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Abstract

This chapter provides an overview of the research management and administration (RMA) sector in Germany. It describes the German research ecosystem, looks at the – in Germany – still young profession of RMA and the professional network FORTRAMA, and provides a brief insight into the work and employment situation of people working in this field. This chapter concludes with a prognosis for the field in the upcoming years.

Keywords: Germany; RMA development; funding structure; professionalisation; FORTRAMA; demographics; RAAAP

The German Research Ecosystem

The German research ecosystem is shaped by the country's federalist structure, which puts responsibility for education firmly into the domain of Germany's 16 federal states

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and largely leaves it to the states to monitor the system and distribute funding for higher education. Therefore, the states enjoy extensive autonomy in drawing up and applying their own laws and regulations for higher education when it comes to determining standards for student admissions or appointing professors and staff. Since the 1950s, the higher education system has evolved significantly by adding *Colleges of Art and Music* to the traditionally research-focussed *Universities* and *Universities of Applied Sciences* (Hochschulen für angewandte Wissenschaften; HAWs**)**. The latter have only slowly become more active in research and in offering doctorates since the late 2010s.[1]

There are nearly 1,000 research institutes outside the university system.[2] Many of these are associated with one of four large public-funded research organisations, each focusing on specific domains of research. Since 1948, the *Max-Planck-Society* (MPG)[3] with its 86 research institutes supports basic research in the natural sciences, the humanities and social sciences. Operating 19 research centres, the *Helmholtz Association*[4] (est. 1995) conducts cutting-edge research in the six fields of energy, earth and environment, health, key technologies, matter, and aeronautics, space and transport. The *Fraunhofer Society*[5] (est. 1949), which runs 74 institutes globally, focusses predominantly on applied research in the domains of health, environment, mobility, transport, energy and natural resources. Finally, *the Leibniz-Association*[6] (est. 1990) comprises 97 independent research institutes that put a strong focus on knowledge transfer into politics, the economy and society.

In 2020, 3.14% of Germany's GDP – nearly 106 billion Euros – went to funding research and development, of which approximately one-third supported research and development activities at public universities as well as at the research organisations mentioned above.[7] Key players in distributing the research funding include the *German Research Foundation (DFG)*,[8] which provided 3.6 billion Euros in 2021 and the federal ministries, most prominently the *Federal Ministry of Education and Research (BMBF)*,[9] which provided 20 billion Euros. In addition, specific funding programmes are administered by some of the German federal states – exclusively targeting higher education institutions within their jurisdiction. Also, a variety of foundations, most importantly the *Volkswagen Foundation*,[10] provided nearly 240 million Euros to fund research in 2021. Overall, third-party funding at German universities has more than doubled since 2000, reaching almost 9 billion Euros from 2019 onwards.[11]

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[1] Adding to the mix are more than 100 privately funded universities that – in contrast to the traditional universities and HAWs – charge higher study fees. However, of these, only a small number of institutions engage in research and provide doctoral studies.
[2] https://www.tatsachen-ueber-deutschland.de/de/forschung-und-innovation/ausseruniversitaere-forschung [17.07.2022].
[3] https://www.mpg.de/en
[4] https://www.helmholtz.de/en/
[5] https://www.fraunhofer.de/en.html
[6] https://www.leibniz-gemeinschaft.de/en/
[7] Compare here and in the following: Bundesbericht Forschung und Innovation 2022. Daten und Fakten zum deutschen Forschungs- und Innovationssystem; https://www.bundesbericht-forschung-innovation.de/files/BMBF_BuFI-2022_Datenband.pdf [20.09.2022].
[8] https://www.dfg.de/en/index.jsp
[9] https://www.bmbf.de/bmbf/en/home/home_node.html
[10] https://www.volkswagenstiftung.de/en
[11] Bundesministerium für Bildung und Forschung (BMBF, 2022) puts third-party funding at 8.7 billion Euro in 2019 whereas Wissenschaftsrat (2023, p. 46) establishes third-party funding at 8.8 billion Euro in 2019 and 8.99 billion Euro in 2020.

Consequently, today, research and development at universities is funded by more than 45% from third parties. Of this share, an average of 30% each is provided by the DFG, and Federal Ministries, almost 10% by European Union (EU) programmes and 7% by foundations,[12] giving each university professor an average 287.000 Euro of third-party research funding annually.[13]

In contrast to higher education in the Anglosphere, students only pay administrative fees, thus making higher education affordable to students from all economic backgrounds. In practice, however, pupils from marginalised groups are still less likely to enter the higher education system. Because students are not 'paying customers' and since the federal system has led to a large variety of course programmes and only a few structured doctoral programmes, German institutions of higher education have been slow in developing or adapting to modern management structures and digital research management systems. The introduction of international research rankings (THE; Shanghai Ranking, etc.) in 2003 has led to an increase in the measuring and evaluation of research performance, both at individual and institutional levels (Hüther & Krücken, 2018). However, beyond a few basic figures within a *core data set research* (Kerndatensatz Forschung),[14] to date, there are no compulsory regulations set for data that universities must provide to compare the quality of their research at a state or national level.

While the national German Excellence Initiative beginning in 2006 sought to identify and establish high-performing universities in the area of research, by far not all universities were prepared to enter into the competition. How the additional funding in 2017 was distributed among the 44 universities has raised much criticism. It is argued that rather than increasing excellence, the initiative may be systematically destroying a well-established system of providing comprehensive, high-quality education through a large number of institutions (Hüther & Krücken, 2018).

Evolution of the Profession in Germany

Until the 1990s, academic self-governance (akademische Selbstverwaltung) has been a guiding feature of German universities, placing considerable responsibility on professors to manage their research, advance their teaching and contribute to the administrative duties of their institution. As the Bologna Process,[15] starting in 1999, required universities to provide more structured teaching, it likewise affected university governance more broadly. The requirement to adhere to complex accreditation and evaluation processes particularly facilitated the development of a more professionalised university workforce and the broader evolution of research management. Consequently, in Germany the profession of RMAs begun to evolve since the turn of the millennium. In 2003, for the first time, about 30 people met to discuss issues concerning their newly established profession. This pilot event developed into an annual 'Research Managers' Meeting'. From 2012 onwards, it continued under the name 'Annual Meeting of Research and Technology Managers', with the number of participants quickly rising to more than 500.

[12] Wissenschaftsrat (2023, p. 19).
[13] BMBF (2022, p. 18).
[14] https://www.kerndatensatz-forschung.de/
[15] For the Bologna Process and its effects on the German Higher Education System compare Hüther and Krücken (2018).

Soon it was obvious that with its strength in numbers, this network needed a professional representation of its interests by becoming an officially acknowledged representative body within the universities as well as to the funding organisations in Germany. Therefore, in 2008, a board of up to 10 people was elected. It assumed the tasks of promoting and furthering the professionalisation process, organising good practice exchanges, supporting the networking activities of their colleagues and of improving collaboration with the funding organisations. The board represented the network externally, organised the annual conference, developed training programmes, initiated working groups, and administered the internet portal 'forschungsreferenten.de'. This portal served as a tool for everyday communication and the dissemination of information. Membership in the portal was free-of-charge and had grown rapidly to around 1,500 members in 2018. The vast majority of members worked in full universities and universities of applied sciences. However, representatives of non-university research institutions, research-funding institutions and ministries equally signed up.

In 2018, the network formally registered itself as a legal entity under the name Forschungs- und Transfermanagement e.V. (Research- and Transfermanagement, FORTRAMA).[16] Currently, the association comprises of about 560 individual members, including a few members from Switzerland and Austria, and 100 institutional members. Ten members serve on the board of whom two act as co-chairs. They, along with a small back office, consisting of a part-time managing director and some support staff, organise the association's daily business, while an external advisory board provides input on matters of particular strategic relevance. Internally, the association continues professional exchange through its working groups, addressing topics such as research transfer, management of PhD programmes, professional training development and onboarding activities for new FORTRAMA members. Meanwhile, the association's annual conference continues to serve as the main hub for German-speaking RMAs in developing and strengthening their networks. In addition, the association draws from its members' broad knowledge and experience to develop a programme of best practice exchanges, to offer a combination of short and mid-length online training modules along with residency programmes lasting several days to prepare future RMAs for their complex tasks.

The German RMA Community

With the structural changes in the German higher education landscape over the past two decades, demands on modern research management have subsequently changed significantly at the institutional level over recent years. There is a growing need for experts in the areas of funding, administration, transfer and marketing, for example, at German research institutions. Dynamics in the higher education environment have not only created a new labour market in research and university management (Krempkow & Höhle, 2021) but have also led to greater networking among personnel in these newly developing fields. Resulting out of this development is the establishment of various networks, for example, the Transferallianz[17] e.V. (1994, focussing on the transfer of research into society and the economy), the Gesellschaft für Hochschulforschung e.V.[18] (2006, focussing on higher education research), the Netzwerk

[16] Research and Transfer Management Network (https://fortrama.net).
[17] Transfer Alliance (https://www.transferallianz.de).
[18] Society for Higher Education Research (https://www.gfhf.net).

Wissenschaftsmanagement e.V.[19] (2011, covering aspects of higher education management from a practitioners' perspective) and the aforementioned Netzwerk Forschungs- und Transfermanagement FORTRAMA e.V.

The RMA community in Germany is not limited to the university sector alone. RMAs are also found in non-university research institutes,[20] in funding institutions (e.g. the DFG, foundations) as well as in industry. Consequently, research management in Germany is somewhat fragmented. For example, some institutions have very well-staffed research departments, in some cases with long-established research information systems, while smaller institutions, in particular, often are not equipped to offer comprehensive RMA services.

RMA Demographics in Germany

Since mid-2019, the German Ministry of Education and Research (BMBF) has been funding the research project 'Career paths and qualification requirements in science and university management' (KaWuM)[21] as part of the initiative 'Qualitätsentwicklungen in der Wissenschaft' (quality improvement in academia), in which the FORTRAMA e.V. network participates as a cooperating partner. For the first time, this study has analysed the respective networks and their members in Germany in a quantitative panel study (Krempkow & Höhle, 2021). Further insight into the RMA workforce more particularly is provided by the equally BMBF-funded quality assurance project 'FortBeam',[22] which began in 2020 and focusses on links between research management and research quality (Henke et al., 2022).

Since activities in this area are very heterogeneous (managing directors, faculty managers, leadership positions, research managers, etc.), a variety of networks with diverse agendas have been established over recent years (see RMA Community above). So far, there are only rough estimates of the number of people involved in the field. It is estimated that about 22,000 people work in the broader area of research and university management in Germany (Banscherus et al., 2017). The KaWuM study refers to them as higher education managers (HE-Managers). Initial results assessed from 1,380 completed questionnaires evaluated as part of the KaWuM project are briefly presented below as they describe the broader sector, in which the RMAs operate:

They show that about one-third of the respondents hold a responsible management/executive function, while about one-quarter assign themselves to be part of the 'research service'. Predominantly, they are required to work at a very high level of independence and not surprisingly, most working in the field hold advanced degrees, 52% a doctoral degree (Krempkow & Höhle, 2021). In general, a doctoral degree is considered to be the most appropriate as it indicates having a thorough knowledge of university processes and importantly, own research experience. Nearly two-thirds of the people working in this area come from the humanities and social sciences and about one-third from the natural and life sciences. While relevant networks are known well within the profession, most actors do not consider membership to be necessary. Less than half of the study participants (43%) stated that they were members of one of the previously mentioned networks.

[19] Science Management Network (https://www.netzwerk-wissenschaftsmanagement.de).
[20] For example, Fraunhofer-Society, Helmholtz-Society, Leibniz-Association, Max-Planck-Society.
[21] https://kawum-online.de/
[22] https://www.hof.uni-halle.de/projekte/fortbeam/

Of the above described higher education managers, roughly 4,200 are active in the narrower RMA field, according to the FortBeam project. Using a fairly strict approach by counting as RMAs only those who work at the intersections of strategy development, administration and research and relying on information provided by the management of the surveyed universities, colleges and research institutes, the project team identified 2,720 persons at higher education institutions and a further 1,446 at research institutes outside universities as RMAs (Henke et al., 2022).

For a smaller subset of HE-managers, the RAAAP-2 study (Kerridge, Ajai-Ajagbe, et al., 2022) – albeit with a small sample size of only 153 respondents for German RMAs – can provide further insights into RMA demographics. As in most countries, the RMA community in Germany is primarily female, according to the RAAAP-2 study, around 70%. The same can be seen among FORTRAMA members, with two-thirds of its members being women and one-third men. The majority of RMAs hold a doctoral degree – around two-thirds, thus indicating that in the German research ecosystem it seems for RMAs to be even more relevant to have completed an independent research project than for HE-managers more broadly. According to the RAAAP-2 study, the majority of RMAs are between 35 and 54 years of age. Most work in either the pre- or post-award area, in the majority at a managerial level, they speak German and English in their daily work and have conducted research themselves before shifting to research management. The fact that two-thirds of them have permanent working contracts further indicates that research management has become a constant element for universities and research institutes alike. The results of the RAAAP-2 study fall in line with the experience from the FORTRAMA network.

The network members show a high affinity for training, probably owing to the lack of specific training paths leading directly to the profession of research manager. Work is mainly characterised as learning on the job. Nonetheless, part-time master's programmes to introduce students to the general professional field of research management do exist (e.g. M.P.A. Science Management at the German University of Administrative Sciences Speyer or MBA Higher Education and Research Management at the Osnabrück University of Applied Sciences). So far, however, not many research managers currently working in the field have completed such postgraduate studies. Together with the Zentrum für Wissenschaftsmanagement e.V.[23] FORTRAMA offered a 9-day foundation course for research managers until 2021 designed for newcomers, that was well received. In addition, the network regularly provides smaller training units on different topics of particular relevance to RMAs (e.g. on methods to facilitate interdisciplinary research).

Observations show that RMAs are predominantly satisfied with their work as it combines self-directed tasks with high levels of independence in carrying them out. The KaWuM study highlights the high competencies RMAs require particularly when it comes to networking, problem-solving, as well as researching, processing and presenting the information. Despite this extensive skill-set required to work well in the German research ecosystem, the field is also characterised by a lack of career opportunities and possibilities for promotion. While still the exception, some examples do exist of former RMAs taking on new positions as provosts at a university; in one case an RMA even became the president of a university of applied sciences. Such examples indicate that the RMA profession prepares one well for more complex professional positions.

[23] Center for Science Management (https://www.zwm-speyer.de).

The Future of RMA in Germany

Following the more general evolution of the research management scene, the past few years have also seen the arrival of transfer and innovation scouts, research management system specialists, grant writers, etc., all indications of a very dynamic playing field. The renewed national competition for research excellence , which formally started in 2023 along with a general decline in student enrolment numbers (resulting in an increased focus on research) are likely to further stimulate the RMA landscape and the various research institution's endeavours to distinguish themselves by developing unique research profiles. Equally, an even greater specialisation of RMAs owing to requirements of DFG, EU, etc. is to be expected. It is thus likely that RMA in Germany will see an even stronger drive for professionalisation along specific lines of RMA together with a growing workforce in this field.

References

Banscherus, U., Baumgärtner, A., Böhm, U., Globchykova, O., Schmitt, S., & Wolter, A. (2017). Wandel der Arbeit in Wissenschaftsunterstützenden Bereichen an Hochschulen. *Hochschulreformen und Verwaltungsmodernisierung aus Sicht der Beschäftigten. Study 362*. Hans-Böckler-Stiftung.

Bundesministerium für Bildung und Forschung (BMBF). (Hrsg). (2022). *Bundesbericht Forschung und Innovation 2022. Daten und Fakten zum deutschen Forschungs- und Innovationssystem*. Retrieved September 20, 2022, from https://www.bundesbericht-forschung-innovation.de/files/BMBF_BuFI-2022_Datenband.pdf

Henke, J., Schneider, S., & Sylvi, M. (2022). *Forschungsbezogenes Wissenschaftsmanagement: Konzept und Vermessung* [Lessons-Learned-Paper Nr. 1]. Institut für Hochschulforschung (HoF), Halle-Wittenberg.

Hüther, O., & Krücken, G. (2018). Higher education in Germany – Recent developments in an international perspective. In *Higher education dynamics* (Vol. 49). Springer International Publishing.

Kerridge, S., Ajai-Ajagbe, P., Kiel, C., Shambrook, J., & Wakefield, B. (2022). *RAAAP-2 datasets (17 linked datasets)*. figshare. https://doi.org/10.6084/m9.figshare.18972935.v1

Krempkow, R., & Höhle, E. (2021). The roles of higher education managers in Germany: First results of an online survey. In B. Broucker, R. Pritchard, G. Melin, & C. Milsom (Eds.), *Sustaining the future of higher education* (pp. 192–210). Brill.

Wissenschaftsrat (Hrsg.). (2023). *Strukturen der Forschungsfinanzierung an deutschen Hochschulen* [Positionspapier. Drs. 1012-12]. https://doi.org/10.57674/pms3-pr05

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Chapter 5.32

The Profession of Research Management and Administration in Iceland

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Abstract

Research management is slowly being recognised as a profession in Iceland as demands from funders and quality assurance have increased. The Icelandic research community is very small and funding for research is limited. The development of the profession in Iceland is tightly connected to international cooperation in research and participation in international programmes, in particular, the EU framework programmes. This participation has increased the administrative burden on researchers and shown the need for a specific profession that manages all other aspects of the research enterprise. This has slowly developed from being mostly financial management of grants into complete research management from idea to impact. A pivotal moment for research management in Iceland was the founding of ICEARMA in 2012, which has put a spotlight on the role of research managers within institutions, and led to most major research institutions hiring a designated research manager. This has also increased cooperation within the community.

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Keywords: ERA action 17; Iceland; ICEARMA; research management and administration; BESTPRAC; INORMS; RANNÍS; QEF, CRIS; IRIS; Research Liaison; RM Roadmap Office; RAAAP

The Icelandic Research Ecosystem

A Macro-level Review of the Icelandic Research / Science and Technology Policy

Public support for scientific research started in 1940 in Iceland with the establishment of a research council (*Icelandic: Rannsóknaráð ríkisins*) and a special Science fund (*Icelandic: Vísindasjóður*) was introduced in 1957 (Bjarnason, 1996; Jónasson, 2015). In 1987, a new law established a science council (*Icelandic: Vísindaráð*) for basic research and a research council (*Icelandic: Rannsóknaráð*) for applied research. Each council could fund work through the Science fund and the Technology fund (*Icelandic: Rannsóknasjóður*) respectively. In 1994, the two councils were joined into one, the Icelandic Research Council (*Icelandic: Rannsóknaráð Íslands*), with the mission to support both basic and applied research (Wikipedia Contributors, 2019).

The next major step in the Icelandic Research Ecosystem occurred in 2003 when The Icelandic Science and Technology Policy Council (STPC[1]) and The Icelandic Centre for Research (RANNÍS[2]) were formed through Act No 2/2003 (2003) (Andersen et al., 2007). The STPC is chaired by the Prime Minister. Its members include the Minister of Finance and Economic Affairs, the Minister of Education, Science and Culture, the Minister of Tourism, Industry and Innovation as well as 16 representatives nominated by different ministries and higher education institutions and by social partners. The role of the STPC is to support scientific research, science education and technological development in Iceland and it sets the official science and technology policy for three-year periods at a time. The STPC has two working committees, the Science Board and the Technology Board (Science and Technology Policy Council, n.d.). The STPC is assisted in its mission by RANNÍS, which is a state institute under the direction of the Minister of Education, Science and Culture. Its role is to provide expert assistance and service in preparing and implementing the science and technology policy of the STPC. It administers competitive national funds, which operate horizontally across all fields of Science, Humanities and Technology, reaching from basic research to technological development, innovation and infrastructure. Furthermore, RANNÍS coordinates and promotes Iceland's participation in European programmes such, as Horizon Europe, Erasmus+ and Creative Europe (Rannis, n.d.). Most of the Horizon Europe National Contact Points (NCPs) are hosted at RANNÍS.

In 2010, the Ministry for Icelandic Higher Education established The Quality Board for Icelandic Higher Education, an independent, international body, to design and implement the 'quality enhancement framework' (QEF) for the Icelandic universities. QEF's mission is to safeguard the standards and enhance the quality of Icelandic higher education and *the management of research activities* (Quality Board for Higher Education in Iceland, n.d.). Since 2010, all the universities have undergone regular

[1] https://www.government.is/topics/science-research-and-innovation/science-and-technology-policy-council/
[2] https://en.rannis.is

QEF reviews. QEF2 started in 2017 and included for the first time an explicit section on 'management of research' (Sharpe & Sigurðsson, 2017). The Research Evaluation Advisory Committee (REAC), a subcommittee of the quality board, is charged with supporting the evaluation of research management in the universities and proposing ways that research outputs and impact could be evaluated in the future, in line with international best practices (Sharpe & Sigurðsson, 2017). An important element in underpinning any sector wide evaluation of the management of research in Iceland was to be the establishment of the national database of research outputs in a CRIS (Current Research Information System) – aptly named IRIS[3] (Icelandic Research Information System). IRIS was anticipated to be available in 2017 but was formally launched in 2022. One part of the REAC's remit is to consider how an Icelandic CRIS system will contribute to the management and evaluation of research (Sharpe & Sigurðsson, 2017).

In 2017, a second attempt at making a national research infrastructure roadmap was started and The Icelandic Roadmap for Research Infrastructures was published by the Ministry of Education, Science and Culture in 2021 (The Board of the Infrastructure Fund et al., 2021).

Major Funders of Research and the Research Ecosystem in Iceland

The Icelandic STPC provides strategic guidance for the three main research funds in Iceland: The Icelandic Research Fund, The Technology Development Fund and The Infrastructure Fund. Given that Iceland (population 369.000) is a (very) small economy with limited financial capabilities in Science, Technology and Innovation (STI); the absolute amounts of the national funds are low and competition for them is fierce (Andersen et al., 2007; Independent Expert Group Report prepared for the Icelandic Ministry of Education, Science and Culture and the European Research Area and Innovation Committee, 2014).

There are other minor national funding opportunities through government departments, industry and charities but they are few and far between, often field specific, and do not follow a fixed schedule. As such there is strong incentive to apply for international co-operational research funding such as Horizon Europe, Erasmus+, NordForsk, Nordic Innovation Centre, Nordic Energy Research, etc.

Universities, public institutes and private research organisations engage in research in Iceland. Most research managers and administrators (RMAs) however are employed by universities. The higher education sector in Iceland is small but very diverse with its own history and traditions. There are seven universities in Iceland, as defined by law. No distinction is made between research universities and other tertiary colleges. Both types are referred to as 'háskóli' (university) locally, some of them are public and some are private. The University of Iceland is the only comprehensive university as well as being the oldest (1911) and largest (15,000 students).

Evolution of the Profession

Research administration (Kaplan, 1959) or the profession of research management and administration, often referred to as RMA (Kerridge & Scott, 2018a) has not been and is not yet a formally recognised profession in Iceland. RMAs are most often labelled as 'project managers' or in some cases 'research directors'. Often in smaller

[3] https://iris.rais.is

entities RMAs will be researchers working part time on research management and highly dependent on grant income (soft money).

It can be said that research management and administration started in Iceland in 1986 when the Research Liaison Office (RLO) was founded as a specific entity within the University of Iceland, established directly under the university council. The objective of the new RLO was to transfer research results from the university to industry and commerce through effective technology transfer. A later objective (ca. 1994) was to increase the participation of the university in European research cooperation through the EU framework programmes, which had become available to Icelandic institutions through the European Economic Area agreement.

By establishing the RLO, the road to specialisation and professionalisation was started. The RLO operated as the secretariat for the university and university hospital's intellectual property committee, was responsible for the university's innovation prize, handled project management of large international research grants and formed an international research grant strategy for the university. They also served as the National Agency for the Leonardo programme and directed the EU Innovation Relay Centre (IRC) network from 1994 and 1995 respectively. At its height RLO employed 17 energetic people, 15 in RMA positions (but not called RMAs) and two assistants (see Fig. 5.32.1). Decode Genetics was a pioneering private research institute which established an RMA office of two 'Alliance managers' in 2005, developing and expanding as their participation in EU funded research increased.

Fig. 5.32.1. A Picture of the RLO Staff in 1997 (University of Iceland Research Liaison Office et al., 1998). Front row from left: Tryggvi B. Thayer, Ester Þorsteinsdóttir, Birna Árnadóttir, Auður Loftsdóttir and Þórdís Eiríksdóttir. Middle row: Gylfi Einarsson, Marta Matthíasdóttir, Guðbjörg Daníelsdóttir and *Ásta Sif Erlingsdóttir*. Back row: Sigurður Guðmundsson, Sigríður Jóhannsdóttir, Sigurður T. Björgvinsson, Hulda A. Arnljótsdóttir, *Ágúst H. Ingþórsson* and Jón Páll Baldvinsson. Two people are not in the picture, Guðmundur R. Árnason and Örn D. Jónsson. This is still today the largest collection of RMA staff in one office in Iceland.

The RLO merged with the university's Division of Science and Innovation in 2013. This was just after the formation of ICEARMA in 2012, see below, which caused an awakening in Iceland's research institutions (Icearma, 2021). The foundation of ICEARMA has led to all the Icelandic universities establishing the position of research director, as well as in all the schools/faculties of the University of Iceland. Three public organisations established a research Project Management Office (PMO) between 2010 and 2016, but only the PMO at the University of Iceland is still active and expanding today. Additionally, a few consultancy companies in Iceland provide pre-award services.

Initially, at the RLO, the roles of RMAs focussed on technology transfer. When Iceland started participating in the EU framework programmes the focus broadened to promoting grant opportunities and handling financial matters. Currently the focus is developing and expanding to include most research-related matters, for example, organising events, working with ethics institutional review boards, etc. In 2018, the Icelandic universities and the largest research institutions formed a national Technology- and Knowledge Transfer Office (TTO Iceland)[4] to provide professional services for technology transfer, in a way completing the circle started back in 1986.

Current Community

ICEARMA[5] is the national association in Iceland, and the only formal RMA association in Iceland. ICEARMA has a chair, treasurer and secretary plus two substitutes which meet on average four times a year. A small membership fee (about US$70) is collected to fund meetings, trainings and events. ICEARMA does not provide any certifications.

There are no other formal national associations of RMAs in Iceland at the moment but the University of Iceland has a large, formal group (29 members) which works on streamlining in-house procedures and compliance between the schools of the university. Most of the university group members are also members of ICEARMA. Some RMAs are associated and certified in project management by the Icelandic Project Management Association (IPMA Iceland).

Concerning international associations, Icelandic RMAs work mostly with EARMA,[6] INORMS[7] and the BESTPRAC[8] network (now merged into EARMA). Iceland is also a member of the NUAS[9] – the Nordic University Administrator's collaboration which is a member-driven collaborative organisation established in 1976. NUAS has 14 interest groups that focus on specific administrative disciplines. The international community of RMAs is very important for Iceland because Iceland is a small country with limited research funding and resources.

Demographics

ICEARMA is the professional association for research directors, research managers and research administrators in Iceland (48 members in 2021). The idea for ICEARMA was initiated when RMAs, mainly from the University of Iceland, participated for the

[4] https://ttoiceland.is
[5] https://icearma.is
[6] https://earma.org
[7] https://inorms.net
[8] https://bestprac.eu/home/; https://earma.org/bestprac/
[9] https://www.nuas.org

first time in the INORMS Congress, in Copenhagen 2012. ICEARMA was formalised on 23 November 2012. Ásta Sif Erlingsdóttir (see Fig. 5.32.1) is the founder of ICEARMA and former chair, as well as a former member of the INORMS council. By founding ICEARMA and attracting members from most research organisations in Iceland, Ásta Sif connected RMAs in Iceland and encouraged the exchange of best practices among other things (Table 5.32.1). This is particularly important in Iceland where organisations are small, and most do not have full time research managers or research directors. The first board included representatives from the University of Iceland, the University of Reykjavík, the University Hospital and the Icelandic Academy of Arts. A major topic in the first few years was pressure for the establishment of the aforementioned IRIS system for Iceland.

ICEARMA is intentionally very inclusive, and from the start open to all that work in or around the research enterprise. However, most of the members work with the financial management of research grants. In recent years, this role is slowly changing

Table 5.32.1. An Overview of the Remit of ICEARMA.

The Objectives of ICEARMA	What Does ICEARMA Offer (Yes or No)
RMAs to share best practices	Development/training (Yes)
Provide training opportunities for RMAs	Publication (No)
Increase the weight and role of RMAs in the research environment	Code of practice (No)
Come together as a group to pressure for changes in the research system/environment	Special initiatives (Yes)
Participate in the European and international cooperation of RMAs	Certification (No)
	RMA academic education (No)

Table 5.32.2. ICEARMA Membership and Analysis.

Year	Members	University Members/ Non-university Members	Women/ Men	Founding and General Meetings	Fee per Member (ISK)	Board Meetings
2012	24	20/4	13/11	23 November2012		3
2013	30	18/12	23/7	24 April 2013	15,000	5
2014	36	21/15	29/7	30 April 2014	15,000	4
2015	38	22/16	28/10	25 March 2015	10,000	4
2016	41	25/16	32/9	20 April 2016	10,000	3
2017	44	33/11	28/16	05 May 2017	10,000	4
2018	46	31/15	30/16	12 September 2018	10,000	5
2019	46	34/12	27/19		10,000	2
2020	46	34/12	27/19	COVID break		1
2021	48	35/13	29/19	COVID break		0

and widening and taking on many other transversal aspects, including the recruitment and working conditions, open science aspects, ethics and other matters. ICEARMA members are mostly women and primarily from universities but between 17% and 40% come from other organisations (see Table 5.32.2). Most members have been of Icelandic nationality, but universities and research organisations are advertising internationally for these opportunities.

The make-up of RMAs in Iceland is very different between institutes and even within institutes. The routes into the profession are ad hoc and from different angles and career tracks. Reasons for joining the profession also vary widely, this is certainly a challenging profession and often very deadline driven. Many come from financial background, some from an academic career, some from project management. It is common that people start doing financial management and then end up doing whatever is necessary. Job advertisements usually seek project managers for financial matters. RMAs in Iceland have taken part in the RAAAP surveys (Kerridge & Scott, 2018a) with the impressive +60% response rate of members (INORMS, 2019) (https://inorms.net/activities/raaap-taskforce/raaap-survey-2019/) in the second iteration (Kerridge, Ajai-Ajagbe, et al., 2022). The age group 35–44 years was the largest with 45–54 years closely following. More than half of the participants were older than 45 years. The majority (>80%) of the participants had a Master's or Doctorate degree.

As stated above, RMAs are not usually formally identified as RMAs but rather as project managers. There is little room for career development at the moment and no real advancement from junior to senior as there are so few working in the field. Most RMAs work both pre- and post-award as well as handle legal negotiations. Most often have to be a 'Jack of all trades'. It can, however, be difficult to have to be an expert in so many areas and therefore studies on burnout and occupational stress among research administrators (Katsapis, 2012; Shambrook, 2012; Tabakakis et al., 2020) are extremely pertinent. In Iceland, we struggle with low retention of new people which may possibly be a side effect of low visibility of the profession and constant stressful work environment. A recent study of the research management at the University of Iceland (Gíslason, 2017) describes the style as operating adhocracy where there is no real hierarchy of functions and roles and much depends on the individual initiatives of staff.

A few RMAs who were already working as RMAs at a university have started along the EARMA certification path[10] – but have not yet completed it. Therefore, it remains to be seen if it can lead to job advancements or a salary raise. A few have completed the shorter (3 day) EARMA course and the PM[2][11] training certification.

Iceland is a small country with short communication routes. It is a country where 'everybody knows your name'. In general, this leads to close contact with national funders and policymakers. Still ICEARMA has not been able to have much influence, but communication is ongoing. The policy/funding landscape in Iceland is relatively short term, which makes it difficult for RMAs and researchers to plan ahead and no funding is guaranteed in the long term. ICEARMA has had good interaction and cooperation with The Icelandic Centre for Research (RANNÍS). Several RANNÍS staff are members of ICEARMA. Some EU NCPs are also members of EARMA. International lobbyism is virtually non-existent. RMAs can interact with funders and policymakers through institutional groupings and lobbies, but not through ICEARMA.

[10] https://earma.org/courses-and-training/ ; https://earma.org/media/documents/crm.pdf
[11] https://www.pm2.eu

Directions/Future

Although RMAs operate below the radar and the profession is not well known in Iceland, the work is very well appreciated by researchers and management at institutional level. An awareness of the RMA profession is slowly building through steps taken after INORMS (2012), the formation of ICEARMA (2012), participation in BESTPRAC (2014), European Research Area (ERA) action 17 (2021),[12] and RM Roadmap (2022).[13] It is still a small community but has benefitted greatly from international connections, with usually very good representation at EARMA events and INORMS congresses, relative to the size of the community. Several of ICEARMA members participated in the various BESTPRAC activities and continue to do so in the current BESTPRAC–EARMA events and RM Roadmap events. Erasmus+ job shadowing opportunities are also important to continue cooperating with international colleagues, with constant contact going both ways.

International contact and benchmarking is crucial for the further advancement of the profession in Iceland. It is foreseeable that administrative demands from funders will continue (despite promises of simplification), and certified, professional administrators will be of great value for advancing the research field in Iceland. It would be preferable to be recognised formally at least within the universities and further specialisation within the field is likely as the roles are expanding beyond financial matters.

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References

Act No 2/2003. (2003). Act on public support for Scientific Research, No. 3/2003. Retrieved March 1, 2022, from https://web.archive.org/web/20070220072312/http:/eng.menntamalaraduneyti.is/Acts/nr/2700

Andersen, P. D., Borup, M., Finnbjörnsson, T., Vals, E., & Malmér, T. (2007, January). *Foresight in the Nordic research and innovation council systems*. Risø National Laboratory. ISBN: 978-87-550-3614-7 (Risø-R-1613(EN)).

Bjarnason, B. (1996). Presentation at Rannís General Meeting April 19th, 1996. Retrieved March 1, 2022, from https://www.bjorn.is/greinar/nr/152

Gíslason, Ú. K. (2017). *Háskóli í fremstu röð? - Stoðþjónusta rannsóknaverkefna við Háskóla Íslands í evrópsku samhengi*. http://hdl.handle.net/1946/26501

Icearma. (2021). *Icelandic Association of Research Managers and Administrators website*. Retrieved March 1, 2022, from http://icearma.is/

Independent Expert Group Report prepared for the Icelandic Ministry of Education, Science and Culture and the European Research Area and Innovation Committee. (2014, September). *ERAC peer review of the Icelandic research and innovation system*. European Commission. Retrieved March 3, 2022, from https://www.stjornarradid.is/media/menntamalaraduneyti-media/media/frettir2014/final-report-peer-review-sti-iceland2.pdf

[12] https://earma.org/news/action-17/
[13] https://www.rmroadmap.eu

INORMS. (2019). *RAAAP survey 2019*. INORMS. Retrieved October 31, 2021, from https://inorms.net/activities/raaap-taskforce/raaap-survey-2019/

Jónasson, H. (2015). *Presentation at Rannís 75th anniversary celebration*. Retrieved March 1, 2022, from https://www.rannis.is/media/arsskyrslur/Rannis_arsskyrsla_2015.pdf

Kaplan, N. (1959). The role of the research administrator. *Administrative Science Quarterly*, *4*(1), 20–42.

Katsapis, C. (2012). The incidence and types of occupational role stress among university research administrators. *Research Management Review*, *19*(1), 1–23.

Kerridge, S., Ajai-Ajagbe, P., Kiel, C., Shambrook, J., & Wakefield, B. (2022). *RAAAP-2 datasets (17 linked datasets)*. figshare. https://doi.org/10.6084/m9.figshare.18972935.v1

Kerridge, S., & Scott, S. F. (2018a). Research administration around the world. *Research Management Review*, *23*(1), 1–34.

Quality Board for Higher Education in Iceland. (n.d.). *Our mission is to safeguard the standards and enhance the quality of Icelandic higher education and the management of research activities*. Retrieved March 3, 2022, from https://qef.is

Rannis. (n.d.). *About Rannis*. The Icelandic Centre for Research. Retrieved March 1, 2022, from https://en.rannis.is/activities/

Science and Technology Policy Council. (n.d.). *Science and Technology Policy Council*. Retrieved March 1, 2022, from https://www.government.is/topics/science-research-and-innovation/science-and-technology-policy-council/

Shambrook, J. P. (2012). Comparison of stress-related factors in the 2007 and 2010 research administrator stress perception surveys (RASPerS). *Journal of Research Administration*, *43*(2), 107–118.

Sharpe, N., & Sigurðsson, S. Ó. (Eds.). (2017). *Quality enhancement handbook for Icelandic higher education* (2nd ed.). Retrieved March 3, 2022, from https://qef.is/assets/QEF2-Handbook-for-website.pdf

Tabakakis, K., Sloan, K., Besch, J., & Quyen, G. (2020). Burnout and its correlates in research administrators. *Research Management Review*, *24*(1), 1–22.

The Board of the Infrastructure Fund, The Icelandic Center for Research and the Ministry of Education, Science and Culture. (2021, June). *Icelandic roadmap for research infrastructures 2021*. Ministry of Education, Science and Culture. Retrieved March 3, 2022, from https://www.rannis.is/media/innvidasjodur/Roadmap-to-Icelandic-infrastructure_August_2021.pdf

University of Iceland Research Liaison Office, Ingþórsson, Á. H., & Árnason, G. R. (1998). University of Iceland Research Liaison Office annual report 1997 (Icelandic: Ársskýrsla Rannsóknaþjónustu Háskólans 1997) (No. 1). University of Iceland Research Liaison Office.

Wikipedia Contributors. (2019, March 13). *Opinber stuðningur við vísindarannsóknir á Íslandi*. Wikipedia, frjálsa alfræðiritið. Retrieved March 1, 2022, from https://is.wikipedia.org/wiki/Opinber_stu%C3%B0ningur_vi%C3%B0_v%C3%ADsindaranns%C3%B3knir_%C3%A1_%C3%8Dslandi

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Chapter 5.33

The Profession of Research Management and Administration in Ireland

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Abstract

The Government of Ireland, through the Department of Further and Higher Education, Research, Innovation and Science (DoFHERIS), sets the framework for the national research ecosystem. Within that ecosystem, the Research Management and Administrators (RMA) community evolved in response to changing circumstances and continues to evolve becoming a more professional and expert community. The profile of the community, admittedly based on a small sampling, is normal with a hint that females occupy the most senior roles. Most Irish research-performing organisations (RPOs) including the HE sector, College and State Research Organisations (CSRO), and the Health Service have RMA members active in The European Association of Research Managers and Administrators (EARMA). The next step in the profession's evolution in Ireland has to be the development of a single, national, and inclusive RMA network providing a representative

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voice for the profession with respect to issues such as career development and career paths.

Keywords: Ireland; Research Management and Administration; Professionalisation; Research Officers Group; Technological Higher Education Association; Irish Universities Association; Department of Further and Higher Education, Research, Innovation and Science; RAAAP; PRTLI; Atlantic Philanthropies; CSRO

Research Policy

The Irish Government (Rialtas na hÉireann)[1] sets national research and innovation (R&I) policy through a national R&I strategic plan. Each plan covers roughly a seven-year cycle. Increasingly, in recent cycles, the government has tried to take a broader *whole-of-government* approach with inputs from and actions required across the Public Sector.

The three most recent cycles (Department of Enterprise, Trade and Employment, 2006; Department of Jobs, Enterprise and Innovation, 2013; Department of Further and Higher Education, Research, Innovation and Science, 2022a) have taken an increasingly more balanced outlook on what constitutes a national R&I policy, with a solid emphasis on 'social and economic impact' but recognising the need for 'investigator led' research as well as more strategic 'top-down' initiatives.

A very significant change occurred in 2011 in the structure of the national research system. As a response to the tail-end of the Global Financial Crisis and the fact that the previous 10 years had seen an unprecedented expansion in public funding for research, the Government moved away from the traditional investigator or, curiosity-led model to a model based more on a top-down 'national research prioritisation' (Forfás, 2011). More recently, and in particular in the Impact 2030 strategy (Department of Further and Higher Education, Research, Innovation and Science, 2022a) the research system is re-balancing to a more flexible and open model where both top-down and bottom-up have their appropriate places.

In recent years, the political responsibility for R&I in Ireland has moved from the more economic ministries to the new DoFHERIS.[2] Three particular initiatives in the most recent national strategy promise to dramatically improve the R&I ecosystem in Ireland:

1. The creation of a new, single research council replacing the Irish Research Council and Science Foundation Ireland (SFI). '… will preserve and further advance the progress made in building Ireland's internationally recognised brand and reputation in research excellence across many disciplines' and '… will be mandated to drive interdisciplinary research engagement, as well as to support continued research excellence within the Arts, Humanities and Social Sciences and Science, Technology, Engineering and Mathematics disciplines and enhance collaboration with the enterprise and public sectors'.
2. Embedding R&I at the centre of public policy by re-imagining the current scientific advice structures '… to tap into wider networks of expertise, both national and international, so that the latest research developments and innovations are brought to bear on Irish policy priorities and decision-making'.

[1]https://www.gov.ie/en/
[2]https://www.gov.ie/en/organisation/department-of-higher-education-innovation-and-science/

3. Reestablishing a national R&I forum linking relevant stakeholders including academia, industry, policy decision-makers, and communities. The forum will examine and advise on '… key policy considerations to support our drive for a cohesive, responsive and impactful public research system, a world-class innovation ecosystem, and our ambitions for international innovation leadership' (Department of Further and Higher Education, Research, Innovation and Science, 2022b).

Though the intention to continue to develop the national research ecosystem is clear, the role of RMAs in the ecosystem is more implicit than explicit.

Major Research Funders in Ireland

The history of research funders in Ireland is colourful and complicated. Most of the current funders have been through a series of mergers and moves between various parent ministries and this will continue. All of the most significant funding agencies in Ireland are publicly funded (Table 5.33.1).

Table 5.33.1. Major Research Funders in Ireland and Their Areas of Activity.

Agency	Broad Area	URL
Irish Research Funders		
The Atlantic Philanthropies	Advance higher education, human rights and services for the young and old	https://www.atlanticphilanthropies.org/
Department of Agriculture, Food and the Marine	Research related to the Department's area of responsibility	https://www.gov.ie/en/organisation/department-of-agriculture-food-and-the-marine/
Enterprise Ireland	Research supporting economic and business development	https://www.enterprise-ireland.com
Environmental Protection Agency	Environment, climate and environmental policy	https://www.epa.ie
Health Research Board	Health and healthcare	https://www.hrb.ie
Industrial Development Authority	Research supporting economic and business development	https://www.ida.ie
Irish Research Council	All disciplines	https://www.research.ie
Science Foundation Ireland	STEM	https://www.sfi.ie
Teagasc (Agricultural Development Authority)	All aspects of agricultural and rural development	https://www.teagasc.ie
Higher Education Authority	Capital programmes	https://www.hea.ie

Note In 2024, Science Foundation Ireland and the Irish Research Council will be replaced by a new, funding agency

Research-performing Organisations

The most prominent RPOs in Ireland are the universities (13 including 1 private university) and higher education institutions (2 Institutes of Technology and The National College of Ireland). The recent establishment of 5 Technological Universities is significant. Technological Universities are required, by their establishment act, to focus on more 'applied' research and have a strong regional focus (Office of the Attorney General, 2018).

There is a smaller public research sector with organisations being closely identified with specific areas of responsibility (e.g. Forensic Science Ireland or the Marine Institute). However, in terms of expenditure, the largest sector is 'industrial'.

As one would expect, larger companies spend more on R&D than smaller ones. In 2019 two-third of Business Expenditure on Research and Development (BERD) (€2.15b) was spent by larger companies but foreign-owned companies in Ireland accounted for more than 70% of that expenditure. This has been a trend for several years and is a reason for some concern (Department of Finance, 2014; Central Statistics Office, 2021). The departure of just one multinational firm could significantly reduce Ireland's overall BERD.

Evolution of the Irish RMA Profession

Until the late 1980s or early 1990s, because of the low level of national research funding and opportunities, researchers tended to do their own 'research management' and as long as the scale was small, this was probably all that was required.

Research management was not seen as a profession but rather an administrative function to disseminate the opportunity, 'sign off' proposals and perhaps do budget checks.[3] However, since the mid-1990s, the amount and type of public research funding available have grown significantly. Three significant events drove the development of a professionalised RMA profession and confirmed the need to concentrate less on 'administration' and more on 'management'.

1. The development and expansion of Europe's support for research largely through the Framework Programmes but also through a variety of other programmes.
2. Chuck Feeney's investments in research and research infrastructure through his philanthropic foundation, The Atlantic Philanthropies (see below).
3. The government established the Programme for Research in Third-Level Institutions (PRTLI) in 1998 (O'Sullivan, 2005, pp. 13–16).

Ireland and Europe

From the mid-1980s Europe began to expand its role in European research, initially through the Cooperation in Science and Technology (COST),[4] Europe's Framework Research Programmes provided many opportunities for Irish researchers to engage in collaborative research projects with European and other partners for the first time.

[3]Technically, they were non-academic roles and were administrative roles. While this is happening less often now, it is still the normal recruitment route for professional RMAs in the new TU sector in Ireland.
[4]https://www.cost.eu/

The Irish Government also began encouraging Irish researchers to take advantage of these possibilities. While the European research programmes were (and remain) popular, the additional support, management, governance, compliance, and reporting requirements overwhelmed PIs. It quickly became apparent that a professional service supporting researchers was essential if Ireland was to be sustainably successful in these programmes.[5]

Unlike many other countries, networking of the RMA community in Ireland arose, in the first instance, through European networks such as the EARMA,[6] in response to the growing importance of EU research frameworks, the need to be internationally collaborative and the earlier recognition in Europe of RMA as a profession. The RMA community in Ireland, whilst seeking now to network nationally, must do so in the knowledge that we represent institutions which, whilst they collaborate, are also competing with each other.

The Atlantic Philanthropies

Chuck Feeney, the famously low-key Irish American billionaire has invested all his wealth through his philanthropic foundation The Atlantic Philanthropies. The Atlantic Philanthropies '*invested $1.3b in the Republic of Ireland to advance higher education, human rights and services for the young and old*', between 1987 and 2016 (The Atlantic Philanthropies, n.d.).

The Atlantic Philanthropies co-funded many aspects of research and infrastructure in Irish Higher Education across a broad range of disciplines and in many institutions including 18 institutions of higher education and research centres.

The Atlantic Philanthropies investment, which had a large matched funding element, was predicated on the existence of robust, comprehensive, and efficient support from the individual hosting institutions. This was a further 'incentive' to the HE sector to put these kinds of services in place and to develop those that already existed.

The Atlantic Philanthropies was also a significant co-funder of The PRTLI programmes.

The Programme for Research in Third-level Institutions

The PRTLI was an Irish government programme that focused on developing a modern research ecosystem in Ireland. At the heart of PRTLI was the requirement for investments solidly based on institutional research strategies. PRTLI supported the development of physical infrastructure and research programmes within the context of an institutional research strategy and extensive intra- and interinstitutional collaborations. The programme also included some investments in RMA resources as a key enabler. PRTLI ran for six iterations between 1998 and 2010, starting with a small pilot which became known as PRTLI '0' and then 5 cycles known as PRTLIs 1–5.

The twin aspects (strategy and collaboration) were in their infancy but as institutional-level bids, they required a substantial degree of institutional-level management which almost invariably was taken on by the research offices now, more often

[5]This also drove the requirement for a European level network for RMAs to collaborate with each other. In the Early nineties a group of European RMAs established The European Association of Research Managers and Administrators. At least three Irish RMAs were involved in the group that established EARMA.
[6]https://earma.org

than not, headed by a dedicated vice dean for research role. Research managers now needed to learn and develop evidence-based institutional research strategies and to start developing potential collaborations between researchers both within and without their institutions. RMAs are uniquely placed to deliver these strategies and networks because of the central place they occupy in the national research ecosystem.

It is interesting that expanding Irish involvement in European programmes and The Atlantic Philanthropies investments both set the stage for the PRTLI programme and that PRTLI investments were a significant enabler of future and continuing Irish success in Europe.

The scale of investment was such that both in terms of application support and post-award reporting, RMA expertise was necessary to develop and deliver coherency. Successive cycles called for more co-funding and more interdisciplinary and transdisciplinary collaboration both within Ireland and beyond. Greater RMA support was needed to support the changing demands of funders and proposers.

A 2004 assessment (Higher Education Authority & Ireland. International Assessment Committee, 2004a, 2004b) concluded that PRTLI had changed institutional-level strategic thinking and had had a transformational effect on the HEI sector's approach to research. Outside of the PRTLI process, other agencies were formed such as SFI (2003) and the size and complexity of projects also increased from the funding of large-scale single PI (a model used subsequently for the European Research Council (ERC[7])) and research centres and the need for dedicated administrative support became evident.

At the same time as national funding was increasing, access to information about opportunities in other places by other funders was also growing. Paper-based catalogues of research opportunities brought this information to a growing group of researchers. As these catalogues moved fully online the opportunities for researchers only increased.

These trends, more researchers, better, and more substantial funding and access to many more programmes using international peer review processes meant that securing research funding was becoming increasingly competitive and relying on researchers to navigate around the requirements of a particular research funder from pre-award to grant close-out was no longer tenable. The RMA community became more specialised as eligibility rules, concept development, contract, and consortium agreements through to post-award support including pathways to innovation had to be understood and supported.

The development of, what we now call, RMA was a direct evolution of these trends. The most efficient way to provide 'research management' was by having a cohort of experienced RMA who could concentrate on those, often specialised tasks, to enable researchers to concentrate on the research itself more effectively. This has continued as funder requirements have broadened and engagement with data management, Open Scholarship, and impact agendas including citizen engagement are now mainstreamed.

As the original RMA cohorts gained experience, the subdivision of the RMA service into more specialised roles was inevitable. An RMA working with more proposals in a year than a researcher would write in their lifetime and who built strong research-funder relationships gained very valuable insights into what works and what doesn't that they brought to bear the next time they engaged with a researcher on a proposal.

From the mid-1990s the emergence of dedicated Research Offices became widespread and became integral parts of normal RPO institutional structures whilst the

[7]https://erc.europa.eu/homepage

supports and the specialisations that they provide have increased in response to the changing complexity in the research funding landscape. This process is continuing today. However, despite the normalisation of research offices, and research managers, the use of external funds for so many RMA positions has made the use of short-term contracts commonplace creating precarity for many RMAs and undermining research management as a true profession in Ireland.

Community Networks in Ireland

The unique set of drivers described above didn't require any sort of national 'RMA network', however, that need has only become more and more obvious in recent years. This lack of a coherent national voice for RMAs militates against the development of professional status, defined roles, and an adequate and appropriate career development structure. While Europe has now identified specific actions to support RMA as a profession (European Commission, 2021a); as of September 2022, there is no single inclusive professional network for RMAs as a community and Ireland risks losing out.

The Research Officer Group (ROG) is a very informal network of RMAs from across most RPOs. The two Associations representing higher education institutions (Irish Universities Association (IUA) and The Technological Higher Education Association (THEA)) have RMA networks for their members.[8] Newer networks such as the National Research Services and Infrastructure Forum (RESIN)[9] and, more recently, 'The All Island Research Excellence Network (AIREN)'[10] have been established but, while AIREN may ultimately be the Irish- ARMA, it is still too early to say how this network or any of the others will evolve into a genuinely inclusive *Cumann Bainisteoirí agus Riarthóirí Taighde na hÉireann*.[11]

Demographics

Based on the RAAAP-2 survey (admittedly a small sample of $n = 50$) (Kerridge, Ajai-Ajagbe, et al., 2022), The RMA community in Ireland is 'normal'. In every age group, the majority are female and the ratio of Female:Male is as high as 5:1 in some groups. It's not a young profession, the vast majority of those who responded (44) were aged between 35 and 54.

Most of those who identify as 'Leader' or 'Manager' are female (80% in both cases). 66% of those who responded had entered the service with Masters or PhD level qualifications and are distributed across 'Leader', 'Manager', and 'Operational' roles.

The majority of RMAs have been in the service for 10 or more years, probably reflecting the 'evolution' of the profession described above.[12]

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[8]The ROG is based on those universities that form the Irish Universities Association (IUA; https://www.iua.ie). There is a similar and similarly informal group within the Technological Higher Education Association (https://www.thea.ie). There are several other smaller similar groups based on various constellations of RMAs arising and declining as required, for example, the Enterprise Ireland Horizon Europe IDIRUS Group (https://horizon2020.idirus.com/).

[9]RESIN itself does not have a website but is hosted by HEANet the agency that provides networking services to Irish Higher education (https://www.heanet.ie).

[10]https://airen.network/

[11]Translates as *The Irish Association of Research Managers and Administrators*.

[12]Although the number of RMAs in Ireland is relatively small, it is likely that the lack of any formal national network makes completing the RAAAP survey a little more difficult as there may not be an easy way to contact everybody!

Future: What Now?

The RMA community in Ireland is now quite large. There are 88 members from Ireland in EARMA, but there are larger groups of RMAs in individual Irish universities.[13]

The Irish Minister for Further and Higher Education, Research Innovation and Science, has recently described Higher Education Research as a '*strategic national asset*' (Department of Further and Higher Education, Research, Innovation and Science, 2022b) and also stated '*I recognise that research managers and administrators play a key role in supporting our research and innovation system*' – Simon Harris TD – 08/09/2022. Translating that open invitation to engage into policy supporting the professionalisation of the service and a career framework depends on the willingness of Irish RMAs to work together to achieve that. Ireland's recent reluctance to support actions at the EU level to support RMA development should be a call to action for Irish RMAdom.

Summary

RMA in Ireland continues to evolve. It has grown rapidly in response to dramatic changes in the Irish research ecosystem, most notably the large increase in funding that has been in the system since the mid-1990s. The profession is becoming increasingly expert and diverse but remains without a local voice. In the future, Irish RMAs must start to cooperate and engage, as a national RMA community, with the policy developers and implementers if Irish RMAs want to realise the full potential of the profession.

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References

Central Statistics Office. (2021, March 2). *Business Expenditure on Research & Development 2019 − 2020 − CSO*. Central Statistics Office. Retrieved September 17, 2022, from https://www.cso.ie/en/releasesandpublications/er/berd/businessexpenditureonresearchdevelopment2019-2020/

Department of Enterprise, Trade and Employment. (2006). *Strategy for science, technology and innovation*. Rialtas na hÉireann Government of Ireland. https://enterprise.gov.ie/en/publications/publication-files/forfás/strategy-for-science-technology-and-innovation-2006-2013.pdf

Department of Finance. (2014). *Economic impact of the foreign-owned sector in Ireland*. Rialtas na hÉireann Government of Ireland. https://assets.gov.ie/181238/fa02da26-7864-4e3a-808f-53f0c862d01c.pdf

Department of Further and Higher Education, Research, Innovation and Science. (2022a). *Impact 2030: Ireland's research and innovation strategy*. Rialtas na hÉireann Government of Ireland. https://assets.gov.ie/224616/5f34f71e-e13e-404b-8685-4113428b3390.pdf

Department of Further and Higher Education, Research, Innovation and Science. (2022b, May 18). *Minister Harris launches Impact 2030: Ireland's research and innovation strategy*. Rialtas na hÉireann Government of Ireland. Retrieved January 24, 2023, from https://www.gov.ie/ga/preasraitis/18f45-minister-harris-launches-impact-2030-irelands-new-research-and-innovation-strategy/

[13]Getting a definitive figure for the size of the RMA population in Ireland is fraught. Estimates range from 500 to more than 1,000.

Department of Jobs, Enterprise and Innovation. (2013). *Innovation 2020*. Rialtas na hÉireann Government of Ireland. https://enterprise.gov.ie/en/publications/publication-files/innovation-2020.pdf

European Commission. (2021a). *European research Area Policy Agenda: Overview of actions for the period 2022–2024*. European Commission. https://research-and-innovation.ec.europa.eu/system/files/2021-11/ec_rtd_era-policy-agenda-2021.pdf

Forfás. (2011). *The report of the Research Prioritisation Steering Group*. Forfás. https://enterprise.gov.ie/en/publications/publication-files/research-prioritisation.pdf

Ireland. Higher Education Authority & Ireland. Higher Education Authority. International Assessment Committee. (2004a). *The Programme for Research in Third Level Institutions [PRTLI] Impact Assessment: Report by the International Assessment Committee* (Vol. 1). Higher Education Authority. https://hea.ie/assets/uploads/2017/06/PRTLI-Impact-Assessment-Volume-1-.pdf

Ireland. Higher Education Authority. International Assessment Committee & Irlanda. Higher Education Authority. (2004b). *The Programme for Research in Third Level Institutions [PRTLI] Impact Assessment: Report by the International Assessment Committee* (Vol. 2). Higher Education Authority. https://hea.ie/assets/uploads/2017/06/PRTLI-Impact-Assessment-Volume-2-.pdf

Kerridge, S., Ajai-Ajagbe, P., Kiel, C., Shambrook, J., & Wakefield, B. (2022). *RAAAP-2 datasets (17 linked datasets)*. figshare. Retrieved September 16, 2022, from https://doi.org/10.6084/m9.figshare.18972935.v1

Office of the Attorney General. (2018). *Technological Universities Act (Issue 3/2018)*. Rialtas na hÉireann Government of Ireland. https://www.irishstatutebook.ie/eli/2018/act/3/enacted/en/html

O'Sullivan, G. (2005, February 01). *Ireland's Programme for Research in Third Level Institutions*. PEB Exchange, Programme on Educational Building 2005/03, (2005/03), 13-16. https://doi.org/10.1787/575658184383

The Atlantic Philanthropies. (n.d.). *Republic of Ireland – The Atlantic Philanthropies*. The Atlantic Philanthropies. Retrieved November 8, 2022, from https://www.atlanticphilanthropies.org/regions/republic-of-ireland

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Chapter 5.34

The Profession of Research Management and Administration in Italy

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Abstract

This chapter gives an overview of how the profession has been evolving in Italy and reports its milestones. After explaining the transformation of the national research ecosystem, which in the last decades undertook the transition from a direct state funding model towards a competitive base funding model, the chapter shows the fragmented landscape of associations in the profession and focuses on the features of the current research management and administration (RMA) community. The circumstances that led to the development of the national community are then described.

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Finally, it gives some policy recommendations towards the acceleration of the professionalisation of research management in the country.

Keywords: Italy; RMA; Research Management and Administration; Conference of Directors General of Universities; RAAAP; demographics

Research Ecosystem

Those who recognise themselves as RMAs in Italy mainly work in universities and research centres as public servants. As in other countries, RMAs also work in hospitals, institutions, charities, government bodies, corporations or other related organisations. There are currently 67 state-owned universities, 29 legally recognised non-state universities, 11 online universities and 9 higher institutes at the national level having a special accreditation. The National Research Council (CNR),[1] founded in 1923, is the largest public research institution in Italy, performing multidisciplinary activities. Eleven more research centres are recognised by the Ministry of University and Research (MUR).[2]

Through the last decade of the 20th century and the first decade of the 21st century, the Italian research and university ecosystem faced a radical change. Previously, the MUR steadily supported public research organisations through two main types of funding streams, FFO and FOE[3] (FFO – *Fondo di Finanziamento Ordinario*, for Universities; FOE, *Fondo Ordinario per il finanziamento degli Enti e istituzioni di ricerca* for MUR-supervised research centres). The progressive decrease of these funds and the introduction of the assessment of research performance led to a reorganisation of the management system in universities, to ensure funding from different sources. That is why research support offices came to life in most of the Italian Universities within this national funding landscape, starting in the late 1990s.

Currently, the MUR – responsible for the accreditation of universities and research performing institutions operating at the national level – provides the most significant public investment in research and development activities.[4] MUR also secures continuous funding to the most important public research performing institutions. Moreover, it sets the Italian Research agenda which is the strategic document that leads to the release of the National Research Plan (PNR). This multiannual policy document aligns with the most relevant European research and innovation priorities, considers

[1]www.cnr.it/en

[2]Ministry-vigilated research centres include the Italian Space Agency (*Agenzia Spaziale Italiana*, ASI); the Area Science Park (*Consorzio per l'Area di Ricerca Scientifica e Tecnologica di Trieste – AREA*), the Italian Institute for German Studies (*Istituto italiano di Studi Germanici, IISG*), the National Institute for Higher Mathematics (*Istituto Nazionale di Alta Matematica, INDAM*), the National Institute for Astrophysics (*Istituto Nazionale di Astrofisica, INAF*), the National Institute for Nuclear Physics (*Istituto Nazionale di Fisica Nucleare, INFN*), the National Institute for Geophysics and Vulcanology (*Istituto Nazionale di Geofisica e Vulcanologia, INGV*), the National Institute of Oceanographics and Experimental Geophysics (*Istituto Nazionale di Oceanografia e di Geofisica Sperimentale, OGS*), the National Institute for Metrological Research (*Istituto Nazionale di Ricerca Metrologica, INRIM*), the Historic Physics Museum and 'Enrico Fermi' Research and Studies Centre (*Museo Storico della Fisica e Centro Studi e Ricerche 'ENRICO FERMI', FERMI*), the Zoological Station ANTON DOHRN (*Stazione Zoologica 'ANTON DOHRN', SZN*).

[3]80% of FOE funds is retained by the bigger MUR-vigilated research centres, that is, CNR, ASI and INFN; the remaining 20% is distributed among the other 9 organisation.

[4]MUR supports over 75% of the expenditure on research and innovation by the state, which amounts on average over the period 2012–2015 to about EUR 3 billion, with a peak of almost EUR 3 billion and EUR 700 million in the 2013.

the national Smart specialisation strategies, and also attempts to identify areas of intervention and initiatives fostering impactful research to the benefit of the country.

Besides MUR and other Ministries, private companies and charities invest in research and development activities. A small – but still significant, especially for some disciplines like health studies – amount of research funding comes from national and international foundations.

However, despite the overview of national funding schemes depicted above, still the major source of funding for R&D at university level comes from the EU's research funding programs, such as Horizon Europe.

In 2021, the Next-Generation EU funding allocated to Italy following the COVID outbreak allowed universities to strengthen their core activities through the Italian Recovery and Resilience Plan (NRRP). The NRRP entails an exceptional and time-limited funding stream (EUR 191.5 billion) to be spent on new initiatives, including direct public grants for R&D, technology transfer and innovation, and green innovation.

The share of expenditure on R&D with respect to GDP (1.4% GDP) in Italy is still one of the lowest among those recorded in the main European and industrial countries. According to official available data (Fig. 5.34.1), against a total expenditure of EUR 22.2 billion, spending from the public sector – including universities – resulted in EUR 8.6 billion in 2015; spending by the private sector was EUR 11.1 billion. Since 2008, the share of spending by the private sector overtook that of the public sector, which has remained constant (ANVUR, n.d).

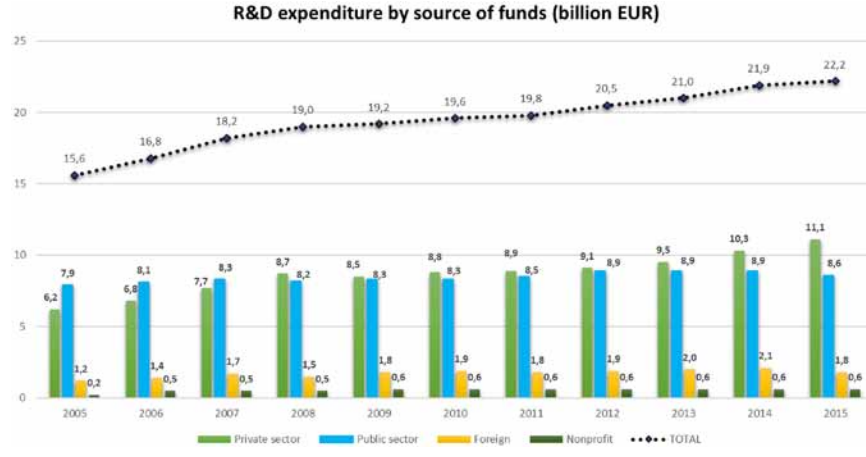

Fig. 5.34.1. R&D Expenditure in Italy by Source of Funds. *Source*: Eurostat: Science, Technology and Innovation Database.

Since Italy's total research and development spending is behind compared to its peers, particularly in government and higher education institutions (HEIs), increasing budget allocations to basic research through universities is expected to raise long-term progress in research and innovation (OECD, 2021).

Current Communities

Professional communities were born in the university context more than 10 years ago when professionals were actively engaged through thematic working groups (WG). Currently, there are several national associations: CODAU (Conference of Directors General of Universities), APRE (Agency for the Promotion of European Research),

Netval (Network for the Enhancement of Research), APEnet (Network of Universities and Research Entities for Public Engagement), and AIB (Italian Library Association).[5]

An informal network of professionals working in research support services in universities was established for the first time within the CODAU Research Support branch. CODAU itself was established in 2014 to carry out activities of coordination and direction in the management of university institutions in all areas – not only in research and innovation – and to promote the professional development of top managers, by including heads of administration and senior managers all throughout university institutions.

Evolution of the Profession

RMA is currently not perceived as a profession in Italy, and job profiles or targeted training for RMAs have not yet been developed (Poli et al., 2019). Usually RMAs come into the profession by chance. As a consequence, it is extremely difficult to hire skilled people. This is becoming an issue at the country level due to the growing demand for RMAs especially in universities, where RMAs are now required to manage projects funded under the NRRP.

It was only at the end of 2019 though, that a first discussion on the professional role of RMAs started within the CODAU Research branch and that a WG on 'The Professional Role of the Research Managers and Administrators in Italy' was set up (Romano, 2020; Oliveira, Romano et al., 2022). The WG worked on the creation of a professional development framework that defines activities, skills and competences for all the individuals working in the profession as RMAs. The framework was meant to lay the basis for the recognition of research management as a profession (Italian Research Managers, 2022a).

As a first step, after checking definitions of RMAs in the existing literature, the WG decided to refer to professionals working in Research Support Offices as 'Research Managers and Administrators'. The RMA definition developed by the Research Administration as a Profession (RAAAP) project (Kerridge & Scott, 2016) was considered as the most appropriate for the Italian context.[6]

As a second step a survey addressed to Italian RMAs was launched in 2020 (Romano & Albanesi, 2021) to identify activities and training needs of RMAs in Italy. The final aim was to collect data for the creation of a professional development framework for RMAs in Italy: 259 records were gathered, mainly from RMA professionals working in universities.

The professional development framework consists of six macro-areas of activities:

1. Organisation, management and monitoring of the research management service.
2. Planning and development of research strategies and policies.

[5]https://www.codau.it; https://apre.it/; https://netval.it/; http://www.apenetwork.it/it; https://www.aib.it/

[6]'The Italian Research Manager Administrator is a person working to support the research lifecycle process. This includes (but is not limited to) the following tasks: strategic planning of research activities, organisation of services supporting researchers, lobbying, networking, promotion of research, pre-award and post-award project support (i.e. scouting of funding opportunities, support to project management – from drafting to submission – and to budgeting and cost planning, handling of internal institutional relations, negotiations with funders, partnership management, supervision of financial report towards funders), support and advice on research impacts, innovation and promotion, on training matters, on research policy, strategy and assessment and a number of topics such as data processing, research integrity, communication, ethics, governance, IT, audits, statutory returns, and career development of researchers'.

3. Pre-award phase: partnership, collaborations, fund raising, research planning.
4. Post-award phase: management of funded research projects.
5. Ethics, open and citizen science.
6. Evaluation of research.

Each macro-area is divided into specific tasks related to three professional levels (leader, manager, and administrator). For each professional level a set of soft skills is identified.

Demographics

The lack of recognition and awareness of the profession made it difficult to collect data on RMAs working outside universities. That is why the size of the RMA community in Italy is not clearly quantified. This community is estimated to roughly count 500–600 individuals working in research support offices in HEIs and research centres. This number is expected to increase sharply, due to the urgent need of the workforce to manage the projects funded under the NRRP.

An overview of this population shows that RMAs in universities are largely women, reflecting the international position from the RAAAP-3 survey (see Oliveira et al., 2023, Chapter 2.2). This is also consistent with a more general gender distribution of roles and responsibilities in the Italian – and not only Italian – academic landscape where professors (as well as heads of departments, deans and rectors) are mainly men (European Commission, 2021c), while professional staff, the category that includes the majority of RMAs working in university, are mostly women.

The survey results show some interesting features of RMAs in Italy:

- The distribution of the answers highlights a greater awareness of research management in universities/institutions in Northern and Central Italy.
- RMA appears to be an emerging profession: more than 90% of the sample has up to 15 years of work experience in the sector.
- The concept of professional level has been introduced: respondents have been asked to assess themselves with regard to three professional roles, used and defined by Kerridge and Scott (2018a):

    - *Leader* – Responsible for the strategic functions of the institution.
    - *Manager* – Directly reporting to Leader and Responsible for a Team or for specific missions (regardless of formal appointment).
    - *Administrator* – Responsible for specific and operational tasks.

The Italian survey showed that respondent roles are equally divided between Managers and Administrators, whereas a smaller percentage self-declare themselves to be Leaders.

However, professional levels may not be homogeneously perceived by the sample. Fig. 5.34.2 shows some interesting differences in relation to the activities carried out by each of the three levels. Managers and administrators seem to carry out the same type of activity, and leaders in some cases dedicate themselves to rather operational tasks. The responses could be influenced by a different interpretation of the definition of professional levels, which does not necessarily coincide with the ones provided within the Italian national contractual conditions of professionals working at universities (Contratto Collettivo Nazionale dei Lavoratori (CCNL)[7]). Additionally, another influencing factor could be the lack of a shared definition among RMAs of

[7]Contratti Collettivi Nazionali Istruzione e Ricerca (aranagenzia.it).

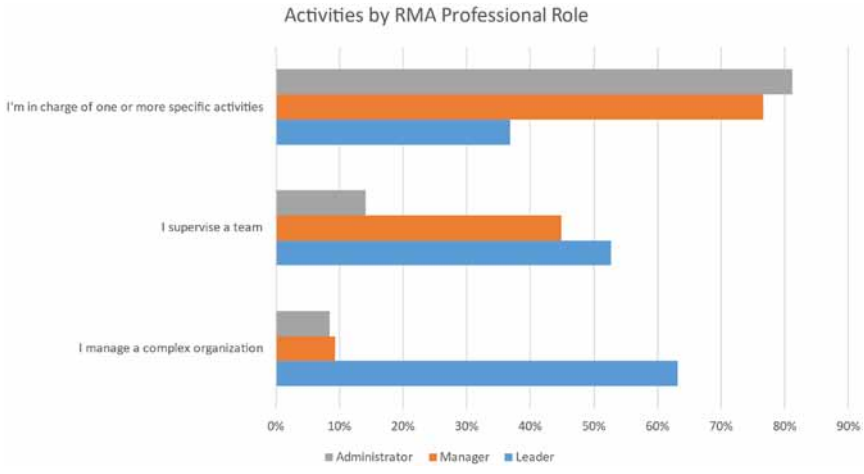

Fig. 5.34.2. Activities by RMA Professional Role in Italy. *Source*: Authors' elaboration.

the activities and the skills associated to each professional level. A further investigation on their tasks and role within the institution should target this issue.

- The age of respondents does not show a specific trend in the three categories of Italian RMAs. The majority of leaders are between 40 and 50, managers between 35 and 45. Administrators are younger. The oldest administrators mainly work in decentralised structures (such as University Departments), perhaps providing an added value from their experience and their competencies in the field.
- Further analysis on the respondent's background shows that the basic level of education that an individual has completed in the case of a leader and a manager is 'Laurea', which is a 3+2 degree, equivalent to EQF7 (CEDEFOP, 2021).[8] The range of educational degrees of RMAs spans from STEM subjects – science, technology, engineering and mathematics – to SSH – social science and humanities. Additionally, some managers and leaders have further master degrees, especially in Business, Public Administration and Management-related subjects. The RAAAP-3 survey shows that 44% of (n = 45) respondents from Italy have a doctoral degree.
- Regarding the bulk of activities carried out by RMAs in Italy, these almost entirely focus on supporting the whole Project Cycle Management (PCM) of research projects funded by International (or external) funding; this latter funding is typically run by Grant Offices. The Italian RMA community guides and supports the researcher from the project idea to the very last report to the sponsor with the largest workload residing in the pre-award and post-award phases.
- A common thread through all professional levels is the need to receive continuous training. RMAs need to be very up-to-date and focused on the continuous procedural changes and evolutions of European and national legislations. Indeed, the survey shows that RMAs regularly attend training opportunities. 85% of the survey sample declares to have attended PCM training courses in the last five years, provided by accredited Italian and European trainers belonging to the international research system. Participants considered these courses useful for the execution of their daily tasks in a 74% of cases. However, Italian RMAs are poorly involved

[8]https://europa.eu/europass/en/european-qualifications-framework-eqf

as trainers (only 30%) whereas their expertise might be particularly useful to colleagues and researchers managing international project activities. Training providers are mostly universities or institutions in which these RMAs work, while trainers are often university professors or consultants. The design, management and financial reporting of projects financed through European funds is a recurrent topic in courses in which also RMAs act as trainers.

- Data regarding the formal certification of such training is still unsatisfactory: over 90% of the sample did not receive a certificate of attendance. In addition, there is neither a formal recognition by Italian authorities (e.g. Ministries or their own University, etc.) of any of these courses nor there is a certified professional accreditation body responsible for this procedure and assessment which may be used for career advancement purposes. Overall, the profession of Italian RMAs emerges from data as valuable, but it is yet still 'unqualified' and therefore 'invisible' in the Italian job market.
- The survey also provided an extensive list of soft skills options that are considered very important by RMAs, such as the ability to coordinate WGs, to manage conflict and problem solving, the ability to motivate people and to master an innovation-driven attitude.

Directions/Future

In line with the growing importance of research management in Europe, also mentioned by the European Commission within the European Research Area[9] (ERA) priorities, the 'development of a new generation of research managers' is stated as a priority also in 2021–2027 Italian National Programme for Research (PNR).[10]The role of high-skilled research managers is also mentioned in NRRF documents.[11] The upcoming negotiations for the update of the national contractual conditions of professionals working at universities and research centres (CCNL) make the current age decisive for the actual development and adoption of the RMA professional framework and for the introduction of training for the professionalisation of Italian RMAs.

The WG on 'The Professional Role of the Research Managers and Administrators in Italy' that became permanent and now open to non-university RMAs, continues to enhance the professional figure of the RMA within the Italian community – through its website and social media (Italian Research Managers, 2022b) – and to strengthen collaborations at the national, European and international level with the existing communities.

Under these premises, the goal of the current RMA community should be threefold. First, the community should focus on raising awareness on the profession not only for those within universities but also for those working in research institutes, hospitals, charities, government bodies, corporations or other related organisations. Secondly, the community should call for promoting the formal recognition of the profession in Italy. And last, there should be a common effort to set up certified training paths, to help hiring skilled students/professionals and to define a clear career progression for those already into the profession.

It is hoped that the creation of a formal RMA association will make the difference in order to achieve these goals and promote the dialogue with policy makers.

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[9]European research area (europa.eu).
[10]Slides_Pnr2021-27.pdf (mur.gov.it).
[11]Home – Italia Domani – NRRP Portal (italiadomani.gov.it).

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The authors would like to acknowledge Susi Poli for inspiring and motivating us, Laura Fulci (Politecnico di Torino) – Chair of the CODAU Research Branch – who supported the creation of the WG on 'The Professional Role of the Research Managers and Administrators in Italy', and Simon Kerridge for his mentorship and guidance on the WG activities design and development. Thanks also to Oxana Romashko (Politecnico di Torino) for the figures' design.

References

ANVUR. (n.d.). *Rapporto Biennale 2018 – ANVUR – Agenzia Nazionale di Valutazione del Sistema Universitario e della Ricerca*. Retrieved October 27, 2022, from https://www.anvur.it/rapporto-biennale/rapporto-biennale-2018/

Cedefop. (2021). *European inventory of NQFs 2020 – Italy*. https://www.cedefop.europa.eu/files/italy_-_european_inventory_on_nqf_2020.pdf

European Commission. (2021c). *Directorate-General for Research and Innovation: She figures 2021: Gender in research and innovation: Statistics and indicators*. Publications Office. https://data.europa.eu/doi/10.2777/06090

Italian Research Managers. (2022a, October 26). *A professional framework for the Research Manager & Administrator (RMA) role in Italy*. https://www.italianresearchmanagers.eu/wp-content/uploads/2022/09/Annex-IV-Framework-RMA_Italy2021.pdf

Italian Research Managers. (2022b, October 26). *Homepage*. https://www.italianresearchmanagers.eu/

Kerridge, S., & Scott, S. F. (2016). *RAAAP questionnaire*. figshare. http://dx.doi.org/10.6084/m9.figshare.5278114

Kerridge, S., & Scott, S. F. (2018a). Research administration around the world. *Research Management Review*, *23*(1), 34.

OECD. (2021b). *OECD economic surveys: Italy 2021*. OECD. https://doi.org/10.1787/07d8b9cd-en

Oliveira, C., Romano, V., & Albanesi, A. (2022). *Paths towards the creation of RMAs professional communities | EARMA*. Retrieved October 27, 2022, from https://earma.org/abstracts/submission/235/view/

Oliveira, C. I., Fischer, M., Kerridge, S., & Dutta, M. (2023). The research administration as a profession survey. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 113–123). Emerald Publishing.

Poli, S., Romano, V., & Albanesi, A. (2019). *Are research managers regarded as servant leaders in today's research in HE in Italy*. Retrieved October 27, 2022, from https://scholar.google.com/citations?view_op=view_citation&hl=it&user=cmKYVccAAAAJ&citation_for_view=cmKYVccAAAAJ:hqOjcs7Dif8C

Romano, V. (2020). Il profilo professionale del Research Manager and Administrator: Prospettive per l'Italia. *APREMagazine*, *13*, 53–55. Retrieved October 27, 2022, from https://apre.it/wp-content/uploads/2021/01/APRE_Magazine_N13.pdf

Romano, V., & Albanesi, A. (2021). *The role of the Research Manager and Administrator – RMA, in Italy: Professional framework and training needs 2020 Activity Report*. Zenodo. https://doi.org/10.5281/zenodo.5513738

Chapter 5.35

The Profession of Research Management and Administration in the Netherlands

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Abstract

In this chapter, we show the development of the Dutch research funding support during the past 40 years. As well as the evolution of the research funding ecosystem in science and innovation.

We show where Research Managers and Administrators (RMAs) started, how they developed and which developments in the research and innovation policy coincides with those origins and developments. Especially showing the exponential development of RMA in the past 10 years. The past and current situation in the Netherlands is distinctive due to the history behind the professionalisation of the profession.

Keywords: Netherlands; Research Management and Administration; Professionalisation; RMA; demographics; EUPMAN; RAAAP; ARMA-NL

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The Dutch Research and Innovation Ecosystem[1]

Innovation policy in the Netherlands is mainly a public–private partnership affair in which research institutions, Industry & Businesses and societal partners work together. The Dutch government stimulates this process via three complementary tracks:

1. *Generic Innovation Track*: These are mostly fiscal arrangements for innovative businesses and industry to stimulate research and development work. Tax reductions to stimulate innovative businesses and industry to do more research and development and strengthen the business climate for innovative industry.
2. *Public–Private Track*: This is a continuation of the former TopSectors Policy,[2] in which the economic opportunities of societal challenges are the main objective. Co-operation between relevant businesses, knowledge organisations and societal partners established 25 missions grouped in four societal themes. Based on these missions 18 multiannual Public–Private Knowledge and Innovation agendas (KIAs) have been defined.
3. *The Risk-bearing Financing Track*: The supply of risk-bearing financing for innovative businesses and projects: Innovation credit, the Seed Capital arrangement and the Dutch Venture Initiative[3] (Ministrerie van Economische Zaken en Klimaat, n.d.).

Research and Science

Universities (13) and Applied Universities (37), receive basic funding from the government, including a research component which is very modest for the Applied Universities. This basic funding is a lump sum amount and the organisations are autonomous to decide how to spend the budget. For universities there are three legal tasks/responsibilities: scientific education, scientific research and valorisation. The (applied) universities receive additional funding in competition from NWO[4] (2nd funding stream) on the basis of excellence and thematic priorities. All other income for research is considered to be the 3rd funding stream. This consists of funding for contract education and contract research. In mainly medical sciences, the fourth funding stream consists of contributions from private persons and private foundations (Heart Foundation, etc.).

NWO, The Dutch Research Council invests around 1 billion euros annually in curiosity-driven research, research related to societal challenges and research infrastructure. Funding is organised in five funding lines and each line has a distinct objective: Open Competition (free research); Talent Programme (veni-vidi-vici); KIA; Dutch Research Agenda; and Research infrastructure[5] (NWO, 2019).

KNAW,[6] The Royal Netherlands Academy of Arts and Sciences is dedicated to the advancement of science and literature. The KNAW is the forum, the voice, and the conscience of research in the Netherlands. It operates a number of research institutes.

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[1] Innovatieve Samenleving Brede Maatschappelijke Heroverweging (2020, April 20). *Inspectie der Rijksfinanciën BMH-Secretariaat*. BMH@minfin.nl.
[2] https://www.topsectoren.nl/
[3] https://www.bedrijvenbeleidinbeeld.nl/beleidsinstrumenten/dutch-venture-initiative
[4] https://www.nwo.nl/
[5] https://www.nwo.nl/onderzoeksbeleid-nwo
[6] https://www.knaw.nl/

TO2 Institutes,[7] a substantial part of applied research is done by five TO2 institutes. These independent institutes for applied research receive an institutional budget from the government: basic funding plus funding for research indicated by law and contributions from the public- private initiatives.

RKIs[8]: *Governmental Knowledge Institutes*, a number of governmental knowledge institutes (RKIs) are being financed by a fixed governmental budget, another number of RKIs are financed on the basis of assignments. They support the Ministries with the preparation and implementation of policy, or develop knowledge for the good functioning of societal sectors.

All these knowledge organisations are free to participate and contribute to international or European public–private collaborations.

Development of RMA

At the beginning of the 1980s the government concluded that the innovation strengths of the Dutch industry needed to be stimulated and Technology Transfer Offices (TTO) were introduced at universities to accelerate the transfer of the innovative findings into new products and services. More or less at the same time, the first EU research programmes (mainly ESPRIT and Euratom) became part of the research mix. The TTOs became involved in this and formed the foundation from which the RMA profession evolved. At that time, there were funding opportunities for researchers from the big Dutch charity Foundations who mainly acted in the field of Health and Medicine Research and on the industry side there were big industrial research organisations, such as Philips, Shell, Unilever and DSM.[9]

Around the 1990s two different but related policies were being developed, namely, the Innovation policy,[10] and the Science policy. In the next 20 years, these policies would be more and more integrated and the number of research-performing institutions became more diverse and the research funding increased. Also, in the 1990s, the Dutch Research Council introduced the competitive 'Vernieuwingsimpuls',[11] NWO (2000), a funding scheme of individual grants at three levels of the researcher's career called Veni, Vidi, Vici, based on the excellence of research. This was a tremendous success and individual researchers were more in need of RMA support. For the growing RMA community, this was a turning point since with this scheme the profession became more interesting as a career path for RMAs with a scientific background.

The innovation policy after 2005 shows a strengthened focus on specific top sectors: identified technologies in which the Netherlands can excel: High-tech systems and Materials; Flowers&Food; Water; Creative industry; Chemistry; in which the whole knowledge chain is involved. While the science policy focuses on the individual researcher's career on all levels: from PhD to full professor and diversity and inclusiveness. All these individual applications were in need of RMA support.

On the EU side, the ERC and EU Framework programmes and other European subsidies are by now a major part of the funding mix. The Dutch Charity foundations

[7] https://www.bedrijvenbeleidinbeeld.nl/beleidsinstrumenten/to2
[8] https://www.rijksoverheid.nl/contact/contactgids/rijkskennisinstellingen-rki
[9] https://www.dsm.com/corporate/home.html
[10] Tweede Kamer, vergaderjaar 1986-1987, 19 704, nrs. 1-2.
[11] Lit. translation 'innovation impuls' now renamed as NWO Talent programme: https://www.nwo.nl/onderzoeksprogrammas/nwo-talentprogramma.

become a more integral part of the mix by larger budgets and developing clear research objectives and developing strategic (international) partnerships.

Evolution of the Profession in the Netherlands

In the mid-1980s, the profession of RMA started with the introduction of TTO offices in universities financed by the government. At the same time the independent foundation 'EU-Liaison Office',[12] started with the objective to promote Dutch participation in the European programmes. The RMA community at that time was small. From the very beginning, a national platform of TTO/RMA existed hosted by the VSNU.[13] This platform ceased to exist in due time. The Dutch RMA community re-organised themselves in 1996 in a more or less informal group called EUPMAN with an e-mail discussion list and they organised meetings hosted by the universities.

The RMA profession itself developed on-the-job through learning by doing, most had a degree from the HE sector (University or an Applied University degree) and some RMAs came from research. The financial RMA (project controller) needed the correct financial qualifications and has been the most defined RMA position. The work at first was promoting activities about funding opportunities and mapping exercises to match opportunities with the researchers. In the 1980s the funding landscape became more diverse and complex, correspondingly the tasks performed by RMAs also became more diverse and complex. Specialisation into particular areas began, such as legal aspects, specialisation into post-award support (project management), administrative support with the (administrative) forms and communication and training. Pre-award activities were mainly policy and strategy with the executive board, deans and external networks. With the introduction of National and European-funded individual research grants the pre-award individual support to researchers became a strong specialisation. RMA colleagues more involved in Innovation Technology Programmes (Dutch and EU) became experts in their specific scientific area and collaborative projects support: building complex consortia and coordination of the writing process.

Within universities, many RMA jobs are devolved in due time into the university organisation to faculty or institutes level, in order to be closer to the researcher. Internal university RMA networks and knowledge sharing starts to develop. Key performance indicators in EU research (provided by RVO[14]) opened eyes and university management began to feel the need to open representation offices in Brussels (jointly or alone) and be more involved in the lobbying. During the first decade of the 21st century, new compliance issues became part of the eligibility criteria in external funding, such as ethical and integrity issues, research data management, and publication pressure. It was the RMA community that looked into those requirements and stimulated that new support centres came into existence: expertise centres in the field of data management, university ethical review structures, etc.

The Netherlands RMA Community

The Dutch RMA community is in rapid transition towards a more professionalisation and recognised as a profession, becoming an important stakeholder and asset within

[12] EG Liaison Office was later merged with RVO.nl https://www.rvo.nl/.
[13] Universities of the Netherlands.https://www.universiteitenvannederland.nl/.
[14] RVO: Dutch National Agency to execute the application of national and European regulation, including the European Research and Innovation.

the Dutch research ecosystem. This is to keep up with the increasing complexity of research funding and the compliance to all the transversal elements requested by funders and legislation which results in specialisation and an increase in the number of RMA support staff at research-intensive organisations. While in the early 1980s and 1990s the background and knowledge of the RMA was primarily on finance or valorisation, nowadays we now see project management experts, financial controllers, grant advisors, data managers, ethics officers, legal experts, liaison officers, and lobbyists. In addition, the support to large collaborative grants and the strategic alignment of the organisation is less coincidental, and at national and organisational levels the importance for excellent research support is being recognised. Associations like EARMA[15] and ARMA-NL[16] (the successor to EUPMAN) are professional associations with large numbers of members in the Netherlands which are also active in developing their own expertise. But there are also several national groups organised on different specialisations, like finance, valorisation, data management, open science, national funding and European funding. These groups, consist of individuals from all research-intensive organisations share best practices, provide feedback to the funding organisations, the EU and the government. These developments provide a strong research ecosystem being at the core of the successful Research & Development in the Netherlands.

Netherlands RMA Demographics

The Dutch RMA community, although it started in the early 1980s has, in recent years, taken a leap in its development. The original EUPMAN-email discussion list has about 600 participants and ARMA-NL has about 300 members. According to the 2019 RAAAP-2 survey (Kerridge, Ajai-Ajagbe, et al., 2022),[17] there are about twice as many women (71% of $n = 77$) as men working in the RMA profession in the Netherlands. The age range of the Dutch RMA group is 25–34 years 16%, 35–44 years 34%, 45–54 years 31% and 55–64 years 19%, and approximately 60% of the RMAs have more than 10 years' experience. From 2020 we see an increase in the number of job openings for RMA positions in the Netherlands and their expertise is in high demand. Even so, experienced project managers or grant advisors are hard to find in the current labour market. This also reflects the current demographics in the Netherlands, the numbers of RMAs has increased, and many younger, inexperienced RMAs are hired due to the shortage of experienced RMAs. This has led to an increased demand in training for early career RMAs from the association and Research Support Offices.

The Dutch RMA Association ARMA-NL

Without volunteers there would never have been an association in the Netherlands; their contribution has been and still is essential for the development of the profession, and still is for the development of ARMA-NL. ARMA-NL the Dutch Association for RMAs was founded in 2018 but started more than 10 years earlier as an independent forum for EU project managers, EUPMAN, where people could ask and answer questions about practicalities and exchange experiences about the coordination and management of European Framework or other EU programmes. Ten years

[15] https://earma.org/
[16] https://armanl.eu/
[17] https://inorms.net/activities/raaap-taskforce/raaap-survey-2019/

later EUPMAN had over 500 members from academia, research organisations and industry. This forum has been the place for professional development for new project managers learning from those who were more experienced in sharing their knowledge and expertise.

After a(n internal) survey to identify the needs of the members of EUPMAN, the outcome revealed that it was time to take the next step, first of all, to be able to provide better opportunities for development such as more and professional training opportunities, a better website containing best practices, different working groups on specific topics and more and professionally organised conferences. And second, the group simply became too large for a university or research organisation to host a meeting for everyone free of cost. In the 10 years of existence many organisations have been kind enough to host events but finding one became an ever-reoccurring struggle. Having financial means would make life much easier for finding a large enough venue so everybody could join and provides independence for the conference committee. The survey also revealed a large diversity in the jobs of the members; it was not just project managers or grant advisors. There were also people working in research policy, strategy or finance meaning that the organisation should extend their scope providing a haven for a broader group of RMAs. This also reflects the development of the research support profession in the Netherlands which shows in members of EUPMAN. After the survey was discussed with the members and the members voted on the future developments the road towards an official association started for ARMA-NL. The steering group made plans and looked and talked to sister organisations in other countries to get tips and tricks for the next steps. ARMA-NL also became part of the International Network of Research Management Societies (INORMS[18]). In 2018 ARMA-NL obtained a formal registration at the chamber of commerce and has statutes, house-rules, a bank account, and offers a professional network, personal development, advances the interest of the profession, and acts as a discussion partner for stakeholders on developments concerning research support. Its strength and success are largely due to the involvement of the members in trainings, getting the website up and running, finding sponsors, and arranging the official registration of the association. The association started small and this work is all done next by volunteers who already have a demanding job. Now after the first years after the official registration, new board members have started and the association is slowly starting to move towards the next phase of its existence.

The Future of RMA in the Netherlands

The level of maturity of the RMA profession has in recent years taken a leap and initiatives at the national as well as the European levels will result in further development of the profession in the near future. It seems probable that RMAs in the Netherlands will undergo further specialisation and become highly trained specialists needed to maintain compliance and tackle the transversal elements of grants. The further development will come for a large part from the community itself as expertise is scarce and there are no formal education programmes for these positions and in addition play a larger role in the research ecosystem involved in policy and strategy. Highly experienced experts with a more general view on the funding landscape and research are likely to become highly prized/treasured unicorns within the organisation, as oversight is becoming increasingly complex. The association in the Netherlands, ARMA-NL, plays a central

[18] https://inorms.net/

position in the future of RMAs in the Netherlands but so will reforms at, for instance, universities that are trying to increase their position in the funding success and provide the next level of support to their researchers.

References

Kerridge, S., Ajai-Ajagbe, P., Kiel, C., Shambrook, J., & Wakefield, B. (2022). *RAAAP-2 datasets (17 linked datasets) (Version 1)*. figshare. https://doi.org/10.6084/m9.figshare.18972935.v1

Ministrerie van Economische Zaken en Klimaat. (n.d.). *Dutch Venture Initiative*. https://www.bedrijvenbeleidinbeeld.nl/beleidsinstrumenten/dutch-venture-initiative

Ministrerie van Economische Zaken en Klimaat. (2021). *Toegepast Onderzoek Organisaties (TO2)*. https://www.bedrijvenbeleidinbeeld.nl/beleidsinstrumenten/to2

NWO. (2000). *NWO-Talentprogramma*. https://www.nwo.nl/onderzoeksprogrammas/nwo-talent programma

NWO. (2019). *Onderzoeksbeleid NOW. NWO-strategie 2019–2022*. https://www.nwo.nl/onderzoeksbeleid-now

Tweede Kamer der Staten-Generaal. (1987). *19 704 Beleidsoverzicht Technologie 1986–1987*. https://repository.overheid.nl/frbr/sgd/19861987/0000111074/1/pdf/SGD_19861987_0005023.pdf

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Chapter 5.36

The Profession of Research Management and Administration in Norway

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Abstract

This chapter focuses on the Norwegian research system and the Norwegian Research Management and Administration (RMA) community. The first section presents the overall Norwegian system of research and innovation, and the most important actors. In the second section of the chapter, our attention turns to the Norwegian RMA community, which is described through available data. We will look further into the evolution of the profession in Norway, who takes part in the current RMA community and lastly give an insight into what we know about Norwegian RMAs. Where do RMAs work, what is their background, what are their tasks and skills, and where is the development of Norwegian RMAs headed?

Keywords: Norway; RMA; NARMA; RAAAP; demographics; RMA tasks; NARMA Professional Development Program

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The Norwegian System of Research and Innovation

According to the Norwegian Ministry of Education and Research (2022),[1] the Norwegian research system can be divided into three parts, at the policy level, at the strategic level and at the operational level.

The Norwegian system of education, research and innovation includes a large number of actors and funding instruments. The following is a simplified illustration of this system, provided by the Norwegian Research Council (RCN, 2022).[2]

In the upper part of the illustration in Fig. 5.36.1, we can see the *political level* represented by parliament and the ministries, while the *strategic* level consists of agencies that are important for Norwegian research and innovation policy, such as the RCN. At the *performing* level, we find universities, research institutes and other actors carrying out research.

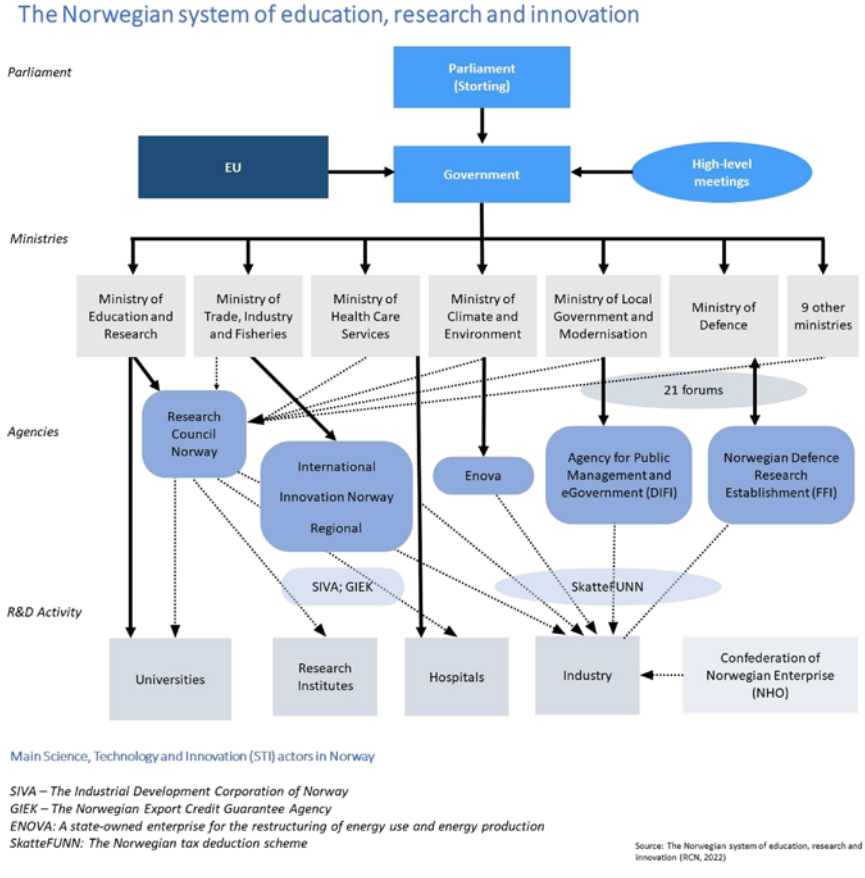

Fig. 5.36.1. The Norwegian System of Education, Research and Innovation (RCN, 2022).

[1] https://www.regjeringen.no/no/tema/forskning/innsiktsartikler/forskningssystemet/id2000708/

[2] https://www.forskningsradet.no/globalassets/sti-report-2021.pdf

Research in Norway is mainly funded by public funding sources (47%). A further 40% is funded by the business sector and a lesser part is funded by either foreign funding sources (9%) or other national funding sources, such as private foundations.

In the following sections, we will explore the most important policies and actors within this system.

Norwegian Research Policy and Actors

The Norwegian research policy is characterised by the government's long-term plan for research and higher education. The plan has a 10-year perspective and is revised every four years and outlines the areas that will be focused on and which goals for the coming period that will be prioritised. The very first plan for research was published in 1974. Initially, there was no fixed structure for when the research report was published, causing a growing demand for long-term planning and leading to the current schedule for revising every four years.[3]

The various ministries in Norway are responsible for funding research within their own sector, this is called the sector principle. The Ministry of Education and Research has the responsibility for coordinating the research policy across ministers at the national level as well as the implementation of the research policy (regjeringen.no).

Based on the EEA Agreement in 1994,[4] Norway fully participates in European cooperation on research and innovation. The former Government in Norway put out high ambitions for Norway's participation in Horizon Europe and in the European Research Area (ERA) and developed a strategy[5] outlining expected objectives and goals. The government's ambition is for Norwegian actors to receive 2.8% of the competition-based funding in Horizon Europe.

At the strategic level, the Research Council of Norway (RCN)[6] is the key advisory to the government regarding research policy issues. The RCN ensures that policies and guidelines from the Norwegian parliament and government are implemented through thematic areas where research funding is allocated. The RCN is responsible for all subject areas within both basic research and innovation-oriented research. The RCN provides funding both at the national level, and also has a regional funding initiative through their Regional Research Funds (RFF).[7]

The RCN was founded in 1993 and was established from five already existing councils that were merged into one. Currently, the RCN has 16 portfolio boards, where each board is responsible for a discipline or thematic area and is in charge of a portfolio of programs and activities. The RCN is a significant actor contributing to internationalisation. Their activity is connected to EUs Framework Programme for Research and Innovation,[8] mainly through the goals and priorities in each portfolio plan which contain their own sections on how the portfolio plan connects to the current EU framework program. The RCN also promotes international research and innovation cooperation and mobilisation among the operational research actors to participate in various research programs.

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[3] https://www.regjeringen.no/no/dokumenter/meld.-st.-5-20222023/id2931400/
[4] https://www.regjeringen.no/no/tema/europapolitikk/eos1/hva-avtalen-omfatter/id685024/
[5] Norwegian Ministry of Education and Research. (2021). Strategy for Norway's participation in Horizon Europe and the European Research Area.
[6] The Research Council of Norway (2019).
[7] https://www.regionaleforskningsfond.no/
[8] https://www.scienceeurope.org/our-priorities/eu-framework-programmes/

Another important actor at the strategic level is Innovation Norway,[9] the agency has strategic tasks regarding research, innovation and development and works mainly to increase innovation in businesses.

Innovation Norway is a hybrid state-owned company established by law. Its prime owners are The Ministry of Trade, Industry and Fisheries,[10] and the county municipalities, but they are also provided with funds from the other ministries. In addition, Innovation Norway is the Norwegian government's official trade representative abroad.

There are also other actors in the Norwegian research system of research and innovation that provide research funding. Some actors provide funding through commissioned research according to their current priorities (e.g. The Norwegian Association of Local and Regional Authorities (KS)[11] and The Nordic Council of Ministers[12]). Another set of actors that also provide research funding are the larger foundations in Norway (e.g. The Dam Foundation[13] and Trond Mohn Foundation[14]) and other organisations (e.g. The Norwegian Cancer Society[15]).

Types of Research Performing Institutions

The operational level of research in Norway and where most of the research is conducted is dominated by the business and industry sector, higher education institutions (HEIs) (including university hospitals) and research institutes.

In 2014, Erna Solberg's government began a restructuring program in the higher education sector. This work resulted in a white paper called 'Concentration for quality – structural reform in the higher education sector'.[16] The point of the structural reform was to advance general goal setting for high quality in education and research. The reform led to several mergers of universities and colleges. As of 2023, there are now 10 universities, 5 colleges and 6 scientific colleges. In addition, there are 17 private HEIs who receive government subsidies. All universities and colleges conduct both research and provide education, and there is also ongoing research in hospitals and other public institutions. Norway's oldest university is the University of Oslo (UiO). It was founded in 1811 by King Fredrik VI of Denmark-Norway. The University was named the Royal Fredriks University until it changed its name in 1939 to the University of Oslo. Norway's newest universities are Oslo Metropolitan University and the University of South-Eastern Norway. Both are founded in May 2018 as a result of the Solbergs governments structural reform.

There are approximately 120 research institutes in Norway, 32 of these are partially state-funded research institutes and the rest are private and public institutes such as private hospitals and museums. The business and industry sector in Norway conducts most research and development work (R&D) out of all aforementioned sectors. This includes businesses within different industries such as the fishing industry, oil and gas, transportation and logistics, financial and insurance services, and more.

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[9] https://www.innovasjonnorge.no/
[10] https://www.regjeringen.no/no/dep/nfd/id709/
[11] https://www.ks.no/om-ks/ks-in-english/
[12] https://www.norden.org/en/nordic-council-ministers
[13] https://dam.no/
[14] https://mohnfoundation.no/en/
[15] https://kreftforeningen.no/en/
[16] https://www.regjeringen.no/contentassets/aee30e4b7d3241d5bd89db69fe38f7ba/en-gb/pdfs/stm201620170016000engpdfs.pdf

According to the 2022 *Report on Science and Technology Indicators for Norway*,[17] Norway's total expenditure on R&D within these institutions amounted to NOK 77 billion in 2020. The business and industry sector had 47% share of the expenditures on R&D, HEIs (including university hospitals) had 38% and the institute sector had 20% in 2020.

The development towards a more complex research and innovation system in Norway, as shown in Fig. 5.36.1 earlier, contributes to the increase of expectations and demands in organisations and institutions that conduct research. This, in turn, affects the demands and needs for professional support at the operational level.

Evolution of the Profession

The RMA profession in Norway has undoubtedly been affected by and formed by the developments in the research system. The increasing complexity in the research system, both nationally and internationally, has driven forward the need for more professionalised research support systems particularly in HEIs. It has become vital for researchers to seek out professional research administrative support to be able to manoeuvre the complexity of demands and expectations within the research system and particularly within external funding. The establishment of the Norwegian Association of RMAs (NARMA[18]) reflects the notion that the professional administrative support that is provided is essential in today's research environment, and that researchers and administrative support staff should work collaboratively in order to succeed in funding applications and the fulfilment of projects once these are funded.

Universities Norway (UHR)[19] has played a key part in the establishment of NARMA and thus the development of the profession in Norway in the last 10–15 years. The establishment of NARMA started as an invitation by Universities Norway to a seminar in 2012. Delegates from Norwegian HEIs attended the seminar and discussed issues concerning the RMA community in Norway. It was expected that the seminar would have about 60 participants, however, it had 250 attendees and reflects the interest in the RMA community that also has continued ever since then. The most prevalent issues in the seminar were whether there was a need for sharing experiences and best practices in research administration for the institutions, whether or not there was a need for a joint and collaborative learning community in Norway and also in connection to the international RMA community. As a result, NARMA was established in 2013 as a network-based association within UHR. The association's main goal is to contribute to the professional development of RMAs and elevate the quality of research administration services in Norwegian HEIs. NARMAs mission is to enhance the profession of RMA and give access to professional networks.

Current Community

NARMAs members consist of all accredited universities and universities colleges in Norway, as well as the Norwegian Research Council. This means, by extension, that all research administrative staff within these institutions have full access to all activities provided by NARMA. Each member institution pays an annual fee to UHR

[17] The Research Council of Norway (2021).
[18] NARMA (2022).
[19] Universities Norway (UHR) is the cooperative body for 32 accredited universities and university colleges in Norway.

which includes the funding of NARMA which means that NARMA has no individual membership.

NARMA has its own board with elected representatives from HEIs, the board coordinates and carries out activities in NARMA.

The network provides different activities to promote professional development for RMAs. The main activities are[20]: (1) The *Annual NARMA conference*, with plenary and parallel sessions; and (2) The *NARMA Professional Development Program* (NPDP) which targets three groups: early-career, experienced and managers in RMA. The program emphasises professional and practical skills development for RMAs, raising awareness and unpacking the roles of the profession and sharing best practices. The program has its own admission criteria and a limited number of places for each course, it also has its own professional team that carries out and develops the courses in the program. The program does not provide a formal certification, but it provides an acknowledgement of participation for its participants.

Other activities in NARMA consist of supporting other relevant workshops for RMAs and providing international networking through NARMAs collaboration with other associations such as INORMS,[21] EARMA,[22] ARMA,[23] etc. There are also some informal or loosely based networks and seminars for RMAs within specific fields. These networks run seminars or meetings when needed by the participants' own initiatives. Some examples of such initiatives are the EU-adviser network for EU-funding advisers in HEIs, a legal adviser network and a research communication staff seminar.

In addition, some institutions provide or have provided in-house courses, programs and forums for its RMA staff (e.g. University of Bergen,[24] University of Oslo,[25] and NTNU[26]).

Demographics

The demographics of the RMA community in Norway described in this case study is on the basis of different data sources made available by NARMA and the RAAAP-2 survey from 2019 (Kerridge, Ajai-Ajagbe, et al., 2022). The datasets have been analysed separately, but the results from both datasets will be commented on comparatively throughout this section.

Data Sources on Norwegian RMAs

The main data provided by NARMA comes from the NPDP. The (unpublished) data has been obtained as part of surveys carried out in the program from 2018 to 2022 (NARMA, 2023) among its RMA participants in the early career and advanced RMA courses ($n = 77$). The surveys' main purpose is to get to know the participants as a group once they attend the program, all data have been anonymised and only aggregated data forms the basis for further data analysis. The data from the surveys have been gathered digitally through the SurveyXact questionnaire tool and all analysis has been carried out in SPSS. The analyses in SPSS are mainly descriptive.

[20] https://narma.no/om-narma/vedtekter/
[21] https://inorms.net/
[22] https://earma.org/
[23] https://arma.ac.uk/
[24] https://www.uib.no/boa/129204/uib-opp-kompetanseutvikling-eksternfinansiering-og-forskningsst%C3%B8tte
[25] https://www.uio.no/for-ansatte/arbeidsstotte/prosjekter/uio-forskerstotte/
[26] https://www.ntnu.no/forskning

The NPDP survey includes questions about the participant's educational level and background, the number of years they have worked in research administration, their motives for starting working as RMAs, where their position is situated within their institutions and their main areas of responsibilities at their job. As mentioned earlier, the program targets RMAs at the operational level and in particular early-career RMAs, more experienced RMAs, and RMAs at the management and leadership level. The data at the leadership/management level have not been included in this section as they derive from a different set of questions than the RMA courses, and thus prevents any comparative analysis.

In the 2019 RAAAP-2 survey, the number of respondents that stated their membership as being with NARMA was $n = 94$ (Kerridge, Ajai-Ajagbe, et al., 2022). NARMA reported a number of 700 members as a basis for their population for the RAAAP-2 survey. The population number came from two sources, one being the number of former participants at previous NARMA conferences and the other being the number of people that had subscribed to NARMAs e-mailing list. The final list was deduplicated so that people were not counted twice. The SPSS dataset made available from RAAAP-2 results forms the basis for the analysis in this case. More information on the methods, analysis and results from the previous RAAAP survey that RAAAP-2 was based on can be found in Kerridge and Scott (2018a).

The Norwegian RMA Community

NARMA has no individual membership due to how it is organised, this means that it is not possible to provide a definite number of RMAs in Norway. If we take into account the number of participants at the NARMA conferences from 2017 to 2021, the total number of participants has ranged from approximately 160 to 500 depending on the year (the 2020 conference was cancelled due to COVID and 2021 was a digital conference). If we are to make an estimate based on this information and the information provided in the RAAAP-2 survey, the RMA community in Norway is probably somewhere in 500–700s, however, because this number is an estimate, the number might indicate the lower bounds.

To define Research Administration and Management in Norway, NARMA has used well-known and established definitions of RMAs roles, context and service areas in the profession. The following definition proposed by Tauginienė (2009, p. 54) may be the most appropriate to describe RMAs in Norway.

> […] a person, not necessarily a scientist, with some specific administrative skills and human qualities necessary in carrying out the university's mission in the field of research by acting as a mediator among various actors in research management.

This definition may be broad, but in this section, we'll break the definition down into smaller parts to provide a presentation of Norwegian RMAs.

First, we can pose the question; is it so that RMAs in Norway are people working in universities like the definition states? The answer is yes (but not exclusively), RMAs in Norway mainly hold positions at HEIs. This is reflected both in the RAAAP-2 (2019) data and the NPDP data. The results from the RAAAP-2 survey show that 87% of the NARMA/Norwegian respondents worked at universities (or university colleges). This is also supported by the NPDP data shows that the majority of the respondents (90%) hold positions at HEIs in Norway, and a minority of the respondents (10%) hold

positions at other institutions such as regional health authorities, university hospitals or research institutes. In the NPDP data, results show that 24.7% of the respondents work at a research administration office in their institutions, 19.5% state that the institution does not have a research administration office, but that their position is within another central office, while 50.6% have a position at a 'local' level in the institution (e.g. department, faculty and research centre).

When it comes to the gender profile of RMAs in Norway, there is an imbalance between genders.

The majority, between 75% and 80% identify as females and 20–25% identify as male according to data from both the RAAAP-2 and NDPD data, both datasets coincide when it comes to the gender profile. This profile and imbalance between genders among RMAs is also supported by the overall results of the RAAAP-2 survey where, globally, 76.6% identified as female. This imbalance is however not limited to RMAs in HEIs, the overall trend is that men have been under-represented in administrative positions at Norwegian HEIs institutions for almost 20 years from 2002 to 2021 (Forskerforbundet – The Norwegian Association of Researchers, 2021).

The highest academic qualification for RMAs in Norway is either a Master's or Doctoral degree. Of (n = 114) respondents from Norway to the RAAAP-2 survey, 62.5% held a Master's degree, with a further 29.2% having a Doctoral degree. Only a small number held only a bachelor's degree (6.3%) or a high school degree (2.1%) as their highest academic attainment level. A qualitative review of the requirements in vacant RMA positions in Norway in June 2022 confirms that in all vacant positions, there was a formal requirement of academic qualifications. A total of 13 vacant positions were reviewed and 7 of those had a requirement of a Master's degree, 6 had requirements of a Bachelor's degree, while 2 stated a Doctoral degree to be desirable – but not a *requirement*. Moreover, in 6 of the vacant positions, it was stated that prior learning and work experience might replace the educational qualification requirements. This review supports the status from the RAAAP-2 and NDPD results.

In the qualitative review, there were no specific requirements to a particular subject of the educational qualification for the RMA positions, it is only stated that the subject should be 'relevant' without further specifications. This diversity in different subject areas in RMAs academic qualifications are also reflected in both the NDPD and RAAAP-2 data, where in the latter the results show that NARMA members had attained their highest academic qualifications within Social Sciences (36.5%), 24.7% in Natural Sciences, 13.9% in Business and Humanities, 6.4% in Medicine, 1.0% in Engineering and 3.2% in *Other*.

The majority of the respondents in both the RAAAP-2 and NPDP surveys had 0–5 years of experience in research administration. This may reflect the maturity of the profession in Norway, which has developed steadily for the last 10–15 years, according to NARMA (2021).

If we continue to follow the definition from Tauginienė (2009), it also specifies that the person carrying out the work in research administration must have some specific administrative skills and human qualities and acting as a mediator when carrying out the institution's research mission in their work. This set of skills, often called technical and soft skills in research administration (Andersen et al., 2017) are also reflected in an overview of competence areas in research administration[27] developed by NARMA for Norwegian RMAs. This overview gives an insight into what an RMA working in

[27] https://narma.no/kompetanseutvikling/kompetanseutvikling-oversikt/om-forskningsadministrasjon/

Table 5.36.1. Competence Areas in Research Administration, NARMA.

External funding	Proactive advisory service in external funding, from pre-proposal to post-grant phase
Financial and legal	Preparation and quality assurance of legal and financial terms and conditions in proposals and research projects
Ethics and privacy protection	Assist in the quality assurance of research ethics guidelines and issues regarding ethics and privacy protection
Information and communications	Communicate, interpret, and adjust information to the intended target group through interactions, knowledge exchange and communication
Postgraduate researchers	Coordination and administration of postgraduate researchers and PhD programs
Policy, management, strategy and innovation	Assist in the preparation of research policy and strategies, and in the administration of research and innovation at the institution
Systems and information	Assist in the assurance of input and output quality of data in the institutions IT systems
Service	Contribute to the continuous development of research support services, both at the individual and organisational levels

a Norwegian institution must encompass in their job, what areas they operate in and what skills and qualities are required to support researcher's activities at their institutions. The overview, called *Competence areas in research administration*, has been heavily influenced by the prior work done by other associations such as the ARMA Professional Development Framework (2011) and the BESTPRAC Wiki (2017), both detailing areas of expertise in research support services and required skills for RMAs. This overview is actively used in the NPDP[28] as a starting point for a common understanding of research administration and for raising awareness of what research administration entails and encompasses. The experiences with the competence overview in the NPDP is that the participants recognise the areas of expertise and qualities in their own RMA positions. Some RMAs might operate within one or a couple of the areas in Table 5.36.1 in their day-to-day work, while others operate in most of them, depending on what part of the organisation they work in.

The variety of tasks and areas Norwegian RMAs operate in is also supported by the results in the RAAAP-2 and NPDP surveys. In the NPDP surveys, respondents were asked what they considered to be their most important tasks/responsibilities in research administration; they had the option to choose more than one option in their response.

Column *N* in Table 5.36.2 shows the number of times the option was chosen, while the Per cent column shows the distribution in percentages. The results show that the

[28] https://narma.no/kompetanseutvikling/kompetanseportal/narmas-kompetanseprogram/

Table 5.36.2. What Are Your Most Important Responsibilities/Tasks in Research Administration?

Responsibilities/Tasks in Research Administration	**Per cent**	*N*
Research policy and strategies	5.7	28
Organisational development	4.5	22
Provide courses	3.2	16
Identifying sources of funding	**10.3**	**51**
Proposal support (pre-grant support)	**13.0**	**64**
Impact and implementation in proposal development	**9.1**	**45**
Budgeting	6.7	33
Contracts and arrangements (legal)	**9.9**	**49**
Financial follow-up	4.7	23
Employment/hiring	2.6	13
Operations and reporting	**8.7**	**43**
IPR	1.4	7
Reporting academic publications (CRISTIN) and bibliometrics	4.3	21
Ethics	4.5	22
Communications	**7.5**	**37**
Accounting and auditing	1.8	9
Other	2.2	11
Total	100	494

respondents mostly work within the areas of pre-grant and proposal development support, as shown in bold in Table 5.36.2 (Identifying sources of funding, proposal support, impact and implementation in proposal development, operations and reporting, communications). Although working with external funding, either pre-award or post-award, is one of the criteria for participating in the NPDP, similar results can be found in the RAAAP-2 survey where 72% of the NARMA respondents answered yes to the question of whether they worked in the area of Proposal Development, 52% confirmed that they worked in the area of pre-funding and 54% worked in the area of pre-application support.

In addition to mainly working with pre-grant support and proposal development, the respondents in the NPDP surveys also state that their most important responsibilities/tasks are within Contracts and arrangements (legal) (49), Operations and reporting (43) and Communications (37).

In the definition by Tauginienė (2009), a research administrator is a *mediator among various actors in research management*. The results from the data of Norwegian RMAs show that they are not only mediators that have to balance between different tasks and responsibilities. They are also RMAs that have a wide set of skills and knowledge within different areas of research administration. These skills and knowledge must in turn be managed, nurtured and developed, often simultaneously in order to provide good support for researchers, the institutions and other actors involved in various parts and stages of research activities.

Directions/Future

The future directions for the profession in Norway points towards a continued need for professional development for RMAs as they are important actors providing support in a complex research system. The question is whether professional development is moving towards more specialised areas in research administration, or whether there will be a need for more generalist knowledge and skills among RMAs.

However, as the results provided in this case show that there will undoubtedly still exist a variation in the type of RMA positions that exist in the institutions. The variation between RMA positions will be affected by the overall changes in both the international and national research systems and how research institutions react to changes or demands. They will also be affected by the type of organisation they exist within and at what level in the organisation the RMA operates in, as of now most RMAs are found in HEIs but we might see an increase in RMAs in business and other parts of the public sector or at least we will experience increased visibility and recognition that they actually are RMAs. There are also a variety of different names for RMA positions at the institutions, such as research adviser, project adviser, R&D coordinator, R&D adviser, research coordinator, to mention a few. Hopefully, one can at least achieve some kind of consensus as to what RMAs in Norway should be called in the future.

References

Andersen, J., Toom, K., Poli, S., & Miller, P. F. (2017). *Research management: Europe and beyond*. Academic Press.

ARMA. (2011). *A professional development framework for research managers and administrators*. Association of Research Managers and Administrators. Retrieved November 26, 2022, from https://arma.ac.uk/wp-content/uploads/2018/11/PDF-Final.docx

BESTPRAC. (2017). *BESTPRAC-Wiki*. http://bestprac-wiki.eu/Main_Page

Forskerforbundet – The Norwegian Association of Researchers. (2021). *Gender balance at HEIs (2002–2021)/Kjønnsbalanse i UH-sektoren (2002–2021)*. https://www.forskerforbundet.no/var-politikk/fakta-om-forskning/nokkeltall-uh/

Kerridge, S., Ajai-Ajagbe, P., Kiel, C., Shambrook, J., & Wakefield, B. (2022). *RAAAP-2 datasets (17 linked datasets)*. figshare. https://doi.org/10.6084/m9.figshare.18972935.v1

Kerridge, S., & Scott, S. F. (2018a). Research administration around the world. *Research Management Review*, *23*(1), 1–34.

NARMA. (2021). *What is NARMA?* https://youtu.be/ZJaG1FGkHLo

NARMA. (2022). *NARMA statutes: Mandate and guidelines*. https://narma.no/om-narma/vedtekter/

NARMA. (2023). Professional Development Program survey results (2018–2022) – Association data.

Norwegian Ministry of Education and Research. (2021). Strategy for Norway's participation in Horizon Europe and the European Research Area. Publication code: F-4467 E. https://www.regjeringen.no

Norwegian Ministry of Education and Research. (2022). *The Norwegian Research system*. https://www.regjeringen.no/no/tema/forskning/innsiktsartikler/forskningssystemet/id2000708/

Tauginienė, L. (2009). The roles of a research administrator at a university. *Public Policy and Administration*, *2009*(30), 45–56. ISSN: 1648–2603 (print). ISSN: 2029-2872 (online).

The Research Council of Norway. (2019). *What we do*. https://www.forskningsradet.no/en/about-theresearch-council/what-we-do/

The Research Council of Norway. (2021). *Science & Technology Indicators for Norway 2021*. www.forskningsradet.no/indikatorrapporten. ISBN: 978-82-12-03904-9.

The Research Council of Norway. (2022). *NRC portfolios*. https://www.forskningsradet.no/en/about-the-research-council/Portfolios/

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Chapter 5.37

The Profession of Research Management and Administration in Portugal

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Abstract

This chapter addresses the profession of research management and administration (RMA) in Portugal. It starts with a brief outline of the national research and innovation (R&I) ecosystem that contextualises the development of the profession. The RMA community is characterised and the expectations for the future of the RMA profession are summarised using data collected through a national online survey. It is posited that RMA in Portugal is an emergent career having developed key traits of a profession, namely common interests and practices, a concern with deepening specialised knowledge and skills, the existence of an organised network of practitioners, the offer of academic qualifications and training in the area, and the integration in international RMA communities of practice. Nevertheless, future developments in the European Research Area (ERA) are identified as a critical milestone that will influence the development and formal legislative institutionalisation of the RMA profession in Portugal.

Keywords: Portugal; Research Management and Administration; PIC; SciComPT; RAAAP; BESTPRAC; EARMA; Profession; RMA

The Portuguese R&I Ecosystem

R&I Funding

The Portuguese R&I ecosystem results from a long process of change associated with both the expansion and diversification of its institutions and a significant increase in the number of graduates, researchers and scientific and technological production (Rodrigues & Heitor, 2015). The growth of public and private investment in research and development (R&D) went from 0.27% of gross domestic expenditure in 1982 to 0.72% in 2000, and 1.62% in 2021 (with 0.92% being business enterprise expenditure in 2022) (European Commission, 2022d).

These changes have been described to be driven by the so-called 'knowledge economy' and compelled higher education and science institutions (HEIs) to qualify human resources able to produce new goods and services and to contribute directly to the development of research leading to social and technological innovation (Ball, 2015; Ferreira, 2023). In this context, research and management units and their professionals, sitting at the interface of public and private institutions of higher education and science, industry, governmental bodies and society at large, become central actors in today's R&I ecosystem (Santiago & Carvalho, 2016).

Despite the general growth of the Portuguese R&I ecosystem, the levels of Portugal's expenditures in R&D are still well below the EU average in 2020 (2.3%) (World-Bank Data, 2020) and the 3.0% goal inscribed in the 2030 European Union agenda.[1] In addition, the diversification and widespread implementation of R&I organisations throughout the national territory was not accompanied by decentralisation of the governance and funding of the R&I ecosystem that kept on being a major responsibility of the national government. Such a hierarchical system, in a context where a considerable part of the public funding for R&I is directly dependent on European Structural

[1] https://ec.europa.eu/invest-in-research/index_en.htm

and Investment Funding, resulted in increased challenges in linking the different institutional, regional, and national actors of the R&I ecosystem. All considered, the urgent need for higher public and private investment in science and innovation needs to be accompanied by an articulation between national and regional needs, and an alignment of the diversified network of institutions in this ecosystem with the European Commission's smart specialisation approach[2] that aims for an innovation-driven socioeconomic development (OECD, 2019).

R&I Performing Organisations

Within the publicly financed R&I ecosystem, R&I activities are developed in HEIs, private (non-profit) foundations and state laboratories. Funding is directly allocated to R&I units through a competitive process organised by the national funding agency (*Fundação para a Ciência e a Tecnologia*, FCT[3]) and in which the evaluation process is carried out every 4–5 years by panels of international experts.

In the latest evaluation exercise, in 2017, there were 309 R&I units positively evaluated (FCT, 2021), some of which further comprise Associated Laboratories (AL), Collaborative Laboratories (CoLAB) or Technology and Innovation Centres (CTI), R&I organisational structures that respond to very specific challenges and can apply for additional public and private funds to fulfil such missions.

ALs are high-performing R&I units that work towards the attainment of specific objectives of national public policies to overcome scientific, health, social, environmental and economic challenges. By 2021, a total of 40 ALs (FCT, 2019) were recognised and funded by FCT.

CoLABs fulfil a different role, they respond to the challenge of intensifying the national position in terms of knowledge-based activities and consolidate collaborations between science, technology in HEIs and the wider economic and social fabric, including companies, health and cultural institutions, and other social organisations. To date, 35 CoLABs (ANI, FCT, PI, 2021) have been established in different scientific areas.

CTIs are dedicated to the production, dissemination and transmission of knowledge oriented towards companies and to the creation of economic value. These R&I structures directly contribute to the pursuit of public policy objectives within the national or regional priority areas of their specialisation. The latest evaluation of CTIs (ANI, n.d.) is ongoing, but so far 26 entities have been approved.

In the majority of these entities (R&I units) or associations of entities (LAs, CoLABs and CTIs) the need for and the importance of RMA have increased and with it, the required RMA profiles have been diversified as detailed in the following section of this chapter.

The RMA Profession in Portugal

Major Events That Have Contributed to the Promotion of RMA in Portugal

In Portugal, the growth and diversification of the national R&I ecosystem was accompanied by the emergence of RMA professional roles in its institutions. However, in the absence of a legal framework institutionalising a corresponding career, in 2016

[2] The smart specialisation approach was established by the European Commission to identify strategic or knowledge-based areas in a particular region. It is built on the analysis of the strengths and opportunities of the economy of that particular region and is expected to involve all stakeholders, including the R&I actors.

[3] https://www.fct.pt/en/

RMAs themselves established the platform of professionals at the interface of science (PIC – *Plataforma de Interface à Ciência*[4]), arising from the national conference 'From Challenge to Opportunity – Perspectives for the Research Managers in Portugal' (Lisbon, 28 November 2016) that gathered around 320 attendees. Until then, there were no significant initiatives in Portugal focusing on professionals working in the RMA areas.

PIC is an informal Portuguese network to promote the profession and the professionals working at the interface of science, that is, the different profiles of RMAs within most R&I institutions (Agostinho et al., 2018). It integrates professionals with different levels of academic attainment who develop diverse research management activities including communication and dissemination, knowledge and technology transfer, valorisation and impact, science strategy and policy support, research funding, project management, among others.

Since its inception, PIC has focused its activity on four areas organised in specific thematic working groups: (1) professional characterisation; (2) professional visibility; (3) development and training; and (4) policy and benchmarking.

Relevant activities include the organisation of annual conferences, and the delivery of position papers and recommendations to formally legitimise the RMAs within the Portuguese R&D policy landscape. Since 2021, the 'Let's talk about science management'[5] online initiative has been organised monthly to share experiences, ideas, challenges, and strategies among professionals.

A further national network targeting RMA is the SciComPT[6] (the Portuguese Network of Communication of Science and Technology), which addresses a subset of RMA professionals involved in science communication, promoting initiatives such as congresses, online meetings, training workshops and awards for best science communications.

Several members of the RMA community have also been actively engaged in European RMA networks, working groups and similar initiatives (e.g., the COST Action BESTPRAC[7] and the European Association of Research Managers and Administrators – EARMA[8]). The impact is remarkable within the community itself, supporting individual professional development and networking, but also at the level of other stakeholders of the R&I system, such as academic and research institutions, governance bodies and policy makers.

All these activities have been contributing to strengthening the recognition of these professionals in their institutions as well as at the national and international levels.

The RMA Community in Portugal

Given that no consolidated data regarding RMA professionals in Portugal was available, PIC conducted an online survey in 2018 to map the national RMA community. Respondents were contacted through the PIC and FCT mailing lists, with additional contacts established in RMA events. The survey was carried out from 5 February to 15 May 2018 and included 32 questions organised in six sections addressing: academic profile and qualifications; employment situation; work areas; perceived professional impact; skills; and sociobiographical characterization. A total of 577 responses were

[4] https://sites.google.com/view/PIC-pt
[5] https://sites.google.com/view/pic-pt/iniciativas/vamos-falar-de-gestão-de-ciência
[6] https://scicom.pt/
[7] https://bestprac.eu/home/
[8] https://earma.org/

received, with 518 responses validated and assessed, using quantitative techniques. The analysis excluded duplicate responses, responses from professionals working outside Portugal, and those denying consent. This methodology allowed for a thorough descriptive analysis of the RMA community in Portugal that is presented below.

Gender and Age

The respondents included 70.8% females and 29.2% males, following the feminine bias of this profession around the world (see Oliveira, Fischer, et al., 2023, Chapter 2.2). Regarding age, the most represented group was 30–39 years (41.7%), for both women and men. 73.7% of respondents were between 30 and 49 years old.

Academic Qualification and Background

Survey respondents have high to very high academic qualifications as 43.2% are PhD holders and a further 33.6% have a Master's level degree (there was no statistically significant association between gender and qualification). While the overall percentage of Master's degree holders is lower than the international data in the 2019 RAAAP-2 Survey (41.3% of $n = 4{,}317$) (Kerridge, Ajai-Ajagbe, et al., 2022), prevalence of PhD holders in the PIC survey was higher than in the global survey, where 30.7% finished a PhD before becoming an RMA, and 5.0% graduated during their time as RMA (Kerridge, Ajai-Ajagbe, et al., 2022). The very high academic qualifications of RMAs in Portugal may be partially associated with the higher presence of a STEM (science, technology, engineering and mathematics) academic background (56.9% in Portugal vs 34.6% elsewhere) (Kerridge, Ajai-Ajagbe, et al., 2022). Additionally, the majority of respondents of the PIC survey obtained their highest academic qualification in the area of Life Sciences (30.7%) followed by Social Sciences (17.8%), while only a minority of RMAs were trained in the fields of Science Management or Science Communication (6.4% and 5.6%, respectively) (Fig. 5.37.1). This might be explained by the recent organisational recognition of the RMA profession, and the unavailability of any national professional certification.

Main Roles Performed

In the survey performed in Portugal (2018), the activities developed by RMAs were quite diverse in the categories considered in the survey (pre- and post-award research management, communication and outreach, technology transfer, and others), with

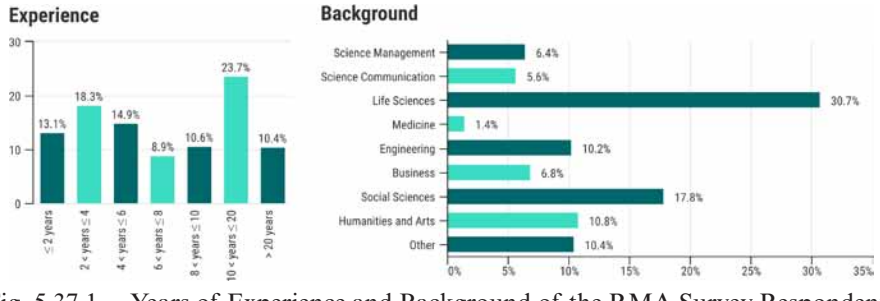

Fig. 5.37.1. Years of Experience and Background of the RMA Survey Respondents in Portugal.

a balanced division between different activities, showing the 'non-specialisation' of the RMA professionals at the time. Furthermore, 22.6% of these professionals were in leadership positions, 36.5% were managers, 33.8% were officers/administrators (mainly with assistance/supporting responsibility) and 3.5% were consultants. These data reflect the diverse positioning of RMAs within their institutions.

RMA as a Profession

The RMA community is characterised by a diverse range of professional maturity representing professionals in all levels of RMA experience; however, the majority (i.e., 55.2%) had less than eight years of experience revealing the recent emerging of the RMA community. Additionally, 69.4% of respondents reported having 1–2 previous jobs in the areas of science interface, which may be an indicator of institutional renewal and increasing interest and awareness of the RMA profession in Portugal. Note that 27.8% of the respondents were researchers before becoming RMAs.

Organisation and networking of the RMA community are also significant with about half of the respondents reporting to be part of a professional or informal association: 29.3% – PIC, 11.0% – SciComPT, 3.0% – COST Action BESTPRAC and 2.1% – EARMA.

Regarding RMA employers, 62.5% are employed at public institutions and 36.5% at private institutions (34.8% at non-profit and 1.7% at for-profit institutions). Furthermore, most RMAs worked at research institutions (38.9%) or universities, both in faculties, departments and research units (35.0%) or central services (8.5%). 8.3% of the respondents work at public administration institutions such as the main national funding body for R&I (FCT).

The vast majority (98.1%) of RMAs claimed to have an employment contract or a fellowship and to work full-time (97.1%). Although more than half of the respondents (53.6%) had a contract with their institutions (40.8% permanent and 12.8% temporary), there was still a high percentage of RMAs (44.5%) working under a fellowship. The length of temporary contracts varied widely, with 44.0% holding contracts from three months for up to three years.

Concerning their current annual remuneration, 62.5% of the participants reported an annual gross income of less than 20,000€, a value that is lower than the average annual income for higher-educated professionals in Portugal (25,946€ in 2018 (PORDATA, 2022)). This is due to the high prevalence of fellowship contracts. For fellowship holders, the disadvantages of low income are further exacerbated by the very limited benefits of this type of contract (i.e., lack of access to unemployment benefits or holiday pay, among others).

When asked about the impact and role of RMAs, 44.5% of RMAs perceived that senior management (Directors, Heads of Faculty, Deans, etc.) acknowledge RMA professionals as a medium/high added value to their institutions, while 39.0% of RMAs report a similar recognition by the scientific community. This recognition is particularly relevant as these two groups are the main users of RMA services (23.5% and 43.2%, respectively). Additionally, RMAs acknowledged having an important contribution to the R&D development in Portugal (65.8%). The perceived high contribution of RMAs to their communities and institutions is also indicated as the main reason to work in this profession.

Prospects for the Future of the RMA Profession in Portugal

The evolution of the RMA profession in Portugal is intrinsically related to the following aspects: (i) its formal recognition by employers (research-performing organisations

and non-research-performing organisations, such as R&I funding agencies) and by relevant public authorities (in particular, the Ministry of Science, Technology and Higher Education[9]); (ii) consolidation of PIC; and (iii) increased involvement in international networks.

All of these factors have been crucial for the consolidation of the RMA professional identity and are expected to contribute to a formal legitimisation of an RMA professional career in Portugal. In this particular regard, mention must be made to the regulation of an RMA career at the University of Aveiro (UA) in 2020 (UA, 2020). This pioneering initiative in Portuguese HEIs represents a key milestone and was possible, from a legislative point of view, because UA is a private foundation. A following step would be to broaden this initiative to all public HEIs and other public organisations (e.g., FCT), a step that requires a legislative regulation of an RMA career.

The consolidation of PIC as the *de facto* national RMA network would benefit from the support of other networks already well-established at the international level, such as EARMA. This does not necessarily involve the setting up of a formal association. Actually, the decision to move on to a formal association was the subject of a dedicated working group at PIC, in 2019. The advantages and disadvantages of the various networking formats (informal, formal, etc.) were debated and PIC's board decided to maintain the informal format since it allowed for a more flexible *modus operandi*.

In what concerns the involvement of the Portuguese community in international RMA networks, an increasing number of Portuguese RMAs have been involved in EARMA's committees and other key groups (currently four professionals out of 52 Portuguese EARMA members, as of October 2022). Additionally, Universidade NOVA de Lisboa is a partner in the Horizon Europe RM ROADMAP[10] project, headed by EARMA, aiming to create a roadmap for the future of research management in Europe and a community to support its delivery.

As for academic qualifications in RMA, mention must be made of the existence in Portugal of a post-graduation course since 2019 dedicated to 'science and technology management and policies', with the participation of PIC and delivered by a consortium of HEIs and research-performing organisations. A total of 64 students have graduated so far. Also, NOVA FCSH, with the participation of PIC in the Advisory Board, implemented the Erasmus+ foRMAtion[11] project, which resulted in the development of innovative modules on RMA that trained students in HEIs for a potential RMA professional trajectory.

The existence of advanced academic qualifications and a professional network, even if informally organised and with voluntary membership (Lewis, 2014), the systematic performance of certain tasks as 'constant and relentless achievement' of self-hood (Fragkiadaki et al., 2013) and the delivery of specialised training actions (Eason et al., 2018), make the case for the existence of an *actual* RMA profession in Portugal. Moreover, the Portuguese RMA community has been contributing to the international recognition of the profession, from both empirical evidence (e.g., Vidal et al., 2015), and conceptual perspectives (e.g., Agostinho et al., 2018; Santos et al., 2021a), namely in the pre-award (e.g., Vidal et al., 2015), and post-award areas (e.g., Santos, 2021).

It is expected that the Portuguese community will continue to develop RMA professional competencies and skills through academic qualifications, professional training, and

[9] https://www.portugal.gov.pt/en/gc23/ministries/science-technology-and-higher-education/about
[10] https://www.rmroadmap.eu/
[11] https://www.formation-rma.eu/

networking with peers (both at the national and international levels). Nevertheless, the future of the RMA profession in Portugal is inexorably linked with the evolution of the ERA.[12] For example, if the European Commission decides to adopt a framework for the research profession that includes RMA as a main occupational category contributing to the research endeavour, then it can be envisaged that the national context will mirror this decision. This would lead to a clarified professional framework for RMAs. The above-described RMA profile of Portuguese professionals is expected to evolve accordingly.

Conclusions

The complexification of the R&I ecosystem in Portugal led to the establishment of a diverse set of RMA units within the different R&I organisations and to the growth and differentiation of the RMA profession. These changes are well illustrated in the survey data showing that despite the diverse range of professional maturity of these professionals, the majority of RMA professionals are between 30 and 49 years old and in early career (<8 years of experience). Noticeable is also the extremely high level of academic qualifications of these professionals which are not built on a specialisation academic profile in their current area of expertise but rather based on diversified academic and professional trajectories. These trajectories, mostly developed within the academic context and lacking an RMA academic degree – only recently established in the Portuguese context – or a specific national professional certification – still unavailable in Portugal – give the RMA community a broad understanding of the R&I ecosystem and its actors. In an expanding and diversifying R&I system like the Portuguese one, RMAs with a broad profile are essential to establish the interface of the decision-taking actors, easing tensions and establishing bridges, and therefore being a key component to warrant the success of R&I initiatives. In recent years, these professionals have been very active and have developed different professional platforms and organised conferences and workshops, initiatives that have been central to the construction of their professional identity. In addition, RMA professionals have participated in major legislative initiatives regarding the R&I ecosystem, and have been involved in international associations, such as EARMA and international projects. All these activities are expected to result in a formal recognition of the professionalisation of Portuguese RMAs in the future.

Despite the evidence presented herein, the recognition for and visibility of the profession still needs to be expanded in Portugal and better articulated with international initiatives. The development of relevant EC frameworks in the ERA context is critical towards this end and the Portuguese RMA community, key stakeholders of the national R&I ecosystem must be involved in the transposition of these European frameworks into the national context.

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[12] https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/our-digital-future/european-research-area_en

CIIMAR (UIDB/04423/2020, UIDP/04423/2020), CEECIND/01053/2017, IT (UIDB/50008/2020, UIDP/50008/2020), ALiCE (LA/P/0045/2020) and LEPABE (UIDB/00511/2020, UIDP/00511/2020).

References

Agostinho, M., Moniz Alves, C., Aresta, S., Borrego, F., Borlido-Santos, J., Cortez, J., Lima Costa, T., António Lopes, J., Moreira, S., Santos, J., Trindade, M., Varela, C., & Vidal, S. (2018). The interface of science: The case for a broader definition of research management. *Perspectives: Policy and Practice in Higher Education*, *24*(1), 19–27. https://doi.org/10.1080/13603108.2018.1543215

ANI. (n.d.). *Evaluation CTIs*. Retrieved October 26, 2022, from https://www.ani.pt/pt/valorizacao-do-conhecimento/interface/cti-centros-de-tecnologia-e-inova%C3%A7%C3%A3o/

ANI, FCT, PI. (2021). Presentation of collaborative laboratories. *CoLABs.* Retrieved October 26, 2022, from https://www.ani.pt/media/7080/en_brochura_colab_2022.pdf

Ball, S. J. (2015). Living the neo-liberal university. *European Journal of Education*, *50*(3), 258–261. https://doi.org/10.1111/ejed.12132

Eason, C. M., Mazerolle, S. M., Denegar, C. R., Burton, L., & Mcgarry, J. (2018). Validation of the professional identity and values scale among an Athletic Trainer Population. *Journal of Athletic Training*, *53*(1), 72–79. https://doi.org/10.4085/1062-6050-209-16

European Commission. (2022d). *Research and development (database)*. Retrieved October 25, 2022, from https://ec.europa.eu/eurostat/data/database

FCT. (2019). *Evaluation LAs*. Retrieved October 26, 2022, from https://www.fct.pt/apoios/unidades/avaliacoes/docs/LA_ResultadosProvisorios.xlsx

FCT. (2021). *Evaluation units*. Retrieved October 26, 2022, from https://www.fct.pt/apoios/unidades/avaliacoes/2017/docs/Avaliacao_UnidadesI&D2017_2018_Resultados_finais.xlsx

Ferreira, A. (2023). Living on the edge: Continuous precarity undermines academic freedom but not academic identity in the neoliberal academia. In A. Vatansever & Y. Kölemen (Eds.), *Free as a Bird: Academic Precariat and the state of academic freedom in the Global North* (pp. 79–100). Routledge. https://doi.org/10.4324/9781003256984-7

Fragkiadaki, E., Triliva, S., Balamoutsou, S., & Prokopiou, A. (2013). The path towards a professional identity: An IPA study of Greek family therapy trainees. *Counselling and Psychotherapy Research*, *13*(4), 290–299. https://doi.org/10.1080/14733145.2013.768287

Kerridge, S., Ajai-Ajagbe, P., Kiel, C., Shambrook, J., & Wakefield, B. (2022). *RAAAP-2 datasets (17 linked datasets)*. figshare. https://doi.org/10.6084/m9.figshare.18972935.v1

Lewis, K. (2014). Constructions of professional identity in a dynamic higher education sector. *Perspectives: Policy and Practice in Higher Education*, *18*(2), 43–50. https://doi.org/10.1080/13603108.2014.914107

OECD. (2019). *OECD review of higher education, research and innovation: Portugal*. OECD Publishing.

OECD. (2022). *OECD data purchasing power parities (PPP)*. Retrieved October 25, 2022, from https://data.oecd.org/conversion/purchasing-power-parities-ppp.htm

Oliveira, C. I., Fischer, M., Kerridge, S., & Dutta, M. (2023). The research administration as a profession survey. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 113–123). Emerald Publishing.

PORDATA. (2022). *Remuneração base média mensal dos trabalhadores por conta de outrem: Total e por nível de qualificação*. Retrieved October 26, 2022, from https://www.pordata.pt/municipios/remuneracao+base+media+mensal+dos+trabalhadores+por+conta+de+outrem+total+e+por+nivel+de+qualificacao-269

Rodrigues, M. L., & Heitor, M. (2015). *40 Anos de políticas de ciência e de ensino superior*. Almedina.

Santiago, R., & Carvalho, T. (2016). The "Dark side of the moon". The non-teaching structures in the Portuguese higher education institutions. In C. Sarrico, P. Teixeira, A. Magalhães, A. Veiga, M. J. Rosa, & T. Carvalho (Eds.), *Global challenges, national initiatives, and institutional responses: The transformation of higher education* (pp. 55–76). Sense Publishers.

Santos, J. M. R. C. A. (2021). Management of public–private R&D projects in higher education: Key trends and issues. *Perspectives: Policy and Practice in Higher Education*, *25*(3), 106–112. https://doi.org/10.1080/13603108.2021.1894616

Santos, J. M. R. C. A., Varela, C., & Kerridge, S. (2021a). Professionals at the interface of science: Is there more than meets the eye? *Perspectives: Policy and Practice in Higher Education*, *25*(3), 100–105. https://doi.org/10.1080/13603108.2021.1881842

Regulation 744/2020: "Regulamento de Carreiras, Retribuições e Contratação do Pessoal Técnico, Administrativo e de Gestão da Universidade de Aveiro em regime de contrato de trabalho". (2020). University of Aveiro. https://dre.pt/dre/en/detail/tipo/744-2020-141963750

Vidal, S., Laureano, R., & Trindade, M. (2015). Assessing the impact of grant managers on the success of grant applications. *Perspectives: Policy and Practice in Higher Education*, *19*(3), 84–91. https://doi.org/10.1080/13603108.2015.1019948

WorldBank Data. (2020a). *Research and development expenditure (% of GDP) – European Union*. Retrieved February 3, 2023, from https://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS?locations=EU

WorldBank Data. (2020b). *Research and development expenditure (% of GDP) – Portugal*. Retrieved February 3, 2023, from https://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS?locations=PT

Chapter 5.38

The Development of the RMA Profession in Catalonia (Spain)

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Abstract

This chapter builds the historical overview of RMA in Catalonia and explores the detail of how research management and administration (RMA) has evolved, particularly in this northeast region, in Spain. It shows the specific conditions under which RMAs have become a community over time. This chapter includes major government support initiatives, and takes a closer look at the RMA's profiles, information on the evolution of their role, the possibilities for professional development, and their recognition. The results come from an open consultation carried out by AGAUR, the executive funding agency of the Government of Catalonia, addressed to RMAs of Research and Innovation (R&I) in Catalonia and published in a report in 2020. This is the second analysis carried out on the research management profession, and its recognition as a key player in attracting and managing competitive European (EU) and international funds.

Keywords: Catalonia; research management; professionalisation; recognition; CARMA; EARMA; RAAAP

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Research Ecosystem – Catalonia

Catalonia, in the northeast of Spain, occupies an area of 32,107 km^2 and is the second most populated region in Spain, with 7,671,252 people, 16% of the total population (Eurostat, 2021) and represents 1.5% of the total EU population. There are 12 universities in Catalonia, 7 of which are public; 57 research centres, of which 40 are from a network of excellence centres, named CERCA (n.d.)[1]; and 3 large unique scientific and technical infrastructures. Overall, the system employees some 52,000 R&I staff, of whom 30,000 are researchers. It has around 217,000 undergraduate and more than 48,000 master's degree students, and close to 17,500 doctoral students in 2020.

The region's scientific capacity and further enhancement of the level of scientific excellence are an outcome of its R&I policies. The Statute of Autonomy of Catalonia (Article 158) establishes that the government has exclusive policy competences (Ministry of Research and Universities, 2021) over its own research centres and structures, and the projects it finances with its own funds as well as it has shared authority over the coordination of the Spanish research centres and structures located in Catalonia.

Catalonia has succeeded in boosting its competitive science base, with a leading position in attracting external competitive resources in the last decade, both from Spanish and EU funding sources. Catalonia publishes 3.7% of EU publications and its overall participation in the EU R&I Framework Programmes (FP), Horizon 2020, was more than double that of the region's 6th Framework Programme (FP6) participation. From the 1.2% of the overall EU funds allocated for FP6 and a low level of EU project leadership, Catalonia obtained a total of 2.2% of the total funding under FP7 and 2.5% of Horizon 2020 (with more than 3,000 projects, €1,700 million and 29.2% of the total funds raised by Spain as a whole). The success of Catalonia in attracting 3.1% of the overall ERC grants and 6.6% of the ERC Proof of Concept shows the impact of these programmes in the territory.

The Agency for Management of University and Research Grants (AGAUR) is a public research funding organisation located in Barcelona, established in 2001 under the Department of Research and Universities of the Government of Catalonia. With 20 years of experience, AGAUR (n.d.) supports the Catalan Government University and scientific policy (Ministry of Research and Universities, 2022) and strives for fair and competitive funding for university studies, scientific talent attraction and transfer of knowledge innovation programmes through open competitive calls.

Evolution

Fostering EU R&I funding attraction became a policy priority at the start of FP7, according to the region's research potential. The growing complexities of EU funding programmes and their requirements raised the need to train and recruit specialised R&I managers to manage both the diversity and complexity of the requirements, and to provide qualified support to researchers. Different incentives and services were promoted, through AGAUR from the year 2006, to raise the research management capacity and be able to fully capitalise on the region's range of external funding.

Initially, grants aimed at strengthening EU research offices or units by increasing the overall number of research management personnel and improving their skills. Specific grant programmes were published to recruit managers or to promote the projects' coordination by Catalan entities. Since 2010 AGAUR has supported an informal RMA

[1] CERCA Centres of Excellence in Catalonia: https://cerca.cat/en/centres-cerca/.

network with access to free activities: networking and best practice exchange such as working groups, an annual conference, or preparing joint position papers; newsletters with relevant information on EU policies and calls; information days: around eight events per year on EU R&I funding opportunities in collaboration with the local entities and National Contact Points[2]; a set of short trainings adapted to RMA's needs; monitoring the Catalan participation as well as data analysis and preparation of reports; advice services on calls administrative procedures and programmes; elaboration of supporting documents on management issues. The annual conference (AGUAR, 2023b) brings together annually around 300 research managers in Catalonia to share experiences and good practices and create professional group cohesion and awareness.

As a result, the rise in the number of research managers has been matched by an increase in participation and attraction of EU R&I funds at the institutional level. This positive correlation between the rise of managers and the funding results is evidenced by the figures, as the number of the Research Managers Network members in Catalonia has multiplied almost 9 times in the past 10 years, and overall EU funding has multiplied by 1.6 in these years.

At the level of the Spanish State, there is no formal or informal network of Research Managers, even if there have been several initiatives to support the participation of academic institutions in the EU R&I FPs with National funds, such as the 'Eurociencia' programme from the EUROINGENIO 2010 initiative.[3] With a total budget of €54.6 million for the period 2007–2013, it aimed at stimulating the active involvement of Universities and Public Research organisations and Technology Centres in the dissemination, information and assistance to researchers for submitting proposals to the FP calls. From 2014, the 'Redes y Gestores' (Networks and Managers)[4] programme fosters to provide public and private research organisations with the necessary structure and knowledge for the proper preparation and management of EU projects, so that research organisations can improve their chances of increasing their participation as well as obtaining funding from Horizon 2020 and Horizon Europe.

Professionalisation

Building on the previous statements, AGAUR (2010) has been working on supporting a Community of Research Managers in Catalonia, through an informal network, identified as CARMA (AGAUR, 2023a), the Catalan Research Managers network. This network aims at tackling the need for boosting the research management capacity of Higher Education and research organisations in the region, which has currently evolved from supporting the establishment of offices and the recruitment of managers in the last decade to coordination activities and sharing experiences and best practices as well as increasing the RMA visibility and professional recognition.

The critical mass of research management professionals (RMAs) in the region has increased markedly, counting with around 1,000 members in 2022. They currently assume diverse responsibilities and complex tasks. According to AGAUR's 2020 Report on 'The International Research Manager in Catalonia' (Borrás et al., 2020), the trend is to move towards professionalism and a greater degree of specialisation

[2] The network of National Contact Points (NCPs) is the main structure to provide guidance, practical information and assistance on all aspects of participation in Horizon Europe.
[3] https://ec.europa.eu/research-and-innovation/sites/default/files/rio/events/EUROINGENIO_Javier%2520Serrano_0.pdf
[4] https://iaac.net/project/europa-redes-y-gestores/

on the new priorities of R&I policies and funding requirements (e.g. principles of Responsible Research and Innovation – RRI such as gender, open science and ethics), and at the same time take on more tasks related to the impact of the research results and to the transfer of knowledge to the market. Research manager career plans are very few, and the needs for competence-based external training is highlighted. The most relevant transversal competencies in this profile that stand out from the survey are proactivity, teamwork, organisational and communicative skills, and stress management. The opportunities to share information and good practices and do more networking are considered very positively.

From an institutional perspective, management structures or units have been adapted to changing needs. A large part is divided into pre-award and post-award projects, and some have gradually incorporated other tasks with competencies beyond the project management life cycle. They have undergone accelerated growth of international R&I project management structures, caused by the increase in obtaining projects and their requirements. In many cases, they are not well dimensioned, as they do not cover all the needs detected, due to both the lack of resources and adequate profiles. There is difficulty in finding trained professionals and the survey shows that staff turn-over is high, whereas working conditions are described to be non-competitive in some cases, and lacking stability. In this context, the 11th Research Managers meeting, held in June 2023, was dedicated to 'Professionalising Research Management in Catalonia' with more than 400 participants.

Demographics

Catalonia's RMA network counts around 1,000 members. The vast majority are women (76%), between 35 and 45 years old (53%), and of Spanish nationality (88%). This profile is aligned with other international surveys in terms of gender, given that the data from the RAAAP-3 survey (Kerridge, Dutta, et al., 2022) confirms that RMA is a highly feminised profession with 79.4% (n = 3,489) being women, but perhaps younger than in Catalonia, with 37.2% (n = 3,461) aged 35–44 internationally. In terms of experience for RMAs in Catalonia, 28% have less than 5 years working as an RMA, 25% have at least 5 years and 47% have between 10 and 20 years of experience. The RAAAP-3 survey shows a similar trend internationally, as an average of 27.1% (n = 4,947) have less than 5 years of experience, 26.9% between 5 and 9 years, and 33.3% between 10 and 19 years.

There is a dominant profile, with more than 10 years of experience in this job (47%) and have gradually been consolidated in the institutions in which they work (60%). Most research managers work in academic institutions (84%) and a high number of them carry out their work in central services offices (66%); the rest work for research groups, units or departments.

The academic qualification also places Catalonia in line with international data, with the number of managers with a doctorate is increasing in recent years in Catalonia, differentiating between master's and doctorate holders, with the former being 45% and the latter 27%, while in the RAAAP-3 surveys 41.7% (n = 3,583) have master's degrees and 33.3% have a doctorate.

RMAs have diverse working backgrounds, many come from other management positions in the academia such as human resources or national funding management, among others (30%), some others from private companies (27%), or they have access as another step in their professional career (23%), while a few have accessed directly from a master's or a degree (11%). What best defines their entering into the profession

is a professional, sectoral or geographical change, with 42% stating this reason, 24% for a professional improvement, 16% due to an internal move within the entity and the other 16% as their first post-training professional opportunity.

Access to the profession is often considered accidental (not foreseen initially during their academic or professional career path), achieved either through a professional change (41%) or through a professional promotion (25%) from other positions in the institution. The survey indicates that 75% got into it due to a match in the skills required by the job or because of the availability of vacancies.

A large part of the RMAs in Catalonia work in the field of medical sciences and health (47%), directly related to the weight of research in this field in the Catalan R&I system, followed by the engineering field (31%), social sciences (19%), mathematics (19%), natural sciences (15%), and arts and humanities (9%).

Their academic background is not necessarily aligned with the scope of the scientific field of work. A quarter of those surveyed have studies in natural sciences, physics, chemistry, biology or mathematics (26%); followed by social sciences (21%); economics or business administration (18%); health sciences or medicine (12%); arts and humanities (9%); and engineering or computer science (9%).

Few RMAs have an official professional accreditation or certification in research management. The most common training is still through specific external courses with certificates of participation or through informal daily work learning by doing exercises. It is worth mentioning that more than half of the institutions offer appropriate training plans for their professional profile.

With regard to the training reported, 35% correspond to those organised by AGAUR and 65% to external specific courses (considering such courses run by consultancy firms or the National Contact points). Overall 16% of respondents indicate that they do not have any type of training accreditation in this field.

These data encompass an emerging profession that has been created in response to the needs of the R&I system.

Overall RMA in Catalonia is not a well-recognised profession, although there is a high demand for professionals and job offers. In general terms, RMAs in Catalonia feel professionally valued by their entities and they consider the type of work they perform to be of high added value although they are less satisfied when it comes to salary and professional progression.

Directions

Catalonia's R&I system is now under the governance of the National Agreement for the Knowledge Society (PN@SC, n.d.). An agreement that encompasses the conditions and needs of all levels of higher education, public and private research, and knowledge transfer and dissemination. It identifies that Catalonia's major challenge is to improve its capacity for innovation and make it one of the main drivers of its economy. A new model will be established to analyse the impact of research results that is more in line with what represents and improves society. A Catalan Science Law is planned by the end of 2022 or in 2023, which will identify the agents of the system and establish its mission, organisation and public responsibility. Additionally, among other things, it is meant to improve mobility, cooperation and scientific exchanges between the research and management staff of the various R&I agents, and will foster innovation and transfer of knowledge, internationalisation of the system, and growth of the private funding in R&I or co-funding of research through sponsorship, partnerships or collaboration.

Besides, there has been a big step towards recognition of RMAs in Spain, due to the new Spanish Science Law (Law 17/22), approved on 25 August 2022, which modifies Law 14/2011, of 1 June, on Science, Technology, and Innovation, which recognises the explicit inclusion of technical staff and staff carrying out management, administration and service tasks, as fundamental and essential elements of the R&I system.

Catalonia keeps working on the RMA's recognition as a key for its research system, far beyond the process of attracting and managing research funds.

Summary

The investment in different incentives and services to strengthen the research management capacity has had an impact on capitalising the Catalonia region's range of external funding. Initially, through grants to fostering research offices and to recruit capable research management support and strengthen their capacity through training programmes. Later by fostering networking and best practice and exchange activities, as well as community awareness through an informal network supported by the regional funding agency, aimed at tackling the need for boosting their professional and management capacity.

References

AGAUR. (2010). *Professional and Curricular Profile of the International Research and Innovation Project Manager (GPIRI) in Catalonia. An overview on the generic and specific com petences and the existing training needs for this professional profile. 2010 report*. https://gencat.sharepoint.com/sites/InformesobreelperfildelgestordRDI

AGAUR. (2023a). *Research Managers Network CARMA*. https://agaur.gencat.cat/en/internacional/support_for_European_projects/xarxa-de-gestors-00001/

AGAUR. (2023b, June). *11th Research Managers meeting in Catalonia*. Professionalising Research Management in Catalonia. https://agaur.gencat.cat/en/detalls/activitatagenda/11-Trobada-de-gestors-2023

AGAUR. (n.d.). *International area*. https://agaur.gencat.cat/en/internacional/index.html

Borrás, C., Díaz, A., Alonso, E., Lorda, E., & Vera, A. (2020). *The International Research Manager in Catalonia 2020 Report (AGAUR)*. https://agaur.gencat.cat/web/.content/Documents/Internacionalitzacio/informe_IRMA_AGAUR_2020_final-en-GB.pdf

Centres of Excellence in Catalonia (CERCA). (n.d.). https://cerca.cat/en/centres-cerca/

EUROSTAT. (2021). Regions and cities. https://ec.europa.eu/eurostat/cache/RCI/myregion/#?reg=ES51&ind=1-2_demo_r_d2jan

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Ministry of Research and Universities. (2021). *Powers of the Catalan Government in R&D*. https://recercaiuniversitats.gencat.cat/en/01_departament_recerca_i_universitats/recerca_i_universitats_de_catalunya/politiques_i_principals_actuacions/politica_cientifica_a_catalunya_pnri_pri/les-competencies-del-govern-catala-en-materia-drd/index.html

Ministry of Research and Universities. (2022). *Catalonia's research policy*. Retrieved November 9, 2022, from https://recercaiuniversitats.gencat.cat/en/01_departament_recerca_i_universitats/recerca_i_universitats_de_catalunya/recerca/index.html

The National Agreement for the Knowledge Society (PN@SC). (n.d.). http://empresa.gencat.cat/web/.content/actualitat/pacte-nacional-societat-coneixement/documents/document_final_multiidioma/catalan_agreement_on_the_knowledge_society_accessible.pdf

Chapter 5.39

The Profession of Research Management and Administration in Sweden

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Abstract

This chapter outlines the development of the Swedish Higher Education System that led to the evolution of the profession of research management and administration (RMA) in Sweden. Evolution from an informal network towards more formalised and structured work within the Swedish RMA community is highlighted. Discussion on the level of salaries development depending on the education level, gender, experience and roles are elaborated too. The majority of the Swedish RMA community are women, which does not differ from most other RMA communities around the world. Swedish Association of Research Managers and Administrators (SWARMA) is the bridge between national research and innovation funding agencies and researchers. SWARMA selected members actively participate in the reference groups for EU R&I programmes. The future for RMAs in Sweden looks bright!

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Keywords: Sweden; Research Management and Administration; professionalisation; SNITTS; SWARMA; Profession; Research Support; EARMA; RAAAP

The Swedish Research Ecosystem

Sweden ranks among the world's most innovative nations, and investment in research is among the highest in the world in relation to gross domestic product (GDP).[1] The government invests heavily in education, and more than 3% of Sweden's GDP goes towards research and development.

There are currently 35 universities and university colleges in Sweden. Higher education and research in Sweden are mostly conducted at state universities and colleges. There are also some foundations and non-state education providers.

At the beginning of the 20th century, there were only six higher education institutions in Sweden: Uppsala University, Lund University, Karolinska Institutet, the Royal Institute of Technology, Stockholm University College and Gothenburg University College. The latter two had been founded as alternatives to the traditional universities, with a focus on the public benefit and adult education. Enrolment in higher education still was not for everyone. There were only 6,500 university students in the country in the 1920s[2] out of a population of almost 6 million inhabitants.[3]

In the 1960s, the Swedish higher education system was reformed. A general student financial aid system was introduced which gave more young people the opportunity to study. Colleges were established in new locations and many specialised colleges were incorporated into the university system: teacher education, social sciences, journalism and nursing. After this reform, Sweden received the world's most comprehensive higher education.

Until 1990, the Swedish research funding system consisted of the Swedish Board for Technical Development (STU), the Research Council Board (FRN), the Humanities and Social Sciences Research Council (HSFR), the Medical Research Council (MFR), the Natural Sciences Research Council (NFR) and the Technical Research Council (TFR).

The Board for Technical Development (STU) was formed in 1968. The main purpose was to finance bilateral collaborations on technical and industrial research and development. In 1991, The Board for Technical Development was transformed into The Swedish Agency for Business Development (NUTEK). In 2001, the name was changed to the Swedish Innovation Agency (VINNOVA[4]).

In the same year, 2001, the Swedish Research Council was also formed through a merger of the Research Council Board, the Humanities and Social Sciences Research Council, the Medical Research Council, the Natural Science Research Council and the Technical Science Research Council. The Swedish Research Council (Vetenskapsrådet) is today the dominant research funder of basic research.

Another dominant research funder in Sweden is the Wallenberg Foundations,[5] which was formed as early as 1917 through a donation by Knut Wallenberg and his

[1] OECD. (2022). Table 2 – Gross domestic expenditure on R&D (GERD) as a percentage of GDP. In *Main science and technology indicators* (Vol. 2022, Issue 1). OECD Publishing. https://doi.org/10.1787/a70010f6-en

[2] Universitetskanslersämbetet. (2021). *Åren 1900–2000*. https://www.uka.se/fakta-om-hogskolan/den-svenska-hogskolans-historia/aren-1900-2000.html.

[3] Population by age and sex (1860/2021) – https://www.statistikdatabasen.scb.se/.

[4] Vinnova – https://www.vinnova.se/en/.

[5] Wallenberg Foundations – https://www.wallenberg.org/en.

wife Alice, hence the official name Knut and Alice Wallenberg Foundation.[6] Until 2014, the foundation mainly financed expensive scientific equipment and premises for research at universities, colleges and academies. Today, the foundation focuses on major joint efforts by prominent researchers or research groups. The foundation also has extensive scholarship programs for young researchers, Wallenberg Academy Fellows.

The Wallenberg Foundation can be equated with the Wellcome Trust and the Volkswagen Foundation in terms of money and their funding of excellence research is on a par with the grants that Swedish universities receive from the EU framework program.

In addition to the Swedish Research Council[7] and the Wallenberg Foundation,[8] there are several foundations and authorities that fund research in specific areas; Swedish Research Council for Health, Working Life and Welfare (Forte),[9] Research Council for Sustainable Development (Formas),[10] Sweden's innovation agency (Vinnova),[11] Riksbankens Jubileumsfond (RJ)[12] supporting research in the Humanities and Social Sciences, The Foundation for Environmental Strategic Research (MISTRA),[13] The Foundation for Strategic Research (SSF),[14] The Foundation for the Internationalisation of Higher Education and Research (STINT),[15] The Knowledge Foundation (KK-stiftelsen),[16] the Cancer Foundation,[17] the Swedish Energy Agency,[18] the Swedish Environmental Protection Agency,[19] the Göran Gustafsson Foundation,[20] Ragnar Söderberg Foundation,[21] Erling-Persson Foundation[22] and more.

The Origin of Research Support/Research Administration in Sweden

Until the 1990s, there was no systematic and qualified central support at Swedish universities for researchers regarding help with research applications and research funding. The central administrative support regarding research consisted mostly of support with external contacts in various forms of knowledge and technology transfer, such as information dissemination and company contacts or help with company establishment. What we mean today with research support in the form of science writing, legal and financial advice, seeking funding opportunities and matching with ongoing research to support scientists at the university, did not exist.

However, as EU research programs became increasingly accessible for the basic research carried out at the universities, a need arose for help with formalities surrounding the application process itself. Initially, it was a matter of interpreting and understanding new and unfamiliar rules and criteria, as well as filling in forms and

[6] Knut and Alice Wallenberg Foundation – https://kaw.wallenberg.org/en.
[7] Swedish Research Council – https://www.vr.se/english.html.
[8] https://wallenberg.org/en
[9] Forte – https://forte.se/en/.
[10] Formas – https://formas.se/en/start-page.html5.
[11] Vinnova – https://www.vinnova.se/en/.
[12] Riksbankens Jubileumsfond – https://www.rj.se/en/.
[13] Mistra – https://mistra.org.
[14] SSF – https://strategiska.se/en/.
[15] STINT – https://www.stint.se/en/.
[16] KK-stiftelsen – https://www.kks.se.
[17] Cancerfonden – https://www.cancerfonden.se.
[18] Energimyndigheten – https://www.energimyndigheten.se/en/.
[19] Naturvårdsverket – https://www.naturvardsverket.se/en/.
[20] Göran Gustafssons Stiftelse – https://gustafssonsstiftelser.se.
[21] Ragnar Söderbergs Stiftelse – https://ragnar.soderbergs.org.
[22] Erling-Persson – https://www.erlingperssonsstiftelse.se.

designing project descriptions in accordance with the formalised instructions for the funds within the EU framework program that had become increasingly attractive to researchers at universities.

This demand from researchers required new skills at the universities' central administration that could learn, interpret and understand the formalities (or bureaucracy as it became commonly known) that surrounded these research grants. As this skill is also needed to understand the background and purpose of the EU's research initiatives, these people also became increasingly involved in the application process itself.

Many higher education institutions in Sweden hired consultants to cover this need. Some of these consultants were focused on assisting with scientific writing or, more precisely, formulating successful applications. When it turned out that their contribution to this process was successful, the demand for this form of support increased among the researchers, and it was those who helped with formalities who had to shoulder this role as research advisors.

This new role or service to support researchers with EU applications began to be established at several universities in Europe, but this role was most developed in the UK. Eventually, this role at the central university administration became useful and also helpful for national research funding. At the same time, in the 1990s, national research grants had also begun to become more complex. National research funders had begun to set new requirements and framework conditions for their grants. This could apply to requirements for utilisation, reporting and, in some cases, business collaborations.

Today, in 2022, most research-intensive universities (and also many companies) have a department for research support with a number of people employed who are dedicated to advice in various aspects of research funding.

An Urgent Need for Advanced Training Occurred

In Sweden, more and more universities began to assign staff who could assist researchers with advice and support for the EU framework program. Initially, it was the technical universities in Gothenburg and Stockholm, Chalmers and KTH Royal Institute of Technology, as well as Uppsala University, Swedish Agriculture University and Lund University. For those who worked in the administration with this task, there was a need for training to be able to provide support to researchers who wanted to apply for EU funding. But the range of skills training was limited.

At the University of Bradford, there was a unit called the European Briefing Unit, which was one of the first to offer training in how the EU's research program worked. *Richard Tomlin*, Head of Research Services at Newcastle University was one of the lecturers in their course. Newcastle had one of the first Research Services as a function within a university administration in Europe. During the 1980s and 1990s, support for researchers at Swedish universities was limited to technology or knowledge transfer.

Bert Bohlander at the University of Delft had created a mailing list called EU_UNITE. UNiversities International Team of Experts (UNITE) aimed to safeguard the universities' interests in the regulations for, above all, the framework programs. The aforementioned *Richard Tomlin* and *Lotte Jasper* at the University of Amsterdam were active contributors to this mailing list. EU_UNITE focused on issues related to contracts and agreements for EU research funding. The rules for the EU Framework Program were initially not adapted to academic conditions. It was also UNITE that initiated an alternative template for consortium agreements that were adapted to the

universities' conditions. The templates that existed for consortium agreements were designed based on the needs of the industry. This template was the first version of the template we know today as DESCA (see Groeninx van Zoelen, 2023, Chapter 1.6).

EU_UNITE mailing list, which many Swedish Research Administrators (RA) subscribed to, became a model for the Swedish network for the EU that was formed under the name EU–R&D network.

Evolution of the Profession in Sweden

During the 1990s more and more universities began to assign staff, who could assist researchers with advice and support for the EU framework program. An informal network between such staff was formed under the name EU–R&D network. The aim that has guided the network from the start has been, and still is: benefits to us all by exchanged and shared experiences, contacts and knowledge. From around 25 members of the informal network in 2001 it has grown into a more structured network of 350+ members in 2022.

No specific titles for what we would call RMA staff today were used. Later, a variety of titles have been used. 'A loved child has many names' is a proverb in Swedish that indeed is applicable to RMA staff. Custom titles like economist, RA and advisor began to be used in the beginning of the 2000s. Suddenly titles like project advisor, EU coordinator, research assistant and more started to be used. A small inventory within the SWARMA network from 2021 shows that the names of RMAs are still diverse, around 15 titles are named in the inventory. Research advisor is however now the most used title but also the more general Coordinator is quite frequent. Economists specialised in the field seem to have fewer specific titles in their roles as RMAs, but EU grants specialists is one. Some Grants Offices are nowadays connected to/integrated into units with Innovation Offices. An effect of this is that RMA titles have expanded to also include, for example, Innovation advisors. A tendency is also to name some RMA staff as 'strategists' and thus moving the focus from RMAs giving hands-on operational support to be more of a strategic asset at the university.

The Swedish RMA Community

SWARMA is the main forum for the RMAs working at Swedish higher education institutions. However, some SWARMA members are also members of other national networks such as SNITTS.[23] SNITTS is a non-profit member-driven organisation and a knowledge arena for actors in the academic innovation support system. Also, there is another network called Innovation and R&D,[24] members of which are experienced managers with strategic and personnel responsibility having a title of *inter alia* Research Director, R&D Manager, Innovation Lead, etc. This network, however, targets the Research Institutes and private sector rather than the higher education institutions.

It is worth mentioning that being the bridge between national research and innovation funding agencies and researchers, SWARMA selected members actively participate in the reference groups for EU R&I programmes, within the framework EU-funded programme, currently named Horizon Europe. The role of SWARMA members in the reference groups is to represent the network, not their home universities, and channel

[23] https://www.snitts.se/
[24] https://egn.com/se/networks/innovation-och-research-development/

the information to and from the network and thus provide a structured and comprehensive input to the EU R&I work programmes.

Swedish RMA Demographics

The RMA network in Sweden, SWARMA, has around 350 RMAs and as stated in earlier chapters the role or title of the RMAs differs a lot. Both the title of the person and also what that person does as daily work can be very different depending on where that person works. Despite the differences the Swedish network has tried to have a recurrent survey to keep track of how salaries are developing and also to have something to work with towards getting the role more accepted and cohesive. The survey is a great tool to include in a salary negotiation.

The last survey was ready at the beginning of 2022. It gives some interesting figures regarding the division between men and women, different salary levels, education, roles and how it has developed. During the years the survey has been conducted in its current form, 2011–2021, the division between men and women answering has been almost the same, 70% women and 30% men. That is almost a perfect reflection of the number of men and women who are members of the network. The total number of individual members is 340, and 71% is women and 29% is men. What we can see if we compare the surveys performed from 2011 until 2021 is that the differences between men and women have decreased among financial managers but increased between the research and innovation advisors. There are still differences but not in the same size as before, in 2011 the differences between men and women were more distinctive. Nevertheless, the difference between people with a PhD degree or not is still and has always been significant. Among people within the same role the salary levels differ widely, which may reflect the difference in tasks that a role can include in different universities or higher education institutions and therefore also the challenge to compare.

From the international survey RAAAP-2 (Kerridge, Ajai-Ajagbe, et al., 2022) in 2019, we can see that data from Sweden (n = 49 of N = 4,260) paints the same picture regarding the division between men and women. A few more men were answering this survey, so the female proportion is 62.5% (n = 48) and the male proportion is 37.5%. Interesting facts to mention are that 49% of the RA have worked between 9 and 19 years in the field and 16% have worked 5 years. The conclusion is that RAs in Sweden have a lot of experience and love their jobs since they stay in the field for so long. We can also see that most of them, 85.7%, are full-time RMAs and 79.6% work in a Central RA office. Before becoming an RMA 42.9% have a science background and the rest are not equally divided between medicine, engineering, business, social science, humanities and others.

To summarise both the international and national survey it is clear that we have a larger number of women working in the RMA sector, and there is a lot of experience and a real strength in the Swedish RMA community is the diversity of background.

Directions/Future

So, what will happen in the future? How will SWARMA evolve, will it expand even more, how will our profession develop? The future for RMAs in Sweden is promising. The main reason for that is the formalisation of the network and how it has developed from an informal network to SWARMA. With that said, SWARMA is not as formalised as some other networks being legal entities, but have developed a good structure with engaged people working for the continuation of networking, keeping

sub-groups active and making meetings, both small and large network meetings happen. SWARMA has a strong desire to keep the network as open and informal as it is possible and at the same time, to give the RMA title higher status. The development of the profession is also dependent on which path the European Commission takes, moving towards more lump-sum projects with less financial reporting will make the RMA role even more advisory and less in need of financial skills. If we also compare the demands from different financial sources in both national and international projects' controls and demands are getting tighter all the time and the role of RMA will always be important to support the research community. SWARMA welcomes the European Commission which turned their attention to the RMA community in Europe and will support RMAs in their strive for professional recognition.

References

Groeninx van Zoelen, A. (2023). The development of research and innovation in Europe: A short history. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 69–82). Emerald Publishing.

Kerridge, S., Ajai-Ajagbe, P., Kiel, C., Shambrook, J., & Wakefield, B. (2022). *RAAAP-2 datasets (17 linked datasets)*. figshare. https://doi.org/10.6084/m9.figshare.18972935.v1

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Chapter 5.40

The Profession of Research Management and Administration in the UK

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Abstract

This chapter outlines the circumstances that led to the evolution of the profession of research management and administration (RMA) in the UK, including some of the important drivers. While it is presented in the context of the UK research ecosystem as a whole, this is provided through a university lens as more is known about RMAs in this environment. It also provides a snapshot of the current UK RMA workforce: they are predominantly female and highly educated. With professional certification on the rise, we can see that the profession is developing, and it is argued that RMA professionals can play a pivotal role in research and development.

Keywords: UK; Research Management and Administration; professionalisation; RAAAP; ARMA; RAG*net*; dual support

The UK Research Ecosystem

In the United Kingdom of Great Britain and Northern Ireland (the UK), research is undertaken in a variety of places. While traditionally research is associated with universities, it does occur in many other types of organisations, such as research institutes,

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hospitals, and companies. Looking at the broader field of research and development, national statistics (Office for National Statistics, 2022) show that in 2020 only 22.5% by volume takes place in the higher education sector, with the majority (71.2%) in business and enterprise. While RMA is found wherever research is undertaken, most is known about those working in the higher education sector and so this chapter focuses on those RMA professionals clustered in university and analogous settings. Data from the RAAAP-3 international survey (Kerridge, Dutta, et al., 2022) gives information on 476 UK-based RMAs, but 91.8% of these were based in universities, due to the nature of the survey distribution. This means the RAAAP-3 is not representative of the UK position as a whole, but can claim to be for research support in the UK higher education ecosystem.

Universities have a long history in the UK, with six tracing their formation to the 11–15th centuries. By the 1950s there were 22 universities in the country, which more than doubled in the 1960s to 45. In 1992, a further 40 or so were created as former polytechnics were granted university status and became eligible to receive central government core funding for research, as part of the dual support system. This annual core funding for research is informed by a multiannual assessment exercise, the most recent of which was in 2021, where 157 institutions had their research assessed. This 2021 Research Excellence Framework (REF), determined the core, so-called Quality Related (QR) funding for the following perhaps seven years, although normally there are inflationary increases in subsequent years. The previous exercise, REF2014, assessed research activities in the 2008–2013 timeframe and informed the QR allocations for the seven years from 2014 onwards. The REF also rewards the societal impact of research, and the research environment; impact can be traced back to research undertaken up to 15 years prior, so this really is a long-term game.

This core funding, QR funding, is then stable until the following exercise and is not hypothecated – it may be spent by institutions on whatever research and related activity they deem appropriate.

The other part of the dual support system is where principal investigators apply for project-specific research grants to funders such as the UK Research Councils. Until 2005 proposal costings consisted of direct costs and a fixed percentage (latterly 46%) of direct staff costs to determine the overhead rate. The Research Councils would then award this amount. The broad assumption was that with the QR allocation, this 46% overhead rate would cover the full cost of doing research. However, in the previous decades, while the QR pot had increased slowly, the amount of funding coming through the Research Councils had increased dramatically. So, a Transparent Approach to Costing (TRAC[1]) methodology was developed within the sector in the 1990s to more accurately determine the full cost of activities. From TRAC the full economic costing (fEC) model for research was developed and used across the sector and by the Research Councils from September 2005. However, with the dual support system in place, the Research Councils did not need to pay the full 100% of the fEC, and a rate of (approximately) 80% is paid, with the remainder coming from an institution's QR or other funds. But, universities were then equipped with a better understanding of the full costs and should charge other funders, such as government departments, and industry the full 100% rate.

Fig. 5.40.1 shows the major research funding routes into UK universities. Central government through Department for Business, Energy and Industrial Strategy (BEIS) funds UK Research and Innovation (UKRI) which includes the seven national research

[1] https://www.trac.ac.uk/about/history/

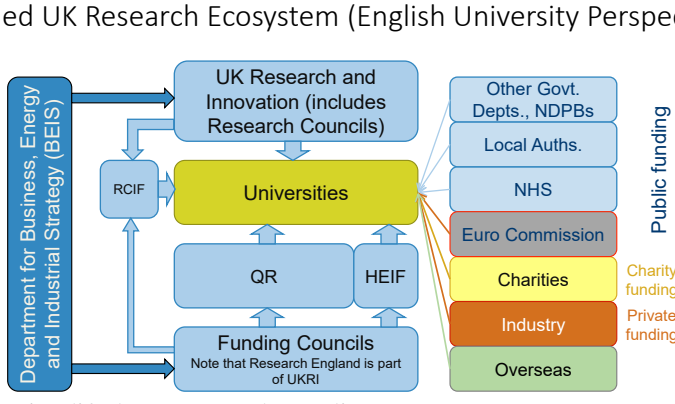

Fig. 5.40.1. Simplified UK Research Funding Ecosystem.

councils that provide traditional research project funds to universities and other bodies. In addition, each devolved nation has a Funding Council (HEFCW),[2] Research England,[3] SFC,[4] and DENI[5] which provides core funding for research (QR), and other pots, such as the Higher Education Innovation Fund (HEIF) that rewards working with industry and the Research Capital Infrastructure Fund (RCIF) that provides for large equipment. There are many differences in exactly how the devolved nations fund research, and it should be noted that, in places, this chapter has an English perspective. Universities also receive research project funding from other government departments and non-departmental public bodies (NDPBs), local authorities, the National Health Service (NHS), Charities, Industry, and Overseas sources, and latterly the European Commission – before Brexit.

This devolved nature of the Funding Councils means, for example, that an identical REF score for a Welsh University might be rewarded with different QR funding than for a Scottish university. To give an indication of scale, the QR funding pot for England in academic year 2022–2023 was £1,974m.

Overall, the UK government expenditure[6] on research and development (R&D) for 2020 was £15,265m. This is made up of £3,356m for the Funding Councils, of which a major element is the QR funding; £5,969m for UKRI (which includes the Research Councils and related bodies); £3,614m for civil government departments; £1,066m for the Ministry of Defence (MoD), and indicative contributions to EU Framework projects and the like of £1,261m.

The more project-based research funding side of the dual support system is provided by the Research Councils, which is generally awarded on a competitive basis through a call for proposals. In addition, UK universities and other research-performing organisations (RPOs) receive competitive funding from other sources such as Learned Societies, Government Departments, Charities and Foundations, (until recently) the European Commission, Industry and Commerce, the NHS and so on.

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[2] https://www.hefcw.ac.uk/
[3] https://www.ukri.org/councils/research-england/
[4] https://www.sfc.ac.uk/
[5] https://www.economy-ni.gov.uk/
[6] https://www.ons.gov.uk/file?uri=/economy/governmentpublicsectorandtaxes/researchanddevelopmentexpenditure/datasets/scienceengineeringandtechnologystatisticsreferencetables/current/rftgoverd2020dataset.xlsx

In the UK, the charity sector is a major part of the funding arena, however, in general, they will not fund indirect costs. However, there is an element of the QR fund that is tied to the amount of charitable research income that an institution has obtained.

Over the past few decades a range of new policy requirements, such as the introduction of fEC and other national drivers such as open access publishing (Tickell, 2016), concordats on researcher development (UKRI, 2020) and research integrity (Universities UK, 2019), Trusted Research,[7] and more recently the recognition of the value of a good research culture (see Department for Business, Energy & Industrial Strategy, 2021), with funding to enhance it,[8] have driven institutions to further develop and professionalise their research support.

Evolution of the Profession in the UK

In the early 1990s, a small group of social science research centre managers created a self-help group – the research administrator's group network – **RAG***net*. This group was born from a frustration of not having anyone in their home institutions that understood their roles and could share experiences. As described by Taylor (2001) and then Walcott (2011) over time this group grew into a formal Association for Research Managers and Administrators (ARMAs) more generally, not just from social sciences, but supporting all subject areas, and covering departmental and central research support staff. By the time it was 10 years old the membership stood at around 300. During the early 2000s, the association transformed into a company limited by guarantee in order to better deliver training, engage with funders, and provide a vehicle for the exchange of good practices. Membership increased to a level where it could support a permanent secretariat, and **RAG***net* rebranded to the ARMA (https://arma.ac.uk/) to better reflect the membership, which by 2011 had risen to around 1,700. In 2008 ARMA hosted the second biennial INORMS (see Kulakowski, 2023, Chapter 1.7) Congress in Liverpool, and the seventh in 2018 in Edinburgh. In the intervening years, ARMA developed a Professional Development Framework (PDF; ARMA, 2011) as a basis for a suite of nationally accredited professional courses, including the Certificate in Research Administration (CRA), Certificate in Research Management (CRM), and the masters level Certificate in the Leadership of Research Management (CLRM). As well as being run in the UK these courses have also been licenced by CARA for use in Canada, and EARMA for use in continental Europe. By mid-2022, 145 UK RMAs had obtained certification at various levels, with a further 121 currently studying.

The UK RMA Community

While much of the RMA space is related to research funding (finding funding opportunities, proposal development, costing and pricing, submission, project management, reporting, and audit), many UK RMAs have a broader remit including activities such as research governance, open research, research student support, research ethics, research integrity, research culture, research information systems, research assessment, research policy, research strategy, the list is almost

[7] https://www.cpni.gov.uk/trusted-research
[8] https://www.ukri.org/wp-content/uploads/2021/12/RE-021221-EnhancingResearchCultureCircularLetter20212022.pdf

endless – anything and everything to do with supporting research. Many of these areas are dynamic in term of policy and require professionals to understand the nuances to ensure that research grows and runs smoothly. The accompanying growth in regulation has undoubtedly played a role in the development of the cohort of RMA professionals in the UK.

ARMA can perhaps claim to be the predominant professional association for RMAs in the UK, it is however not the only one. The UK research and innovation sector is also served by another strong association, PraxisAuril (https://www.praxisauril.org.uk/) which serves the interests of those professionals who support innovation and knowledge exchange. PraxisAuril is the result of a merger of PraxisUnico (itself the result of a 2009 merger of Praxis, a training company, and Unico, the University Company organisation) and AURIL (the Association for University Research and Industry Links) in 2017. There is of course some overlap in the membership of these two main associations. There are also other less formal groupings which for whatever reason do not find their home within ARMA or PraxisAuril; one example of which is PRISM (https://www.pris-managers.ac.uk/) for Professional Research Investment & Strategy Managers, which in some ways has formed for the same reasons that ARMA itself came into being as **RAG***net*, a group of professionals with a niche interest not feeling understood or served by the larger associations. Conversely, with a wider, more general administrative focus there is the Association of University Administrators (AUA, https://aua.ac.uk/) for those with interests in higher education support wider than just the RMA arena, however, many, if not most, RMAs find their professional home within ARMA.

As an association, ARMA now has around 3,000 members, and in a recent report (King et al., 2020) it was estimated that were approximately 4,700 full-time equivalent RMAs in UK university research offices and departments. Office sizes typically range from 12 to 80 staff, with many of the more research-intensive institutions also having a significant devolved RMA resource. In terms of salaries, few RMAs earn less than £25k per annum, or more than £60k per annum, with those working in the areas of research business development and research strategy more likely to be earning at the top end, and those in research operations more likely to be at the bottom end of the salary spectrum.

UK RMA Demographics

Both of the first two international Research Administration as a Profession (RAAAP) surveys elicited high responses levels from UK RMAs with 453 from RAAAP-1 (Kerridge & Scott, 2018a) in 2016 and 525 from RAAAP-2 (Kerridge, Ajai-Ajagbe, et al., 2022) in 2019. The most recent, RAAAP-3 survey in 2022 continued that trend with 476 UK-based respondents (those selecting *UK* as ***CountryOfEmployment*** – see Kerridge, Dutta, et al., 2022) and the following analyses are extracted from there. Note that variables from the data set are in ***emphasised italics***, variable value options are in *italics*, and question text is in '*quoted italics*' (Fischer et al., 2022).

Gender

In terms of gender identity (***GenderExtended***), in 2022, 83.4% (of $n = 470$) of UK RMAs are *Female*, which is a common feature of the profession around the world (see Oliveira et al., 2023, Chapter 2.2). If anything this propensity is increasing from the 79.2% (of $n = 451$) reported from the first RAAAP survey six years prior (Kerridge & Scott, 2018a).

Academic Qualification Level

The RAAAP-3 data show that 42.4% (of $n = 476$) of UK RMAs hold *Doctorate*s, with a further 27.7% having *Master's* level degrees; so nearly three quarters have academic postgraduate qualifications. The overall attainment has increased since the RAAAP-1 figures of 22.7% (of $n = 453$) and 35.5%, respectively, for *Doctorate* and *Master's* level qualifications; so around two-thirds had postgraduate qualifications. For the most recent survey, the qualifications gained while being an RMA were also recorded, with 14.7% (of $n = 476$) gaining *Doctorate*s and a further 14.7% gaining *Master's* degrees. Not only does the profession attract individuals with high levels of academic attainment, over a quarter of all UK RMA survey respondents gained a higher degree during their career.

This high level of qualification can be partially explained by one of the reasons for joining the profession '*I was previously an academic/researcher and moved into research administration*' for which (combining the top two responses on a 5-point Likert-type scale) 37.7% (of $n = 453$). However, clearly, there are other routes into the profession (see, e.g., Dutta et al., 2023, Chapter 2.3).

Professional Accreditation

In the UK, the main professional association (ARMA, 2011) has developed a certification for RMAs based on their PDF. The certificates are accredited by ATHE[9] and mapped onto the European Qualification Framework (EQF[10]). Originally there were three levels of certification, CRA, CRM and the more senior CLRM. Following a recent consolidation and rebranding there are now just two awards, the CRM (Foundation) and the CRM (Advanced) the latter being the equivalent of the original CRM. Over the 10 or so years that the programmes have been running there have been over 100 graduates and a further 100 or so studying – the courses take a minimum of 18 months to complete. There have also been funder-specific variants of the original CRM. The ARMA certification programme has also been franchised to the European (EARMA) and Canadian (CARA) associations, although the latter has now developed their own certification – see Chapter 2.7, Ritchie et al. (2023) for further details.

In 2022, the RAAAP-3 survey showed that 12.4% (of $n = 476$) UK RMAs held a professional certification (*AnyCRA*), as compared to 9.5% (of $n = 453$) in 2016. It can be expected that this number will continue to grow as the certifications become more recognised and perhaps even required for certain positions.

Overall in the UK, 83.3% (of $n = 467$ who also selected a ***CurrentRoleLevelR3***) identify (***GenderExtended***) as *Female*. But there are differences when looking at Role Level (see Fig. 5.40.2), with none of those in Assisting (0.0% of $n = 19$) roles identifying as male, but increasing proportions of males in Operational (16.2% of $n = 117$) and Managerial (18.6% of $n = 237$) roles. However, this proportion then drops for Leadership roles to only 11.1% (of 90); there is little evidence of a glass ceiling for women RMAs in the UK, contrary to the global findings from the 2016 survey (Kerridge & Scott, 2018a).

Overall in the UK 42.3% (of $n = 469$) who also selected a ***CurrentRoleLevelR3*** in the range *Assisting.Leader*) have (***HighestQualification***) a *Doctorate*. There are

[9] Awards for Training and Higher Education: https://athe.co.uk/.
[10] European Qualifications Framework: https://europa.eu/europass/en/description-eight-eqf-levels.

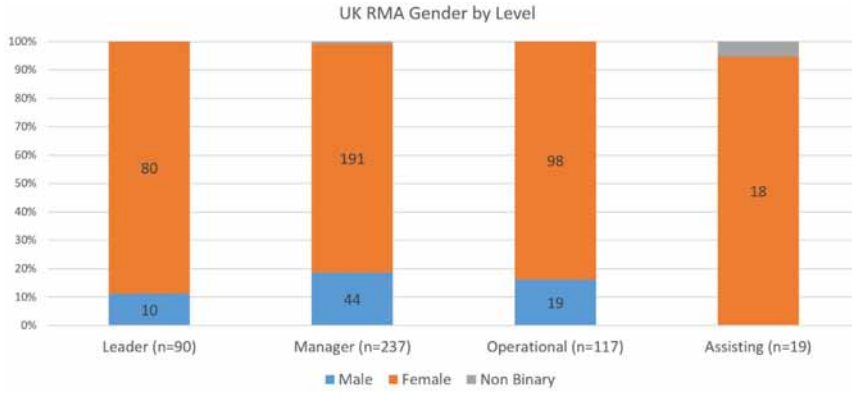

Fig. 5.40.2. UK RMA Gender Identity by Role Level.

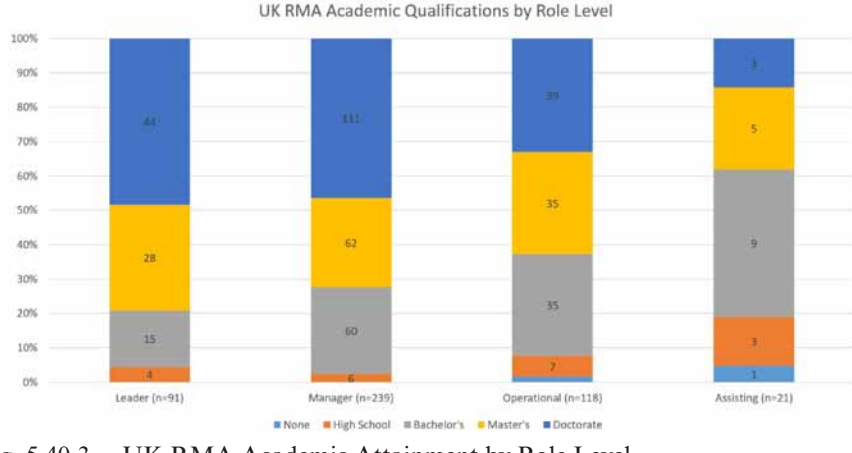

Fig. 5.40.3. UK RMA Academic Attainment by Role Level.

differences when looking at role level (see Fig. 5.40.3), with the propensity for doctorates to increase as the role level increases: *Assisting* 14.3% (of $n = 21$), *Operational* 33.1% (of $n = 118$), *Managerial* 46.8% (of $n = 239$), to *Leader*s 48.4% (of $n = 91$). The proportions with master's degrees are much closer ranging from 23.8% for those in *Assisting* roles to 30.8% for those in *Leader*ship roles. Overall 70.0% of UK RMAs have a postgraduate qualification, with almost 4/5ths (78.1%) in leadership roles having a master's or doctoral degree. Conversely, there are 4.4% of Leaders who do not hold a degree level qualification, indicating that while academic attainment is seen as being important it is not a hard requirement for progression in the profession.

The situation for professional certification is less clear, with 19.0% (of $n = 21$) of those in *Assisting* roles having a certification, as compared to 9.3% (of 118) of *Operational* staff, 13.0% (of $n = 239$) of *Manager*ial staff, and 12.1% (of $n = 91$) of RMA *Leader*s. It should however be noted that as the UK professional qualifications have only been available for just over 10 years, those in more senior positions now would not have been able to undertake a CRM while in a more junior position. It would be interesting to track the uptake of professional RMA qualifications in the UK over a longer time period.

The Future of RMA in the UK

The ARMA enjoys a strong position in the UK, with membership stretching into the thousands and almost all RPOs having RMAs who are involved. The association and hence its members has good ties with the funding bodies and is regularly consulted by them on matters such as research efficiency and policy, and this seems likely to continue and perhaps even intensify. With the UK having recently left the European Union there were doubts over the continued importance of the European Commission's Framework Funding Programmes in the UK, but in September 2023 an agreement was made to associate the UK to Horizon Europe from January 2024 (European Commission, 2023b). In addition, there are the possibilities of new funding sources, for example, the new Advanced Research and Invention Agency (ARIA[11]) and in particular 'Plan B' (BEIS, 2022). With the support for open research still being strong, continuing focus on the societal and economic impact of research, more emphasis being put on the responsible conduct of research, and research culture, all in the context of growing international collaboration, there are real opportunities for UK RMAs to make a difference.

As a founding member of INORMS, the UK also very much has an outward looking aspect and those wider international networks are likely to be even more important with the continued internationalisation of research, driven by global funding initiatives such as those addressing the United Nation's Strategic Development Goals (UN SDGs). RMA must also globalise, to best support research, and the UK is well-positioned to play a leading role.

Summary

In this chapter, we have seen that RMA in the UK has a history really only stretching back around 30 years. Nevertheless, in some respects, it can be considered to be a profession – or perhaps more formally, according to the definitions of Etzioni (1969), a semi-profession. Certification is available at various levels, and support for RMAs in the UK is mature, however, recognition for and visibility of the profession still need to be increased. With the increasing importance of research culture and related initiatives, RMAs can play a key role not only in the development of their own profession but also in research support and the research environment more generally.

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References

ARMA. (2011). *A professional development framework for research managers and administrators*. Retrieved November 26, 2022, from https://arma.ac.uk/wp-content/uploads/2018/08/PDF-Final.pdf

[11] https://www.aria.org.uk/

Department for Business, Energy & Industrial Strategy. (2021). *R&D people and culture strategy*. Retrieved November 26, 2022, from https://www.gov.uk/government/publications/research-and-development-rd-people-and-culture-strategy

Department for Business, Energy & Industrial Strategy. (2022, July). *Supporting UK R&D and collaborative research beyond European programmes*. Retrieved November 26, 2022, from https://www.gov.uk/government/publications/supporting-uk-rd-and-collaborative-research-beyond-european-programmes/supporting-uk-rd-and-collaborative-research-beyond-european-programmes

Dutta, M., Oliveira, C. I., Fischer, M., & Kerridge, S. (2023). Routes into research management and administration. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 125–140). Emerald Publishing.

Etzioni, A. (Ed.). (1969). *The semi-professions and their organization. Teachers, nurses, social workers.* Free Press.

European Commission. (2023b, September 7). *Questions and answers on the UK's Association to Horizon Europe and Copernicus*. https://ec.europa.eu/commission/presscorner/detail/en/qanda_23_4373

Fischer, M., Kerridge, S., Oliveira, C. I., & Dutta, M. (2022). *RAAAP-3 HIBARMA questionnaire (Version 3)*. figshare. https://doi.org/10.6084/m9.figshare.20459370.v3

Kerridge, S., Ajai-Ajagbe, P., Kiel, C., Shambrook, J., & Wakefield, B. (2022). *RAAAP-2 datasets (17 linked datasets)*. figshare. https://doi.org/10.6084/m9.figshare.18972935.v1

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Kerridge, S., & Scott, S. F. (2018a). Research administration around the world. *Research Management Review*, *23*(1), 34.

King, D., Fosci, M., Loffreda, L., Gibson, C., & Johnson, R. (2020). *ARMA Research Office Survey 2020: Benchmarking UK Institutional Research Offices* (Version 1). Zenodo. https://doi.org/10.5281/zenodo.3935851

Kulakowski, E. (2023). The establishment and history of the international network of research management societies. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 83–95). Emerald Publishing.

Office for National Statistics. (2022, November 22). *Gross domestic expenditure on research and development, UK: 2020.* ONS Website, Statistical Bulletin. Retrieved November 26, 2022, from https://www.ons.gov.uk/economy/governmentpublicsectorandtaxes/researchanddevelopmentexpenditure/bulletins/ukgrossdomesticexpenditureonresearchanddevelopment/2020

Oliveira, C. I., Fischer, M., Kerridge, S., & Dutta, M. (2023). The research administration as a profession survey. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 113–123). Emerald Publishing.

Ritchie, J., Lythgoe, E., & Donovan, D. (2023). RMA education, training and professional development in North America and Europe. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 177–186). Emerald Publishing.

Tickell, A. (2016). *Open access to research publications*. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/499455/ind-16-3-open-access-report.pdf

UKRI. (2020). *Concordat to support the career development of researchers – UKRI Funder Action Plan*. https://www.ukri.org/wp-content/uploads/2020/10/UKRI-071020-ConcordatToSupportTheCareerDevelopmentOfResearchersFunderActionPlan.pdf

Universities UK. (2019). *The concordat to support research integrity*. https://www.universitiesuk.ac.uk/sites/default/files/field/downloads/2021-08/Updated%20FINAL-the-concordat-to-support-research-integrity.pdf. ISBN: 978-1-84036-436-1.

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Middle East

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Chapter 5.41

Research Management and Administration in Qatar

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Abstract

This chapter describes the research ecosystem's development in Qatar from 2006 until the present day, a brief history of this development, and future development plans. The information provided is a snapshot of the entire research administration enterprise in the country and estimates the current number of employed research management and administration (RMAs). It also presents the challenges and the pivotal role of the RMAs can play in achieving the country's strategic objective, which could increase the number and the professionalisation of RMAs in Qatar. Some recommendations highlighted here include specialising RMAs in the field of the human subject and animal research protection, research compliance, intellectual property, and commercialisation.

Keywords: Qatar; QRDI; QNRF; RMAs; Research Office; CRA; CIP

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Research Ecosystem

The history of Qatar's research ecosystem development started with the country's leadership vision back in the years 2000–2003.[1] At the time, the leadership administration assessed the value of Research and Development (R&D) in contributing to a knowledge-based economy. The administration at the time identified a need to transform Qatar not only to be independent of resources such as oil and gas but to have additional means in order to continue the path of progression for the country (Qatar Research, Development and Innovation (QRDI) Council, 2020).

Over the past five decades, the country's economic ascent has led to a fundamental transformation from a traditional pre-oil society, with an economy based on pearl diving, to a modern and wealthy cosmopolitan nation, with a unique multinational demographic composition, social institutions, and a modern educational system. More specifically, since the 1940s, Qatar has gone through a series of milestone changes during the 1970s and 1980s, recently leading to a clear emphasis on the need to transition to a knowledge-based society, as is outlined in the Qatar National Vision 2030. A conference in 2006, under the patronage of Sheikha Moza Bint Nasser Al Misnad, the wife of Sheikh Hamad bin Khalifa Al Thani,[2] resulted in recommendations to establish research institutes in areas of priority to the country and set up an entity that would provide the means for conducting research, namely funding. This resulted in what is now the Qatar National Research Fund (QNRF[3]), the sole national research funding agency. The development of the research ecosystem in Qatar has gone through three phases. The first phase started in 2006 and was characterised by country capacity building. The agency provided seed funds for undergraduate students to have a hands-on learning experience with a faculty mentor. At the time, there was no infrastructure for R&D, and there was no human capacity to conduct research, governance, or policies to govern research at large.

The first five years, 2006–2011 (also known as phase one), were dedicated to creating a research culture inside Qatar, including creating related policies and procedures, attaining visibility, building local capacity and capability, and raising awareness about the importance of research in society. Phase one included the establishment of two major grant programs in 2006, the National Priorities Research Program (NPRP) and the Undergraduate Research Experience Program (UREP)[4] (Greenfield et al., 2008).

The second phase started in 2011, and at the beginning of 2012, the government examined the country's priorities. The different pillars and areas of focus identified in this extensive domain of science became known as the Qatar National Research Strategy (QNRS),[5] an initiative launched in 2012 to promote excellence and innovation in research to achieve the country's broader vision for economic, human, social, and environmental development. As a result, the funding portfolio changed to cater to

[1] Qatar's political structure consists of a semi-constitutional monarchy with the Emir as the leader of the country. The Emir appoints a Prime Minister as the head of government as well as the cabinet, the chief executive body of Qatar.
[2] Sheikha Moza Bint Nasser Al Misnad is the consort of Hamad bin Khalifa Al-Thani, the ruling Emir of Qatar from 1995 to 2013. She has aided in the country's health care and education reforms. Notably, she co-founded the Qatar Foundation for Education, Science, and Community Development in 1995 and continues to chair the organisation to this day.
[3] https://www.qnrf.org/en-us/
[4] https://en.wikipedia.org/wiki/Qatar_National_Research_Fund
[5] https://www.qnrf.org/en-us/About-Us/QNRS

those areas, primarily mission-driven calls, without dismissing the capacity-building aspect that the country still required.

Six years later, in 2018 (Phase 3), the QRDI Council[6] was established with the first mandate to develop a national R&D strategy. With the RDI ecosystem focusing on engagement and collaborations among key stakeholders, the Qatar Research, Development and Innovation Strategy 2030 (QRDI 2030) now marks a transformational strategy for a dynamic and combined national RDI ecosystem in the next decade. It addresses energy, health, resource sustainability, society, and digital technology as key national priorities for Qatar's transition to a knowledge economy. QNRF remains the sole national funding agency in the country.

Current RMA Community in Qatar

Since its launch, the QNRF has been establishing the necessary guides and policies to register Research Offices (ROs) of the submitting institutions inside Qatar. A related QNRF strategy was launching its first program, the UREP, to build undergraduate student capacity, which aligns with the QNRS. Qatar University (QU), the only government-funded university in the country; and Virginia Commonwealth University, the first international branch campus to be established in Education City were among the first applicants to apply to these programs.

QNRF discovered that there needed to be rules set for some institutions to follow in the management of research funds. Therefore, the agency established a funding management agreement and required all institutions receiving funds to adhere to these requirements. This meant that the need for dedicated research officers was critical. The authorised RO representative is the person who ensures compliance, vets proposals, and manages the post-award process of the proposals.

American branch institutions like VCUarts Qatar, Cornell School of Medicine-Qatar, Texas A&M-Qatar, Georgetown University, Northwestern University, and Carnegie Mellon University in Qatar are coming with their legacy from the United States. These universities built their research administration structure based on existing structures and know-how established by their home campuses. However, local institutions like QU and the Community College of Qatar have not had a research support office and so have had to build up their research administration offices, including systems structures and policies by adopting the dominant American models and through training in order to comply with QNRF's requirements. This reliance on borrowing North American models has led to a more limited homegrown research culture, though there have been informal discussions about adapting to the local context.[7] For these institutions and other national higher institutions to develop, contribute, and sustain a research culture in Qatar and the region, an effective, culturally contextualised and localised system that promotes research undertaking is required. The value of a research culture developed and embedded within the local environment lies in its ability to promote and implement contextualised evidence-based policies and practices. This may include research priorities that are of immediate relevance to Qatar's needs, including issues related to health, pollution, national capacity building, cyber security, and education, for instance.

In the absence of such a culture, institutions need more relevant resources to make pertinent research-related decisions and policy interventions.

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[6] https://qrdi.org.qa/en-us/

[7] This information is derived from anecdotal evidence.

Current Number of Institutions Supported by QNRF in Qatar

QNRF has provided support to around 400 entities, either as collaborative institutions or submitting institutions. Currently, QNRF has 32 approved ROs in Qatar,[8] which come from different institution types (academic, public, private, and other [QF, NGOs, and private for public]) (Fig. 5.41.1) (QNRF, 2022).

It should be noted that only institutions inside Qatar with approved ROs are eligible to apply for QNRF funding and submit proposals.[9] This means that only Qatar-based institutions can submit proposals for research funding, while other institutions outside Qatar are still able to collaborate with them. This enables research capacity to be built within Qatar and ensures that findings remain within the country.

Most organisations applying for funding from the QNRF are academic and consequently have the highest number of research administrators. QU, Community College of Qatar, the University of Doha for Science and Technology (formerly known as College of the North Atlantic – Qatar), and Hamad Bin Khalifa University account for 57% of these programs.[10]

Among the post-secondary institutions in Qatar, 10 are public organisations with 206 academic programs, 5 military centres with 19 academic programs, and eight Qatar Foundation-affiliated institutions with 69 academic programs.[11] The university student population is 1.54% of the total number of residents in Qatar.[12]

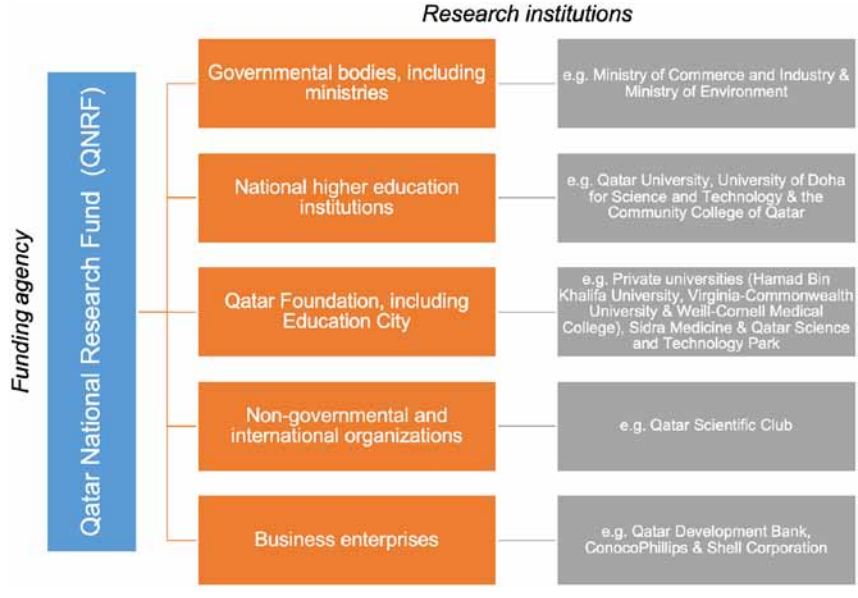

Fig. 5.41.1. Structure of the Research and Innovation system in Qatar. *Source*: Adapted from Greenfield et al. (2008), QNRF (n.d.), and QRDI Council (2020).

[8] https://www.qnrf.org/en-us/Collaboration/Approved-Research-Offices
[9] https://www.qnrf.org/en-us/Programs-Policy/RO-Registration-Policy
[10] https://mis.qgrants.org/Public/AwardSearch.aspx
[11] https://www.psa.gov.qa/en/statistics/Statistical%20Releases/Social/Education/2021/Education_Chapter_4_2021_AE.pdf
[12] https://www.psa.gov.qa/en/statistics1/StatisticsSite/Pages/Population.aspx

The Training/Outreach Venues That QNRF Offers to ROs and Other Researchers

The RO staff[13] at the respective schools and universities meet on occasion to discuss specific topics surrounding the QNRF's programs, mainly new funding requirements issued by the agency. QNRF does offer outreach and training venues for all the Research Officers registered with QNRF, through various mediums, including webinars, structured workshops, training for new Research Officers, and periodic meetings to discuss RO performance.

QNRF has initiatives to actively encourage commitment to QNRF policies in all phases of sponsored projects, support research production, and honour excelling researchers with distinguished, merit-based awards.

The QNRF-specific Online Performance Monitoring System (OPMS)[14] measures the performance of both the Research Officers and Investigators. The OPMS utilises a point-based scoring measurement for researchers. This scale measures how closely ROs act in accordance with reporting deadlines, and the RO screening processes produce specific research-based results, among many more. The points are collected on OPMS and are constantly updated. The OPMS indicators can be found on the main page of the QNRF Online Submission System.[15] Performance scores can be found on the QNRF Online Submission System progress reporting and QNRF Research Outcome Centre.[16]

For research investigators, OPMS performance will affect funding and resumption of ongoing research projects. Moreover, the OPMS performance will also impact the investigators' eligibility for 'renewal' and 'continued' applications.

In terms of ROs, the final cumulative scores are determined by the total 'active' projects that are going on in a specific award year. This is done to be sure that all ROs are evaluated fairly as per their annual performance and given recognitions accordingly. All ROs then receive their total score points during ROs periodic meetings.

The aim of the Best Research Office Award is to encourage RO excellence in meeting deadlines and following rules and regulations in all pre- and post-funding stages. QNRF acknowledges the best RO based on the above-indicated RO performance monitoring system during the QNRF forums.

In Qatar, there are no professional associations for RMAs. Some research officers are members of SRAI and/or NCURA and attend their conferences and workshops, but it is determined by individual choice and dependent on their supervisor's approval. There are currently 9 SRAI members from Qatar, with approximately 53 in the region (specifically Pakistan, UAE, and Saudi Arabia). Meanwhile, there are 6 members from Qatar in NCURA.[17] As the largest public university in Qatar, QU occasionally invites all RMA staff in Qatar to NCURA's travelling workshop held at their institution.

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[13] Research Office staff provides administrative support for the research activities and programs. They have a variety of functions such as overseeing proposal development, pre-award support and post-award management, research operations support, and ensure regulatory compliance.

[14] https://www.qnrf.org/en-us/Programs-Policy/Performance-Monitoring-System-PMS

[15] https://oss.qgrants.org/

[16] https://www.qnrf.org/en-us/Programs-Policy/Performance-Monitoring-System-PMS

[17] These numbers are directly from SRAI and NCURA direct communication via email.

Data

RMAs are in charge of a wide range of duties associated with research activities and project progress. This includes managing project funding, budgets and financial records, organising research materials, and ensuring that project activities adhere to ethical standards and regulations.

Data on ROs for the 32 approved entities in Qatar is not aggregated in numbers, ranking, and status. Four organisations tend to have more than five staff members, whereas the smaller ones have one to two staff members. A search by the author on the QNRF website[18] examining awarded institutions has revealed that the types of actively engaged research organisations are private universities (7), which include branch campuses, which are extensions of foreign affiliate institutions established in a geographic location abroad. The home university keeps full autonomy in running the satellite campus. Branch campuses offer a limited number of specialised academic or professional degree programs, as in the case of Qatar's Education City; medical institutions (2), government institutions (2), for example, the Ministry of Education of Qatar, private organisations (2), non-profit organisation (1), and private universities (2) (Fig. 5.41.1). Following this data, it is estimated that approximately 16 ROs of the 32 registered ROs are actively engaged across the research ecosystem in Qatar (QNRF, 2022).

According to data from a survey[19] conducted across 66 countries, only 3 RMAs in Qatar completed the RAAAP survey, all of which were female (Kerridge, Dutta, et al., 2022).[20] Compared to the rest of the Gulf region, Qatar has the highest number of RMAs completing the survey, with 1 male RMA in the Kingdom of Saudi Arabia and 1 male RMA in the United Arab Emirates.[21] Even then, however, there is little RMA demographic data that can be provided. More broadly, a report by the Planning and Statistics Authority (2020)[22] in Qatar identified 5,111 R&D personnel in the country, which includes researchers, technicians, supporting staff, doctoral students, and postdoctoral fellows.

The Case of Qatar University (QU)

QU, one of the oldest and largest universities in Qatar, has the country's highest number of research centres (17) and research administration staff. The university was established as the first national institution of higher education in the country at the time. Today, it is the largest public university in the country, offering various undergraduate and graduate programs to 19,738 registered students in 2018. Besides the Foundation Program, QU presently comprises ten colleges colleges: The College of Arts and Sciences, the College of Business and Economics, the College of Education, the College of Engineering, the College of Health Sciences, the College of Law, the College of Medicine, the College of Pharmacy, the College of Dental Medicine, and the College of Sharia and Islamic Studies.

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[18] https://mis.qgrants.org/Public/AwardSearch.aspx

[19] RAAAP survey was conducted to understand the demographics of RMA in different countries. https://bit.ly/raaap

[20] Given the lack of government data on RMAs in Qatar, it should be noted that the number of personnel cited here is solely a reflection of the minimal available survey data.

[21] There is no data provided for the other Gulf countries: Bahrain, Kuwait, and Oman.

[22] https://www.psa.gov.qa/en/statistics/Statistical%20Releases/Social/RAndD/2018/Infographic_research_development_2018_En.pdf

Its research pillars and priorities focus on areas of national interest to address the state's needs for the country's development.

The Qatar University Research Complex houses six of the university's research centres. The Complex houses a collection of top-tier national and international scientists working on various topics.

QU's Office of Research Support functions as a central liaison between faculty and research funding. The Office supports faculty and researchers in planning, developing and submitting research proposals, as well as assisting them in finding funding. The office works with agencies, local industries, national organisations, and global collaborators. In addition, the office overlooks all types of internal grants such as Qatar University Collaborative Grants, Qatar University High Impact Grants, Concept Development Grants, Student Grants, and External Grants. It joins QU departments, including HR, Procurement, and Finance to manage research projects properly. It also ensures strict compliance with rules, regulations, and policies of funding organisations and QU.

The office has 15 staff members with Bachelor's and Master's degrees. The office director is a male faculty member with a PhD in Computer Science. In terms of gender, there are 3 male and 12 female research administrators. Out of the 15 staff members, 10 are Qatari citizens: 9 are female and 1 is male. This is consistent with other ROs, both locally and internationally, where females mainly undertake research administrator roles (Kerridge & Scott, 2018a).

Overall, QU is the largest organisation, employing 15 research administrators. The smallest organisation tends to have one to three staff members in their ROs. They have diverse academic backgrounds, and, given that Qatar's population consists mainly of an expatriate community, one finds that most individuals working as RMAs in the country are expatriates[23] except QU, where Qatari citizens are the majority.

Future Directions

The QRDI plans for the future to include establishing governing policies for ethical regulations and compliance, as well as a push for more innovative research that could increase intellectual property outcomes. This will influence the direction of RMAs requiring more specialists in the domains of research administration and award management.

Since 2019 the country has centralised some research compliance standards, such as the Ministry of Public Health's regulations on protecting human and animal subjects and creating institutional committees in these areas.[24] To ensure that research complies with Qatar's laws and regulations and to avoid fraud and waste and abuse of public funds, Qatar will need to introduce additional regulations to govern research misconduct, financial disclosure, and effort reporting.

It is estimated that in the country, there are approximately seven or eight Certified IRB Professional (CIP)[25] trained RMAs who oversee the ethical requirement for research with human subjects. With the increasing number of higher education universities and graduate programs in Qatar, the need for more Certified professionals

[23] Usually, there are people with PhD leading these offices either in Director or Associate Deans of Research roles. Only a few are CRA certified, and one has a Master's in Research Administration (from Johns Hopkins University).

[24] https://www.moph.gov.qa/english/derpartments/policyaffairs/healthresearchgoverance/Pages/default.aspx

[25] https://primr.org/cip

becomes evident. Moreover, the need for increased reviews of IRB protocols is also obvious. We already see delays in studies with human subject research caused by a lack of sufficient IRB boards in the country. A requirement to establish an IRB board is to have staff who have a CIP certification. Getting the CIP credential not only promotes ethical conduct of research with human subjects but also validates the knowledge and competency of staff in administering IRB activities.

In addition, as part of the RDI strategy to focus investment in RDI and technology transfer, there is an apparent need for intellectual property and commercialisation expertise. This is an opportunity for RMAs to specialise in this field in order to lead the commercialisation of research outputs. Moreover, there is a challenge for RDI institutions and individuals to build long-term plans for RDI and maintain the continuity of activities as there is no long-term systematic planning mechanism for government funding expressly for RDI activities. Long-term government RDI investment that is sustained could further develop the research ecosystem and enable the achievement of the country's strategic objective with a resultant increase in the number and professionalisation of RMAs in Qatar. At present, there are no plans to establish a Qatari RMA.

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References

Bibbo, B. (2006). Conference of expat Arab scientists begins today. *Gulf News*, April 24. https://gulfnews.com/world/gulf/qatar/conferece-of-expat-arab-scientists-begins-today-1.234144

Greenfield, V. A., Knopman, D., Talley, E., Bloom, G., Balkovich, E., Peterson, D. J., Bartis, J. T., Rattien, S., Rettig, R., Wang, M. Y. D., Mattock, M., Najjar, J., & Libicki, M. C. (2008). *Design of the Qatar National Research Fund: An overview of the study approach and key recommendations*. RAND Corporation. https://www.rand.org/content/dam/rand/pubs/technical_reports/2008/RAND_TR209.sum.pdf

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Kerridge, S., & Scott, S. F. (2018a). Research administration around the world. *Research Management Review*, *23*(1), 1–34.

Ministry of Education Qatar. (n.d.). *Higher education in Qatar*. Retrieved September 20, 2022, from https://www.edu.gov.qa/en/Pages/higheredudefault.aspx?ItemID=58

Planning and Statistics Authority. (2020). *Findings of Research & Development Survey in the state of Qatar 2018.* https://www.psa.gov.qa/en/statistics/Statistical%20Releases/Social/RAndD/2018/RD_Qatar_2018_En.pdf

Qatar National Research Fund. (n.d.). *Qatar research institutions*. https://www.qnrf.org/en-us/Funding/Collaboration/Qatar-Research-Institutions

Qatar National Research Fund. (2022, May). *Report in response to the request on Research administrators in Qatar [Google Slides]*. Qatar National Research Fund.

Qatar Research, Development and Innovation (QRDI) Council. (2020). *Qatar Research, Development and Innovation 2030 Strategy*. https://qrdi.org.qa/en-us/#QRDI2030

Chapter 5.42

Research Management and Administration in Saudi Arabia: Transitioning From an Oil to a Knowledge-based Economy

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Abstract

Like several of its neighbouring countries, the Kingdom of Saudi Arabia (KSA) has seen a move away from an oil-based economy towards a knowledge-based economy in recent decades. Research productivity in the Kingdom is increasing quickly along with international collaborations. Nonetheless, postgraduate research at universities in KSA is a relatively young domain, which certainly is a core factor in the evolving research management structures in the country.

Going forward, increased openness in research, along with continuing significant investment into higher education and research both by the government and the strong private sector points to a need for refined research governance and policy frameworks with designated expert research management staff developing and facilitating the underlying processes to enable Saudi institutions to engage at the forefront of academic research.

Keywords: Kingdom of Saudi Arabia; middle east; international collaboration; research management and administration; professionalisation; knowledge-based economy

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Research Ecosystem

The Arab world has a long tradition of scientific research and is known for many of its early scholars, such as Musa al-Khwarizmi (c.780–850) who is widely seen as the Father of Algebra (Ashfaque, 2017). The first Islamic university was founded by Fatima al-Fihri in 859, the University of al-Qarawiyyin in Fez, Morocco (Fejzic-Cengic, 2020). For most of the last century, however, scientific innovation and knowledge production has been dominated by science superpowers in the USA and Europe (Adams, 2012; Altbach & de Wit, 2015).

The KSA is the second largest country in the Arab world, formed in 1932. Since its formation, it has quickly gained wealth and influence, largely due to its significant oil resources, and is now the largest economy in the Arab world. However, the first university in Saudi Arabia, King Saud University (KSU) in Riyadh, was not inaugurated until 1957, followed in 1967 by King Abdulaziz University (KAU) in Jeddah (Al-Eisa & Smith, 2013). Both institutions have long focused on undergraduate teaching (Alhuthali & Sayed, 2022). The number of universities has since increased, most significantly in the last two decades, counting now close to 40 institutions (Abouammoh, 2018). The development of higher education has become a priority, recognising its importance for socioeconomic development, knowledge production, and sustainability (Abouammoh, 2018). This is also reflected in the Saudi Vision 2030 that focuses on the country's post-petroleum future (Saudi Vision 2030, n.d.). What is notable here is not only a move towards renewable energies to reduce dependency on fossil fuels but also the aim to diversify its economy. Education and research and development are seen as an important pillar in this endeavour through enabling a knowledge economy in KSA. Talent development and knowledge transfer both feature strongly in the strategy document. Both factors are well recognised as important for knowledge-based systems, contributing to a conducive research environment that enables both foundational and applied research that is seen to be most innovative when conducted bottom-up rather than driven by external priorities (Flesia, 2013).

Expenditure for higher education tripled in the years 2008–2013 and rose to US$160 billion per annum in 2013 (Al Ankari, 2013). The King Abdullah Scholarship Program (KASP) started in 2005, sending promising young students abroad for education. While this undoubtedly increased the number of postgraduate degree holders in the country, it also came with the usual caveat of brain-drain due to students staying abroad in the host countries aiming to establish an international career. Those who returned to their country often did so without gaining prior research experience (Alhuthali & Sayed, 2022; Alsuhaibani et al., 2018).

It was not until 2007 that the first postgraduate research university, King Abdullah University of Science and Technology (KAUST), was established with a large endowment directly from the then King Abdullah bin Abdulaziz Al Saud (Al-Ohali & Burdon, 2013). Core objectives were to build a knowledge base within the country with a strong focus on a post-oil economy, generation of technologies relevant to the region, and the establishment of a new generation of local researchers to counteract the brain-drain caused by students not returning from abroad. Not least, this was done with a firm intention to enter the esteemed circle of so-called world-class universities within a decade (Shattock, 2017). While this might have been overambitious, KAUST has climbed the global research rankings quickly, featuring sixth globally and first in the Middle East and North Africa in the Nature Index 2021 of 175 young universities globally ranked by article share (Nature Index, 2021).

Recent ambitious initiatives such as the newly created city, NEOM,[1] near the border to Jordan, is laying the foundation to a new university (NEOM U) and creating an education, research and innovation hub; these offer an insight into the importance given to higher education and research excellence in the Kingdom. NEOM U recently announced the appointment of its inaugural president, Professor Andreas Cangellaris from the University of Illinois Urbana-Champaign (USA), to realise the country's vision to transform Saudi Arabia's education sector 'by creating a nexus of innovation and knowledge that will attract students from all over the Kingdom and the world' (NEOM, 2022). NEOM U is expected to build on KAUST's model and is, by some, already predicted to become the new Flagship University of the Kingdom if it manages to address challenges around free speech and gender (Lem, 2022). NEOM will establish its own governance structures that will supposedly be largely independent from KSA. NEOM aims to create an open environment that enables collaboration and reduces trade or research barriers, while adhering to the highest international standards. However, it also means that NEOM U, even more so than KAUST over a decade ago, is setting out on its journey without an established set of policy or governance frameworks and will have difficult decisions to make before it can even start its operations. Globally, many will measure it against its adherence to international values and standards. NEOM U's success will depend on how well its founders manage to embrace innovation, learn from best practice in the sector, while anchoring NEOM U in its own cultural heritage.

Since the mid-2000s, the KSA has been actively encouraging and funding research productivity at universities creating Centres of Research Excellence and technology incubators (Al-Ohali & Shin, 2013). The technology incubators indicate a strong focus on economic development and industry collaboration in an environment strongly depending on its oil resources and its supply chain. Public universities largely receive institution-based research funding that they then allocate to their researchers. In recent years, this has been complemented by private, often industry-sponsored endowments such as Research Chairs (Al-Eisa & Smith, 2013). King Abdulaziz City for Science and Technology (KACST)[2] has acted as a grant-giving body under the National Science Technology and Innovation Plan (NSTIP)[3] which ran until 2015, envisaged to be a similar entity to the US National Science Foundation (NSF).[4] The economic downturn due to the plunge in oil prices over the last decade has contributed to a reduction in these funding sources. The focus on research and innovation nonetheless remains strong, as the 2021 funded cross-ministerial Research, Development and Innovation Authority (RSIA)[5] indicates. The announcement of a new strategy for research and development has been envisaged in November 2022 (Arab News, 2022).

International co-authorship is a common measure for the globalisation of research. Co-authorship data based on the Thomson Reuters database indicates a significant increase in international collaborations of Saudi institutions between 1970 and 2010, often based on long-term partnerships with overseas institutions (Al-Ohali & Shin, 2013). Not infrequently, these are funded by their Saudi partners that often involve the Saudi oil company Aramco or other large industry partners. This aligns with the

[1]https://www.neom.com/en-us/about
[2]https://kacst.gov.sa/
[3]https://npst.ksu.edu.sa/sites/npst.ksu.edu.sa/files/imce_images/Governing%20Rules%20Part-I%20%28English%29.pdf
[4]https://www.nsf.gov/
[5]https://rdia.gov.sa/index.en.html#home

strong emphasis on industry collaborations with a focus on technological advances. Notable expertise demonstrated through publications is also visible in the medical field, where institutions such as the King Faisal Specialist Hospital and Research Centre (KFSH) feature in publications data (Ul Haq et al., 2020).

Looking at research productivity, recent publication patterns indicate the increased influence of Saudi Arabian researchers in international research networks (Gui et al., 2019). In an overarching trend moving away from the USA and Anglo-centric publication profiles, Saudi Arabia features as one of the emerging independent nodes engaging in both regional and global networks (Gui et al., 2019). Top Saudi collaborators are China, followed by the USA, Germany, the UK, France, and South Korea (Nature Index, 2022). At the same time, Saudi researchers have strong collaborations with other Middle Eastern countries indicating strong networks between Arabic countries (Sarwar & Hassan, 2015). Overall publication numbers have increased from about 2,000 in the period of 1980–1984 to nearly 75,000 between 2000 and 2014, with top research producers being KSU, KAU, and King Fahd University of Petroleum and Minerals (KFUPM), followed by KFSH and KAUST (Shehatta & Mahmood, 2016). Of those, 35,000 are international collaborations. Since then, publication numbers have continued to rise, accounting for more than 85,000 for the period of 2015–2019 (Hu et al., 2020).

This substantial rise in publications has not happened by chance, but rather was initiated through increased awareness of the importance of global university rankings such as the Academic Ranking of World Universities (ARWU) and the QS World University Rankings in 2008 (Alhuthali & Sayed, 2022). Both put strong emphasis on publications and highly cited researchers. The latter aspect stimulated an increase in international faculty at local universities. However, few of those have established their main research base in the Kingdom. Notwithstanding some influx of international researchers, and with the exception of KAUST, higher education systems in the Kingdom have stayed relatively closed and opaque, demonstrating the challenge of striving to be a strong player in the global knowledge economy versus adhering to long-held societal values (Smith & Abouammoh, 2013).

Evolution of the Profession

The emergence of research managers and administrators (RMA) is often associated with an increase in external, project-based funding (Langley, 2012). In Saudi Arabia, this has been less of a driver than in many other regions and countries. First and foremost, as previously shown, where university research has emerged at universities, it has been largely funded through the Ministry of Education. There have been only a few national research grants given out by KACST and those required less administrative support than regular call schemes of other funders across the globe. Many collaborations with other institutions have not been supported by external funding but were rather self-funded by collaborators. The absence of large portfolios of external funding makes the need for research administration a less dominating factor than for many other institutions in the world.

Another factor is language. With a long tradition of teaching and publishing in Arabic, comparably low publication rates in international journals are often attributed to a lack of English language skills and limited experience in how research outputs for such journals are structured and written (Smith & Abouammoh, 2013). This not only affects the visibility of research conducted in the country but also academic rankings. With the exception of KAUST, the working language at universities in the

Kingdom is Arabic. Although the internationalisation of research and an increase in collaboration has certainly contributed to English becoming more prominent in the Kingdom's research environment, it is most likely that administrative support structures still largely operate in Arabic. This inevitably affects research management, particularly when it comes to contracting with international funders or research partners, but also more technical agreements such as material transfer agreements (MTAs) or non-disclosure agreements (NDAs) which are particularly relevant when working with industry.

While many universities globally have seen a rise in managerialism and are increasingly led by their administrations, Saudi universities are still operating on a largely academically driven and led basis since the Kingdom has yet to be affected by the increased commercialisation and massification of higher education. This also impacts on research management structures. While in many European or US institutions research management offices are strongly embedded in their administration, in other regions, such as Malaysia, the emerging research management structures often reflect a set-up where research management or support offices are headed up by senior academics of the institution, sometimes on a rotational basis, rather than managers or administrators (Kasim et al., 2021). Again, this is supported by the often limited English language skills of staff working in classical administration such as finance. This suggests that Arabic-speaking universities in the Kingdom might apply a similar approach.

Current Community

At this stage, only KAUST features an English-speaking research support structure and has RMAs who are engaging in research networks across the globe. This does not mean that research administration does not exist beyond KAUST. Rather, it reflects the unique set-up of KAUST as the only university that was set up outside the governance of the Ministry of Higher Education. It is the only solely English teaching university with a large community of expats, both on the academic as well as the administrative side of the institution. These bring with them not only expertise but also their existing contacts and networks which have contributed to the shaping of RMA structures and practices in the institution.

It is not possible to assess how far structures exist and knowledge exchange takes place between Arabic-speaking institutions and teams regarding research administration. It is clear, however, that any potential research administrators or managers have not been engaging in the sphere of international research management networks, nor are there indications of regional, Arabic-speaking networks dedicated to research support. The recent RAAAP-3 survey that captured active RMAs across the globe produced only one submission from KSA (Kerridge, Dutta, et al., 2022). It is well possible that a dualism of RMA structures exists with an English-speaking community at KAUST and, going forward, possibly at NEOM U, and Arabic-speaking community at all other institutions.

Demographics

The absence of visible RMAs or respective networks outside of KAUST does not mean that there is no awareness of challenges to research in higher education, as several recent publications of local scholars on aspects such as governance, research development, knowledge economy, or global rankings indicate (see, e.g., Abouammoh,

2018; Al Kuwaiti et al., 2019; Al-Ohali & Shin, 2013; Alhuthali & Sayed, 2022; Alshuwaikhat et al., 2016; Smith & Abouammoh, 2013). The Centre of Higher Education Research and Studies (CHERS) was established in Riyadh more than 20 years ago, in 2000, also acting as a think tank to promote higher education as a research discipline (Abouammoh, 2018). CHERS is supported by the Ministry of Education and draws on academics from Saudi universities. It has led to the establishment of bodies such as the National Commission for Academic Accreditation and Assessment (NCAAA) in higher education or the Saudi National Centre for Assessment in Higher Education (NCAHE) and has the responsibility to provide policy analysis on Saudi higher education and build the research environment to study higher education (Abouammoh, 2018).

On the research side, the steady increase in co-authored publications indicates a continued growth in international collaborations that bring in an increased openness of universities in the Kingdom. In 2016, the Saudi Ministry of Education announced its willingness to allow foreign higher education providers, to operate in the Kingdom, though it is not clear at this stage whether this will entail independent foreign institutions based on a model such as the American University of Beirut in Lebanon or whether it could include branch campuses, as can be found across the globe and in the Gulf region, for example, in the UAE (Abouammoh, 2018). To date, no such initiative has been announced. If realised, this would align higher education in the Kingdom with its neighbouring countries, such as the UAE, Oman, and Qatar. These developments certainly point to a need for qualified staff supporting the whole research lifecycle whether for university–industry partnerships or collaborations between universities. Institutions like KAUST could act as a reference point for developing a governance and policy environment and qualified support staff that guides best practice in the country.

KAUST opened the door to its first cohort of postgraduate students in autumn 2009. Along with this, about 70 international faculty members set up their labs and offices at the university in three academic divisions and what are now 12 research centres, bringing together expertise in priority areas for the region; all focused on science and technology. KAUST did not only recruit internationally renowned academics, it also created an international advisory board and brought in administrators from across the globe, who worked hand in hand with local staff to establish the university. In addition, researchers had support from a large team of technical staff running state-of-the-art core lab facilities.

The Office of Research Services (ORS) was established in January 2010 and grew to 16 staff members over the following three years. While KAUST was funded through a large endowment, giving a good degree of financial independence to researchers at the institution, a research support function was nonetheless fundamental. Not only was there a need to negotiate industry contracts, MTAs, and other legal agreements governing collaborations, processes for best practice, and quality assurance also needed to be established, as did systems to capture activities or outputs. Ultimately, this also included the ability to bid for externally funded projects. While the financial aspect of such awards might not always have been at the forefront of these applications, the reputation that comes with winning prestigious, competitive awards certainly was.

KAUST became the first Saudi institution in 2010 to join the prestigious, EU-funded ERASMUS Mundus Scheme,[6] a cooperation and mobility programme enabling student exchange beyond Europe. This engagement was facilitated by the research office

[6]https://www.eacea.ec.europa.eu/scholarships/erasmus-mundus-catalogue_en

(Saudi Press Agency, 2010). In the same year, the office initiated KAUST's participation in the European Science & Technology International Cooperation Network in collaboration with the Gulf Cooperation Council (GCC)[7] countries (INCONET-GCC, 2013), which concluded in October 2011 with KAUST becoming an official beneficiary. These initiatives provided important reference points for KAUST on its journey to establish policies and procedures that enable international collaboration at the highest standard.

The structure of the ORS was not modelled on any particular country's approach, as is often the case with branch campuses or satellite universities that mirror their 'parent' organisation. Rather, processes evolved based on a needs analysis and best practice principles from across the globe, supported by a network of international RMAs. This was equally owed to the ORS founding manager's active engagement with a number of international research management networks as well as a conscious approach to recruit a diverse team of RMAs bringing together a multitude of international experiences combined with local cultural knowledge. This expertise created the necessary policy framework to allow KAUST to engage with large multinational companies as well as US or European government funders and foundations worldwide. Many of the initial collaborations helped shaping and finetuning best practice in an iterative approach. The profiles of individuals joining KAUST as RMAs varied significantly. They did not only cover the typical steps of the research lifecycle covering pre- and post-awards as well as contracting, they also brought expertise from their respective national environments and higher education systems. This was complemented by local staff adding invaluable expertise not only with regard to governance, financial matters or industry collaborations but also cultural context.

Directions/Future

It is important to note that not having any RMAs organised in the many international RMA networks apart from those from KAUST, does not mean that research support structures do not exist. Rather, it seems likely that where research support structures have emerged these are driven by the local context of currently still limited external funding, a focus on industry collaborations with related contractual or regulatory matters and, not at last, a common Arabic language. The formation of a KSA RMA network would seem unlikely in the near future due to the currently still quite inwardly focused research landscape as well as language barriers in administration, but this might well change should be the ambitious research and innovation plans come to fruition.

The interest in higher education research, and therefore understanding research governance and management, is clear from the formation of the CHERS in Riyadh and the not insignificant number of publications in this field, a few of which have been mentioned above. CHERS might also play a role in raising awareness at the level of the Ministry of Education to recognise research management structures and roles as an integral part of the research lifecycle and ecosystem.

There is no doubt that with the increased complexity of research combined with a further opening and integration of Saudi Arabian universities in the global research sphere, interactions between institutions, which are often the catalyst for network formation, will increase. Whether the developing research support structures will then use local or international best practice models or whether new models might be emerging remains to be seen.

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[7]https://www.gcc-sg.org/en-us/Pages/default.aspx

References

Abouammoh, A. M. (2018). The regeneration aspects for higher education research in the Kingdom of Saudi Arabia. In J. Jung, H. Horta, & A. Yonezawa (Eds.), *Researching higher education in Asia: History, development and future* (pp. 327–352). Springer. https://doi.org/10.1007/978-981-10-4989-7_19

Adams, J. (2012). Collaborations: The rise of research networks. *Nature*, *490*(7420), 335.

Al Ankari, K. bin M. (2013). Foreword. In L. Smith & A. Abouammoh (Eds.), *Higher education in Saudi Arabia: Achievements, challenges and opportunities* (pp. 159–166). Springer. https://doi.org/10.1007/978-94-007-6321-0_15

Al Kuwaiti, A., Downing, K., & Subbarayalu, A. V. (2019). Performance of Saudi Universities in Global Rankings and appropriate strategies for its improvement. *Library Philosophy and Practice (e-journal)*, *2766*. https://digitalcommons.unl.edu/libphilprac/2766/

Al-Eisa, E. S., & Smith, L. (2013). Governance in Saudi higher education. In L. Smith & A. Abouammoh (Eds.), *Higher education in Saudi Arabia: Achievements, challenges and opportunities* (pp. 27–35). Springer. https://doi.org/10.1007/978-94-007-6321-0_3

Al-Ohali, M., & Burdon, S. (2013). International collaboration. In L. Smith & A. Abouammoh (Eds.), *Higher education in Saudi Arabia: Achievements, challenges and opportunities* (pp. 159–166). Springer. https://doi.org/10.1007/978-94-007-6321-0_15

Al-Ohali, M., & Shin, J. C. (2013). Knowledge-based innovation and research productivity in Saudi Arabia. In L. Smith & A. Abouammoh (Eds.), *Higher education in Saudi Arabia: Achievements, challenges and opportunities* (pp. 95–102). Springer.

Alhuthali, S., & Sayed, A. A. (2022). Saudi Universities rapid escalation in academic ranking systems: Implications and challenges. *Controversial Ideas*, *2*(1). https://doi.org/10.35995/jci02010008

Alshuwaikhat, H. M., Adenle, Y. A., & Saghir, B. (2016). Sustainability assessment of higher education institutions in Saudi Arabia. *Sustainability*, *8*(8), 750. https://doi.org/10.3390/su8080750

Alsuhaibani, M., Alharbi, A., Alqaryan, S. K., Aldress, T., Alharbi, M., & Alharethy, S. (2018). The impact of the "Brain Drain" involving Saudi physicians: A cross-sectional study. *Journal of Nature and Science of Medicine*, *1*(2), 69. https://doi.org/10.4103/JNSM.JNSM_32_18

Altbach, P. G., & de Wit, H. (2015). Internationalization and global tension: Lessons from history. *Journal of Studies in International Education*, *19*(1), 4–10. https://doi.org/10.1177/1028315314564734

Arab News. (2022, November 24). *Saudi Arabia to launch a new strategy for research and development soon: Minister*. https://arab.news/j2g9j

Ashfaque, J. M. (2017). Algebra in the house of wisdom. *Mathematics Today*, p. 212.

Fejzic-Cengic, F. (2020). Fatima Al-Fihri Founder of the First World University. *Studies in Media and Communication*, *8*(2), 14–20.

Flesia, C. (2013). Research priorities and their impact on the national innovation system. In T. Andersson & A. Djeflat (Eds.), *The real issues of the Middle East and the Arab Spring: Addressing research, innovation and entrepreneurship* (pp. 299–313). Springer. https://doi.org/10.1007/978-1-4614-5248-5_13

Gui, Q., Liu, C., & Du, D. (2019). Globalization of science and international scientific collaboration: A network perspective. *Geoforum*, *105*, 1–12. https://doi.org/10.1016/j.geoforum.2019.06.017

Hu, Z., Tian, W., Guo, J., & Wang, X. (2020). Mapping research collaborations in different countries and regions: 1980–2019. *Scientometrics*, *124*(1), 729–745. https://doi.org/10.1007/s11192-020-03484-8

INCONET-GCC Consortium. (2013). *Final Report Summary – INCONET-GCC (Science and Technology International Cooperation Network for Gulf Cooperation Countries Aiming at the Promotion of Bi-Regional Dialogue)*. https://cordis.europa.eu/project/id/244401/reporting

Kasim, A. M., Chang, L. W., Norpi, N. M., Kasim, N. H. A., & Hashim, A. (2021). Enhancing research mechanisms and institutional processes in Malaysia: A case study of Universiti Malaya (UM). *Journal of Research Management and Governance*, *4*(1), 10–23.

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Langley, D. (2012). Research management and administration: A reflection of where we are and where we need to go as a profession. *Perspectives: Policy and Practice in Higher Education*, *16*(3), 71–76. https://doi.org/10.1080/13603108.2012.659289

Lem, P. (2022, July 6). Could Neom U be Saudi Arabia's next top university? *Times Higher Education (THE)*. https://www.timeshighereducation.com/news/could-neom-u-be-saudi-arabias-next-top-university

Nature Index. (2021). *Leading 150 young universities | Nature Index 2021 Young Universities | Supplements*. Retrieved November 27, 2022, from https://www.natureindex.com/supplements/nature-index-2021-young-universities/tables/overall

Nature Index. (2022). *Saudi Arabia | Country/territory outputs*. Retrieved November 27, 2022, from https://www.natureindex.com/country-outputs/Saudi%20Arabia

NEOM. (2022). NEOM appoints Founding President of its flagship university, NEOM U. Retrieved November 27, 2022, from https://www.neom.com/en-us/newsroom/neom-appoints-university-president

Sarwar, R., & Hassan, S.-U. (2015). A bibliometric assessment of scientific productivity and international collaboration of the Islamic World in science and technology (S&T) areas. *Scientometrics*, *105*(2), 1059–1077. https://doi.org/10.1007/s11192-015-1718-z

Saudi Press Agency. (2010, December 26). *KAUST Joins ERASMUS Program*. https://www.thefreelibrary.com/KAUST±Joins±ERASMUS±Program.-a0245278097

Saudi Vision 2030. (n.d.). Saudi Vision 2030. Retrieved July 11, 2022, from https://www.vision2030.gov.sa/v2030/overview/

Shattock, M. (2017). The 'world class' university and international ranking systems: What are the policy implications for governments and institutions? *Policy Reviews in Higher Education*, *1*(1), 4–21. https://doi.org/10.1080/23322969.2016.1236669

Shehatta, I., & Mahmood, K. (2016). Research Collaboration in Saudi Arabia 1980–2014: Bibliometric patterns and National Policy to Foster Research Quantity and Quality. *Libri*, *66*(1), 13–29. https://doi.org/10.1515/libri-2015-0095

Smith, L., & Abouammoh, A. (2013). Challenges and opportunities for higher education in Saudi Arabia: An exploratory focus group. In L. Smith & A. Abouammoh (Eds.), *Higher education in Saudi Arabia: Achievements, challenges and opportunities* (pp. 167–179). Springer.

Ul Haq, I., Ur Rehman, S., Al-Kadri, H. M., & Farooq, R. K. (2020). Research productivity in the health sciences in Saudi Arabia: 2008–2017. *Annals of Saudi Medicine*, *40*(2), 147–154. https://doi.org/10.5144/0256-4947.2020.147

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Chapter 5.43

Research Management and Administration: An Emerging Profession in the UAE

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Abstract

The UAE only officially formed in December 1971, now has seven Emirates joined together as a nation under one President. Since its establishment as a sovereign, independent country around just 50 years ago, the UAE has accelerated advancement across numerous sectors at notable speed, and science, technology, and Research & Development (R&D) sectors are no exception. Research Management and Administration (RMA) as a profession is in the relatively early stages of being recognised as a distinct and niche skill set; at present, the UAE largely imports experienced international talent to fill RMA roles. However, the country's strides in progressing R&D infrastructure and goals of elevating ranks from regional to global R&D leader is beginning to generate a legitimate career ladder for RMA professionals across the country. This, paired with the UAE's commitment to engage more Emirati nationals in the workforce, is cultivating a viable environment for the RMA profession to emerge more significantly from general administration and begin generating a skilled talent pipeline of RMA professionals within the UAE.

Keywords: United Arab Emirates; Emiratisation; Research Management and Administration; research ecosystem; expatriates

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UAE Research Ecosystem

The UAE, as a quite young country, has advanced across many Science & Technology (S&T) sectors in a relatively short period of time. In December 2021, the UAE celebrated its golden jubilee, marking the 50th anniversary of the country's 1971 official formation (Telecommunications and Digital Government Regulation Authority (TDRA), 2022). Leading up to this milestone, the UAE established Vision 2021 (Ministry of Cabinet Affairs, 2021), which set the decade-long National Agenda from 2010 forward, to include the 'Competitive Knowledge Economy' objective. This objective aimed, in part, to propel the UAE towards being the best in the world in innovation, entrepreneurship, and R&D indicators, with emphasis on creating a sustainable societal ecosystem that engages and serves the national population. By 2015, midway through the Vision 2021 period, the UAE implemented a unified 'Science, Technology and Innovation Policy' (UAE Government, 2015) for the country. This Policy placed emphasis on moving the UAE away from economic dependence on oil and set the UAE on a path of economic success in an anticipated 'post-oil' future. Towards this ambition of building more sustainable prosperity for future generations with economic diversity, the policy focuses UAE's strategic priorities in R&D and innovation on renewable energy, transport, aerospace, health, and water, with emphasis on cross-cutting advancements in education and human development. Looking at international standard R&D indicators (between 2015 and 2020, the UAE's Gross Expenditures on R&D (GERD) as a percentage of gross domestic product increased from a reported 0.8895% to 1.449%, an increase of nearly 62%, and the number of researchers per million inhabitants increased by 23% in the same time period (UNESCO Institute for Statistics (UIS), 2022).

Research funding and the wider R&D ecosystem in the UAE consists largely of government agencies and state-owned/directed enterprises. There are a number of S&T-focused ministries and associated departments with varying degrees of involvement with R&D advancement and oversight, discussed later in this chapter. Notably, a significant share of R&D funding and activity exists via quasi-government sub-entities formed specifically for the management and strategic execution of a range of R&D endeavours. For example, one may examine the Abu Dhabi Government's Advanced Technology Research Council (ATRC[1]), under which there exist branches for grant-making and 'technology transition' (ASPIRE[2]), applied research and collaboration (Technology Innovation Institute (TII)[3]), and commercialisation (VentureOne[4]).

The country's public institutions of higher education are engaged in significant R&D, largely from government sources. As such, and different to models elsewhere, it is not uncommon for these entities to simultaneously exercise the role of both the *grantee* and *grantor* – meaning they are given budgets to perform R&D activities themselves, while also having programs/mechanisms established to develop funding programs and grant awards for R&D, to be conducted either collaboratively or independently. This can be seen as a notable feature that may set some countries of the Middle East region apart from other areas of the world with strong R&D ecosystems. These internal programs may be larger in volume and scale than elsewhere in the world, presumably to balance the reality that there are fewer

[1] Advanced Technology Research Council (ATRC) – https://www.atrc.ae/about-atrc.
[2] ASPIRE – https://www.aspireuae.ae/about-us.
[3] Technology Innovation Institute (TII) – https://www.tii.ae/about-us.
[4] VentureOne – https://www.atrc.ae/ventureone.

long-standing agencies purely focused on grant-making towards R&D activities, to which UAE-based researchers could otherwise apply. Resources are allocated here in a manner that allows the development and maintenance of robust internal funding programs, such as those found within academic institutions such as Khalifa University of Science and Technology.[5] This significant function of internal grant-making, where the institution is its own 'sponsor' has shaped the types of roles and responsibilities of RMAs in these spaces.

Charities and fundraising activities are highly regulated in the UAE (Ministry of Community Development, 2021), and much of this landscape is focused on humanitarian efforts and social development, rather than pure R&D. Thus, the UAE's non-profit and private R&D funding landscape is more narrow than *direct* government funding sources. For example, the Emirates Foundation's grant-making scope was initially quite broad, across multiple sectors, with significant resources distributed across a wide range of activities including S&T initiatives. But, five years into the Foundation's operation, the Foundation's Board prompted an external review, the finding of which highlighted that,

> the Foundation was giving out grants in too many areas, leading to diluted impact and making it quite difficult, if not impossible, to measure the effects. It also meant the focus was on financial support rather than broader technical support. (John D. Gerhart Center, 2017)

As a result, the Emirates Foundation's focus narrowed to UAE youth empowerment and adopted a venture philanthropy model, operating as a facilitator of public–private partnerships. Similar quasi-non-governmental organisations (NGOs) with structured R&D initiatives and established award-making programs largely appear to be funded through pooling contributions from private or corporate donors, for example, Sandooq Al Watan,[6] which translates to 'Nation's Fund'). Otherwise, they are either established and/or funded by prominent national figures. One such example is perhaps the most prominent medical R&D focused Foundation in the country, the Al Jalila Foundation, established by His Highness Sheikh Mohammed Bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, which has funded AED 28 million into scientific research projects since 2014 (Al Jalila Foundation, 2023). Thus, while these types of organisations are not *technically* government-owned, there is often an intersection between these types of entities and rulers of the Emirates, through funding of initiatives and/or in oversight rights through Board seats. What this demonstrates is the high degree of interconnectivity in the R&D ecosystem of the UAE.

The UAE has been seen to take an iterative approach to reviewing and reorganising R&D priorities, governance structures, and streamlining strategic efforts and resources. It is worth noting that many R&D governance structures and initiatives in place in the UAE are only a few years old at the time of this book's publishing. Further, some facets of S&T/R&D strategy have shifted in just the time between the book's initial conception and final print. New key Councils have been formed, Committees have been mandated, and R&D performing institutions have evolved and reshaped significantly. These points are highlighted to underscore that the UAE is an agile system, able

[5] Khalifa University of Science & Technology, Research Offices – https://www.ku.ac.ae/research-offices.
[6] Sandooq Al Watan – https://sandooqalwatan.ae/about-us/ ; https://researcher.ae/.

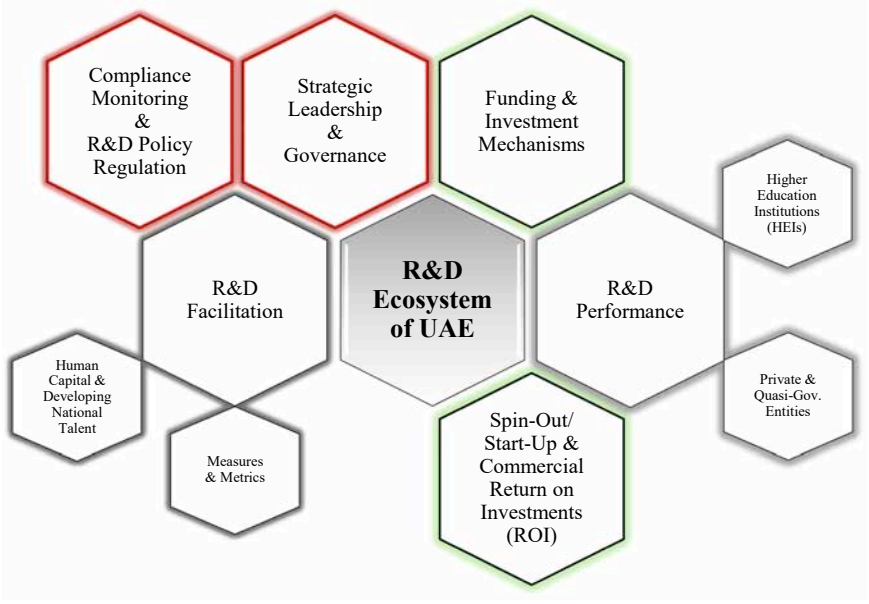

Fig. 5.43.1. Simplified R&D Ecosystem of UAE, in 2023.

to adapt quickly to capture opportunities, and maximise impacts in S&T and R&D. It would be an interesting line of inquiry to assess the scope of impact this fast-moving pace has on our profession's key stakeholders – the researchers themselves – as well as the degree of influence it may have on RMAs' ability to adapt and best support those conducting R&D through shifting targets, towards positive outcomes for our other important stakeholders – sponsors and the public.

Evolution of the RMA Profession

Of the 10+ million population of the UAE, there are far more expatriates than Emirati Nationals in the general population by approximately a 9:1 ratio (Dubai Statistics Center, 2021; Statistic Centre Abu Dhabi, 2019). While the UAE is a regional leader in the Global Competitiveness ranking, there is an identified regional need for greater human capital investment and utilisation (Bin Byat & Sultan, 2014; Schwab, 2019). To bolster the knowledge economy, the UAE, like other countries in the Middle East region, recruits a substantial percentage of global talent from outside its own borders (Strategy&, 2018). As of 2021, UAE nationals represent only 7.66% of the total workforce (Ministry of Human Resources and Emiratisation (MOHRE), 2021). The government-backed initiative to bring more balance to the employment ratio of expatriates and UAE Nationals is called Emiratisation (TRDA, 2020).

The current RMA space in UAE relies significantly on imported talent, which is heavily influenced by the models seen in the USA, UK, and Europe. However, the growing Emiratisation shift over time has the potential to change the way research support units are structured and staffed in the future, as expatriate influence decreases. An opportunity exists for the national population to refine the nature of RMA as applicable in the UAE's political and economic context, as it does differ from the landscapes of those countries with longer-standing RMA frameworks.

RMA Offices and Role Structure

Presently, R&D strategy at most academic institutions is led at the topmost level by a Provost or Vice-President level employee. They tend to be academic, either having a PhD background or actively serving dual appointments as a faculty and an administrator. One layer beneath, it is common to find a Director of the responsible department or office (e.g. Research Services and Sponsored Programs). Beyond this, universities are found to be varied in structure, titles, and total headcount supporting RMA activities. Other common positions found in the higher education sector include Manager (of a functional subunit like pre-award, post-award, research compliance, etc.), and typically have supporting staff with rank titles such as 'Specialist' or 'Coordinator', sometimes with a degree of seniority in the designation.

However, it can be difficult to know from a title alone what an individual's scope of activities may be and whether the title reflects organisational hierarchy. Informal interviews across a number of institutions indicate that some RMAs reach titles through time served in the organisation; and while others receive competency-based promotion in title, they work in a rather flat structure in the unit from a function/responsibility standpoint. For example, an Assistant/Associate Director in one organisation may have multiple direct reports and a clear organisational hierarchy of roles and responsibilities above and below them, while the same title in another organisation may be a 'one person' job with no supporting staff. As one could extrapolate, this influences the depth and breadth of an RMA's role, as organisational charts vary greatly between institutions.

Given the significant proportion of expatriates in the workforce, it is not surprising to find that the structure and nomenclature for the roles related to RMA tend to mirror those of the countries from which expatriate administrators have joined, further influenced by the sector in those countries as well. For example, in non-academic settings, the group of individuals responsible for RMA may be housed in a centralised Project Management Office (PMO) or positioned in a decentralised manner into the R&D performing units of the organisation. In these cases (applied research centers; hospitals), titles may follow more of a program/project management style nomenclature.

As discussed earlier in this chapter, office structure and roles may also be driven by function, and the types of offices that exist within the same institution examined. One may find housed in the same entity a sponsoring agency responsible for funding program development grant-making, positioned alongside a separate office responsible for seeking and administering external funding, and yet another separate office responsible for managing the intellectual property and innovation aspects of portfolios across both of the aforementioned branches. The skillsets most effective in each of these separate functional units certainly differ, and efforts will need to be made to expand acknowledgement of this as fact, in order to set the foundation for training individuals into these roles and building a sustainable pipeline of talent.

Current RMA Community

While RMAs are found across various organisational types, a significant employment space is within higher education institutions (HEIs) and their affiliated/administered research centres. The two Emirates with the highest volume of HEIs are Dubai with 35 (Dubai Knowledge and Human Development Authority – KHDA, 2022) and Abu Dhabi with 28 (Abu Dhabi Department of Education and Knowledge – ADEK, 2022).

The remaining Emirates have 10 or fewer each. In addition to the public and private HEI categories, a third category exists in the UAE, known as 'Global Partnerships' (Cultural Division, Embassy of the United Arab Emirates, 2011). These are satellite campuses of HEIs from other countries, and represent a significant proportion of the HEIs in the UAE. Examples include New York University, Abu Dhabi; University of Wollongong, Dubai; The University of Arizona, Ajman. It is worth noting that the majority of private HEIs operating in the UAE were established *after* 2005 (Wilkins, 2010). This means that not only do *all* universities in the UAE meet the Times Higher Education (THE) definition of Young University – 50 years or younger (Times Higher Education, 2023) – but more than 60% are younger than just 1-2 decades. Even so, 'leading universities in the UAE have shown a greater determination… to produce high quality, world-class research' (Wilkins, 2010).

Other spaces where RMA-types of roles exist are in the R&D performing and entities referenced earlier in this chapter, as well as in the government Ministries and Departments with objectives linked to the country's R&D ecosystem. Such examples include the Department of Science, Technology, & Scientific Research in the Ministry of Education,[7] and the Department of Health.[8]

No RMA-focused peer society is known to be formally organised within the UAE or the surrounding Middle East region. There is interest at grassroots level around forming a more structured RMA collaborative community in the UAE, but it remains to be seen how that may materialise. It is unclear whether the UAE would align with an existing external society (such as SRAI[9] or ARMA[10]), or whether RMAs in the country may become numerous enough overtime that a strong case could be made to relevant government bodies to conceptualise and request a consortium that serves the RMAs' networking and educational needs in this niche context.

Informally, RMAs in the UAE tend to be quite supportive of each other in sharing lessons learned and best practices. It is not uncommon for RMAs, particularly in the academic sector, to be recruited from many different countries. This allows research management offices in the UAE the opportunity to adopt aspects of successful administration from across the globe and adapt these to fit the unique environment of the UAE. At times, expatriate RMAs may find that onboarding to the UAE involves some 'unlearning', in a positive sense, as they find the UAE R&D ecosystem, and by extension of the RMA profession, is much more flexible and fast-moving than they are accustomed to.

Figures and Data on RMA as a Profession

As asserted by the UAE's Advanced Sciences Office, a part of the Ministry of Cabinet Affairs, in its 'State of Research in the United Arab Emirates' report (2019):

> […] the data on UAE is extremely limited and it is difficult therefore to track progress and conduct meaningful productivity analyses. The same is valid for many of the Middle Eastern countries.

[7] Ministry of Education – https://www.moe.gov.ae/En/AboutTheMinistry/Pages/Vision-Mission.aspx.
[8] Department of Health, Research and Innovation Centre – https://www.doh.gov.ae/en/research/.
[9] Society of Research Administrators International – https://www.srainternational.org/.
[10] Association of Research Managers and Administrators – https://arma.ac.uk/.

By extension, the managerial and administrative side of R&D experiences the same scarcity of data. Per UIS (2018) data, there were an estimated 8,586 full-time equivalents (FTEs) comprising 'other supporting staff' in R&D activities across the UAE (UIS, 2018). However, in the absence of recorded or reported figures before or after this time point, trends are unable to be assessed.

In Q4 2021, the UAE Government announced intentions to streamline efforts to better capture R&D activity across the country. The Ministry of Industry & Advanced Technology (MoIAT[11]) launched the 'National Guide for Measurement of R&D Expenditures in Government Sector' (The National, 2021) to standardise data collection on R&D activities and RMA staffing, as well as bring uniformity to the classification and accounting of R&D related finances. This effort involves collaboration between the MoIAT, the UAE's Federal Competitiveness and Statistics Centre,[12] Ministry of Finance,[13] and more than a dozen other local and federal entities across the country. Further, the Ministry of Education (MoE) has formed an Executive Team responsible for tracking and reporting R&D indicators in higher education. Similarities could be drawn between this initiative and the Higher Education Research and Development Survey (HERD), National Science Foundation (NSF, 2022b) administered in the United States by the National Center for Science and Engineering Statistics, and the Frascati Manual published by the Organisation for Economic Co-operation and Development (OECD, 2015). It will be interesting to track the public-facing data covering RMA FTE and observe trends over time, as these statistics are recorded and reported with more regularity and consistency of standardised definitions/scopes through the initiatives mentioned above.

Future of RMA

The future of the RMA profession in the UAE will be influenced both directly and indirectly by the continuous evolution of R&D priorities and associated mandates that shift organisations and resources. Not to be forgotten are the viewpoints and needs of our largest stakeholder group: the researchers themselves:

> It's a unique experience to get to influence the R&D sector in a country during its infancy, there are great opportunities being accompanied by even greater challenges. With other countries having more than 100 years of experience with R&D, the situation in the UAE is more agile and flexible. Nevertheless, this flexibility and agility requires ***consistency, sustainability, and commitments,*** given that the R&D process naturally is a relatively slow process with both short and long-term benefits. (F. AlMarzooqi, Personal Communication, March 2023)

The author personally agrees that it is a critical point for the UAE's RMAs and R&D policy leaders to take care in balancing short- and long-term expectations of R&D activities and outcomes. Otherwise, risk exists for the introduction of new initiatives and/or shifted priorities to cut short the maturation of existing programs, structures, etc., before full potential and impact of such can be realised. Ensuring a degree of 'sustainability and consistency' for ongoing R&D efforts perhaps may be a

[11] Ministry of Industry and Advanced Technology – https://moiat.gov.ae/en/.
[12] Federal Competitiveness and Statistics Centre – https://fcsc.gov.ae/en-us.
[13] Ministry of Finance – https://mof.gov.ae/.

universal point of importance for researchers, but especially so in environments where change moves much more quickly than elsewhere.

Below are two of the most significant gap areas in relation to the conduct and direction of the RMA profession (how it is done and who will do it), of which the key R&D councils of the UAE are aware and working towards closing.

Research and Development Policies

There is a notable absence of a universal source for research administration regulations in the UAE. Where the USA has 'uniform guidance' of 2 CFR Part 200 (US Office of Management and Budget (Office of Management and Budget), 2023) and Australia has the Commonwealth Grants Rules and Guidelines (Australian Government Department of Finance, 2017), there is not a unified clearinghouse of regulations applicable to the administration of R&D funding to which RMAs in the UAE can turn. The Emirates Research and Development Council approved the formation of a Research and Development Policies Committee in Q1 2022, 'which will work on developing, reviewing, and planning policies related to the R&D ecosystem and identifying its gaps' (MoIAT, 2021). It could be hypothesised that an outcome of this Committee could be the validation and centralisation of R&D policy guidance, which may bring greater clarity and certainty to RMAs responsible for monitoring and enforcing such R&D regulations.

The Emirates continues to launch substantial R&D and commercialisation funding support. However, there remains room to increase R&D funding from non-government sources (Bin Byat & Sultan, 2014). Ambitions of the UAE include emphasis on applied research and advancing innovations that are on the higher end of the 'technology readiness level' spectrum, to deliver on real-world application of R&D efforts and realise return on investment to the local and regional economy. Towards this end, private–public partnerships are likely to increase, and it could be envisaged that roles centred in intellectual property and technology transfer will be prime for RMA recruitment in the coming decades. This may require highly specialised expertise in commercialisation activities, to fully realise and maximise UAE's investments– which underscores the gap area discussed further below.

Development of Human Capital

The UAE places an emphasis on world-class talent on the recruitment of world-class scientists and researchers, evidenced by the mandate of the R&D Human Capital Committee to 'focus on developing, attracting, and retaining scientific and research talents' (MoIAT, 2021), but it is presently unclear if RMAs are also considered as critical supporting talent in this human capital pool.

There is a notable absence of formal degree or certificate programs specifically targeted for the RMA profession by educational institutions accredited within the UAE. Online programs are available from institutions abroad, however in 2023, the MoE has only just begun recognizing and providing equivalency (certificate confirming credentials) for diplomas or certificates earned online. With this expansion to the equivalency process, perhaps more UAE nationals will enroll in existing RMA graduate-level programs offered online. There remains the clear opportunity for the development of *UAE-specific* RMA training and formal education courses. This would not only support the continuing education of existing RMAs working in the country, but more importantly, could begin to pave the pathway for local graduates to enter the RMA workforce directly. Over time, this may reduce the degree of UAE's reliance on expatriate subject

matter experts in this field. At present, individuals with general administration or finance experience can make inroads, however, the nuanced differences between these and RMA are plenty and warrant specific training and strategic placement. RMA as a target profession would provide a 'new' niche career path for the next generation of Emiratis.

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References

Abu Dhabi Department of Education and Knowledge (ADEK). (2022). *Higher education institutions in Abu Dhabi*. https://www.adek.gov.ae/en/Education-System/Higher-Education/List-of-Higher-Education-Institutions-in-Abu-Dhabi

Al Jalila Foundation. (2023). *Mohammed Bin Rashid Medical Research Institute*. https://.aljalilafoundation.ae/what-we-do/research/mohammed-bin-rashid-medical-research-institute/

Australian Government Department of Finance. (2017). *Commonwealth Grants Rules and Guidelines 2017*. https://www.finance.gov.au/sites/default/files/2019-11/commonwealth-grants-rules-and-guidelines.pdf

Bin Byat, A., & Sultan, O. (2014). The United Arab Emirates: Fostering a unique innovation ecosystem for a knowledge-based economy. In S. Dutta & B. Lanvin (Eds.), *The Global Innovation Index 2014: The human factor in innovation* (pp. 101–110). https://www.globalinnovationindex.org/userfiles/file/reportpdf/GII-2014.pdf#page=101

Cultural Division, Embassy of the United Arab Emirates. (2011). *Higher education. Education in the UAE*. http://www.uaecd.org/higher-education

Dubai Knowledge and Human Development Authority (KHDA). (2022, May). *Dubai's private higher education institutions open data*. https://web.khda.gov.ae/en/Resources/KHDA%E2%80%99s-data-statistics

Dubai Statistics Center. (2021). *Yearly population estimates*. https://www.dsc.gov.ae/Report/DSC_SYB_2021_01_03.pdf

Gerhart Center. (2017). *Catalysing impact investing: The case of Emirates Foundation*. https://documents.aucegypt.edu/Docs/Business/Emirate%20Foundation.pdf

Ministry of Cabinet Affairs. (2021). *National Agenda 2021 – Competitive knowledge economy*. https://www.vision2021.ae/en/national-agenda-2021/list/economy-circle

Ministry of Community Development. (2021). *Federal Law No. 3 of 2021 regulating donations*. https://www.mocd.gov.ae/handlers/download.ashx?YXNzZXQ9NDI4MQ%3d%3d

Ministry of Human Resources and Emiratisation (MOHRE). (2021). *Share of UAE Nationals in the Workforce*. https://www.vision2021.ae/en/national-agenda-2021/list/card/share-of-uae-nationals-in-the-workforce

National Science Foundation (NSF). (2022b). *Higher Education Research and Development Survey (HERD)*. https://www.nsf.gov/statistics/srvyherd/

Office of Management and Budget (OMB). (2023). Electronic Code of Federal Regulations. Retrieved from Title 2/Subtitle A/Chapter II/Part 200: Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.

Organisation for Economic Co-operation and Development (OECD). (2015). *Frascati Manual 2015: Guidelines for collecting and reporting data on research and experimental development*. https://www.oecd.org/innovation/frascati-manual-2015-9789264239012-en.htm

Schwab, K. (Ed.). (2019). *The global competitiveness report*. World Economic Forum. http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf

Statistic Centre Abu Dhabi. (2019). *Statistical Yearbook – Labour Force Structure*. https://www.scad.gov.ae/Release%20Documents/Statistical%20Yearbook%20%20Labour%20Force%20Structure_2019_Annual_Yearly_en.pdf

Strategy&. (2018). *Beyond bricks: Building a high-impact research ecosystem in the GCC*. Ideation Center. https://www.strategyand.pwc.com/m1/en/reports/moving-beyond-bricks.pdf

Telecommunications and Digital Government Regulation Authority (TRDA). (2020). *Population and demographic mix*. The Official Portal of the UAE Government. https://u.ae/en/information-and-services/social-affairs/preserving-the-emirati-national-identity/population-and-demographic-mix

Telecommunications and Digital Government Regulation Authority (TDRA). (2022). *About the UAE: Year of the 50th*. The Official Portal of the UAE Government. https://u.ae/en/about-the-uae/the-uae-government/year-of-the-50th

The Advanced Sciences Office, Ministry of Cabinet Affairs. (2019). *A decade of science, the state of research in the United Arab Emirates*. https://science.gboov.ae/en/download-glance-pdf

The National. (2021, November 13). *UAE ministries launch guide to measuring research and development spending*. https://www.thenationalnews.com/uae/government/2021/11/13/uae-ministries-launch-guide-to-measuring-research-and-development-spending/

Times Higher Education (THE). (2023). *Young University Rankings 2023*. https://www.timeshighereducation.com/world-university-rankings/2023/young-university-rankings

UAE Government. (2015, November). *Science, Technology & Innovation Policy in the United Arab Emirates*. https://u.ae/-/media/About-UAE/Science-and-Technology/En-science-technology-and-innovation-policy.ashx?la=en&hash=7A3C137C3E0327B622EA1EE92F5BD2B9

UAE Ministry of Education (MOE). (2020). *Achievement of the Ministry of Education in the United Arab Emirates (2015–2020)*. https://www.moe.gov.ae/en/AboutTheMinistry/Documents/MOE%20BOOK.pdf

UNESCO Institute for Statistics (UIS). (2018). *Science, technology and innovation: Human resources in Research and Development (R&D), Other Supporting Staff*. http://data.uis.unesco.org/Index.aspx?DataSetCode=SCN_DS&lang=en#

UNESCO Institute for Statistics (UIS). (2022). *Science, technology, and innovation: Research and experimental development (full dataset)*. http://data.uis.unesco.org/Index.aspx?DataSetCode=SCN_DS#

Wilkins, S. (2010). *Higher education in the United Arab Emirates: An analysis of the outcomes of significant increases in supply*. https://www.academia.edu/1123649/Higher_education_in_the_United_Arab_Emirates_an_analysis_of_the_outcomes_of_significant_increases_in_supply_and_competition

Chapter 5.44

Reflections on Research Management and Administration in Various Countries Around the World

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Abstract

This part of the book has provided overviews of the current situation of research management and administration (RMA) in over 50 countries around the world

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provided by a total of 96 authors. Thirty-eight chapters cover individual countries from six continents, with a chapter bringing together this situation in the three Baltic states, another covering the Western Balkans, one more focused on the Caribbean, and there is a chapter on the Catalonia region of Spain. Here, we attempt to draw out common themes and to highlight differences in RMA and of Research Managers and Administrators in different parts of the world. Further, more holistic, insights can be found in the final chapter of the book (Yang-Yoshihara, Kerridge, et al., 2023, Chapter 6).

Keywords: Research management and administration; regional variation; gender; age; qualifications; certification; internationalisation; recognition

History

Development of Associations

In broad terms, the research ecosystems in most countries are remarkably similar, featuring public and private universities and research institutes; but with many other actors involved such as government, businesses, and the third sector. The main research-performing institutions often receive core funding for undertaking research, and invariably supplement research activities with external project funding. Government funding for research projects is normally managed by 'at arms length' funders, often referred to as Research Councils, although many other types of funders exist, such as companies, foundations and charities, and international bodies. With ever-increasing demands for accountability of public funds, particularly when funding increases, there is increased bureaucracy and audit requirements; this coupled with the drivers to increase research funding means that many institutions now invest in research support. Over time these support staff developed networks and associations to share best practices and have attempted to define themselves as a distinct group of professionals. This development is described in various chapters in this section of the book, as well as in Section 1: History. One could imagine that the requirement for RMAs, and hence the existence of an RMA association, would be linked to research and development spend or spend per capita, but there are clearly other factors as not every country high on those lists[1] have prominent associations, India (volume), and Israel (per capita) being examples.

While some countries are undoubtedly more mature in terms of research support, it seems that the drivers and need for RMAs are ubiquitous.

Across the world, RMAs are predominantly (Oliveira, Fischer, et al., 2023, Chapter 2.2), but not exclusively (Santos et al., 2023, Chapter 2.5), to be found in research-performing organisations. Given the volume of research undertaken outside the higher education sector in some countries, it is possible that there may actually be more RMAs in the commercial sector (e.g. there are associations[2] for industrial research managers), but the focus of this book has been on the university and research institute sector. In almost all countries, females account for around four-fifths of the RMA workforce (Oliveira, Fischer, et al., 2023, Chapter 2.2); and this has not changed

[1] https://en.wikipedia.org/wiki/List_of_sovereign_states_by_research_and_development_spending

[2] Examples include: European Industrial Research Management Association – https://www.eirma.org/ and Innovation Research Interchange – https://www.iriweb.org/.

much in recent times (Kerridge & Scott, 2016), however, earlier in the history of RMA it was a male dominated profession (Shambrook et al., 2015), at least in the USA. It seems possible though that this was more a reflection of the gendered nature of the wider workforce in the Western world in the middle of the twentieth century, rather than being an RMA-specific phenomenon.

Current Situation

Gender

As mentioned above, overall the profession is around four-fifths female, and certainly appears gendered. Those countries and regions that are not female dominated tend to be where RMA is still emerging (e.g. Colombia, see Naffah & Calixo, 2023, Chapter 5.9, and Japan, see Takahashi & Ito, 2023, Chapter 5.12), and we might expect to see the gender balance drift towards the mean, although there may also be cultural drivers pulling in the other direction. Why females seem more attracted to the profession is discussed in Chapter 2.4 (Poli, Kerridge, et al., 2023). It has also been argued that this gendered workforce and support ethos contribute to the invisibility (Yang-Yoshihara, Poli, et al., 2023, Chapter 3.7) of the profession and the paucity of research into RMA.

Age

Another issue of the visibility of the profession, both in terms of the identity of individuals, and of the cohort of RMAs more generally is how people become RMAs. Internationally, there are very few RMAs under 25 years of age (Oliveira, Fischer, et al., 2023, Chapter 2.2), or who responded to the various surveys. Either those in this younger demographic are not finding the profession immediately, or perhaps do not realise they are part of the profession and therefore have not joined one of the multitude of associations that are often the conduit for such surveys.

Qualifications

The profession is highly academically qualified, although the propensity for master's level and doctorally qualified RMAs varies quite widely between regions, it is always well above the national averages of the working population. While much of this can be accounted for by the movement of researchers into RMA (Dutta, Oliveira, et al., 2023, Chapter 2.3), it seems that the profession also attracts those with an interest in research more generally, and indeed some also undertake further and higher degrees in their time as RMAs. It should also be noted that there are a few master's courses in RMA, particularly in North America, and some undergraduate options are appearing (see Ritchie et al., 2023, Chapter 2.7).

Regional Variation

In South America, RMA is very new in terms of association development with the Brazil Research Administration and Management Association (BRAMA), being created in 2013 (Juk & Baisch, 2023, Chapter 5.8), and the Colombian Research Management Association (COREMA) created in 2018 (Naffah & Calixo, 2023, Chapter 5.9). There are also intracontinental initiatives such as Mimir Andino[3] bringing RMAs together to share

[3] https://mimirandino.org/

good practice. This is also the model in Africa with the various RIMAs (see Kirkland, 2023, Chapter 1.1) and Australasia (Hochman et al., 2023, Chapter 1.4). Across Europe, as well as the pan-continental EARMA, most countries, at least in the North-West, also have national associations, whereas in the Southern and Eastern parts, associations tend to be relatively new or do not yet exist (Marčić & Pepić, 2023, Chapter 5.26). The USA, perhaps due to its size and length of RMA history, has more than one association (Monahan et al., 2023, Chapter 1.2), some having an overtly international focus (such as NCURA and SRAi), and others focussing on a specific sub-part of the RMA profession, for example, NORDP with its community of researcher development professionals. In other countries, such as Canada, Japan, and Malaysia, there are strong national associations, whereas in the Middle East, there are no formal associations, and networks tend to be centred on individual institutions. There is certainly no 'one size fits all' model for RMA associations in terms of geographic or functional scope, the communities develop organically to meet their own needs. Most associations see a benefit in joining INORMS, giving weight to the premise that RMA flourishes with international links.

Certification

As discussed by Ritchie et al. (2023, Chapter 2.7), there are varying approaches to certification ranging from a well-established externally credentialed exam-based North American approach, to the more project/assessment-based systems in Europe and Southern Africa, to the association based self-accreditation model found in Australasia incorporating an 'at arms length' Accreditation Council. Like the development of the associations themselves, the need for certification and the method of delivering that need varies considerably by region. When it comes to academic RMA qualification, a few countries offer master's degrees, but as yet there is no undergraduate degree to prepare people for the profession more generally, although there is an offering in the more specialised field of clinical research administration.

Future Direction

Breadth of RMA

The definition and scope of RMA varies depending on the context, but there are certain aspects which are universally agreed upon: pre-award and post-award support. Similarly, ethics and compliance are almost always considered part of RMA, as is researcher development. Whereas scholarly communication is often seen as in the domain of the library, similarly, research student administration also often has its own identity. In some countries, there are separate tribes that support the commercialisation end of the Research & Development spectrum, whereas, for example, in Africa, individuals tend to identify as supporting research and innovation equally.

Overall it seems that the scope of RMA is growing. While ethics and integrity have long been associated with RMA in many regions, now most would also include compliance, support for open research, and more recently, research culture. As these spheres of interest expand it seems likely that there will be more interactions between RMAs and those in adjacent professions, such as Librarians and Organisational Development. The scope of RMA is directly related with how RMA processes are tailored by the research institutions which also impacts how the organisational structure for research support services is designed by them (Oliveira, Trentini, et al., 2023, Chapter 3.3).

Depth of RMA

With ever more focus on value for money, transparency, and accountability, it is inevitable that RMA will also increase in complexity in order to cope with the increasing regulation and reporting, as well as the need to address more non-research-specific requirements of funders (Zsár & Angyal, 2023, Chapter 4.2). The depth of knowledge required in particular sub-areas of RMA will only increase, and with this the likelihood that particular sub-areas will start to create their own sub-cultures. Many associations already have special interest groups, and some groups have felt the need to create their own associations, examples include NORDP in the USA (Shaklee, 2023, Chapter 5.7) and PRISM in the UK (Kerridge, 2023b, Chapter 5.40). Where there is a critical mass it seems likely that these new sub-RMA associations will flourish and create their own identity.

Internationalisation

Just as research has no national boundaries and is becoming more international (Rostan et al., 2014), with more internationally collaborative research projects being funded to address global issues such as the United Nations Sustainable Development Goals (UN SDGs),[4] so is the importance of international RMA (White-Jones, 2022). Many of the chapters in this section have highlighted the increasing importance of international networks and contacts for RMAs, emphasising the need for RMAs to possess not only technical skills (Poli, Oliveira, et al., 2023, Chapter 3.2) but also soft skills such as communication and cultural awareness (Christensen & Smith, 2023, Chapter 4.8).

Recognition

One of the main observations of RMA is the invisibility of the profession and the individuals, which may be exacerbated by the gender balance. Many of those undertaking research support do not even realise that they are RMAs, leaving little hope for those with influence over RMAs to understand what we do. But slowly, as the profession develops, the visibility grows and it is becoming more commonplace for RMA associations to be brought into conversations on initiatives and potential initiatives that might impact the research ecosystem, as seen with the Federal Demonstration Project (FDP)[5] in the USA. The recent support for the European Commission (2022f) Action 17 on research management is another indication that the importance of RMA to research is becoming more recognised. The moves in various countries to recognise all contributions to research, for example, the promotion by UK Research and Innovation (n.d.) of *101 jobs that change the world* is also welcome. This has also translated into the research publishing arena with one of the 14 CRediT (Allen et al., 2014) roles being Funding Acquisition[6] which RMAs are often heavily involved in.

Differences

While many countries have professional associations, there are definite differences in professional maturity level in the country (Poli, Oliveira, et al., 2023, Chapter 3.2). Two associations in the USA are over 60 years old, but some other high income countries,

[4] https://sdgs.un.org/goals
[5] https://thefdp.org/default/
[6] https://credit.niso.org/contributor-roles/funding-acquisition/

in Europe, for example, have only formalised an association in the last few years, while others have yet to do so at all. In most cases, these associations have developed bottom up, but in some cases, for example, in Africa (Kirkland, 2023, Chapter 1.1), and Japan (Takahashi & Ito, Chapter 5.12) some external stimuli helped to initiate the process.

In many countries and regions, professional development frameworks have been created (Romano et al., 2023, Chapter 4.4) with the intention of defining the skills and expertise of the profession; these have often led to credentials that RMAs can obtain (Ritchie et al., 2023, Chapter 2.7). However, the approach in the USA is a little different with certifications there being exam- rather than portfolio-based, and continuing professional development is required to retain those credentials once earned. Conversely, the US boasts more academic master's programmes than anywhere else, indeed most countries do not have any RMA-related academic qualifications.

Summary

In terms of the demographics of RMAs around the world, the RASPerS (Research Administration Stress Perception Survey, Shambrook et al., 2015), and RAAAP (Research Administration as a Profession, Dutta et al., 2023, Chapter 2.3; Kerridge & Scott, 2018a, 2018b; Kerridge, Ajai-Ajagbe, et al., 2022; Oliveira, Fischer, et al., 2023, Chapter 2.2) datasets provide an amazing resource. However, the data need to be looked at within the context of the country in question, and in many cases, the response rate is too low for statistically robust analyses.

Overall the chapters in this section confirm that in most parts of the world the profession is predominantly female, and this is reflected on in some of the chapters in the other sections, for example, Poli, Kerridge, et al. (2023, Chapter 2.4). In addition, the profession is highly academically qualified, and while this can be partly explained by some RMAs having previously been researchers; as well as high levels of doctorates, there are also many with master's level degrees as their highest qualification. The latter seems less likely to have moved from research and more likely to have been attracted to RMA for other reasons (see Dutta et al., 2023, Chapter 2.3; Yang-Yoshihara, Poli, et al., 2023, Chapter 3.7).

The importance of collegiality and networking for RMAs is demonstrated by the large, and growing number of RMA associations. This is being explored by the NCURA funded RAPIDS (Fischer, 2023) project which is developing a professional identity values scale for RMAs. Movement towards structured professional development (Romano et al., 2023, Chapter 4.4) and even accreditation (Ritchie et al., 2023, Chapter 2.7) are explored elsewhere in this book.

Overall, just as research is not constrained by national borders, neither is the support for research – RMA is a global undertaking. Hence, RMA professionals can learn from each other, not just within their own institution, region, and country, but across the continents and the entire globe. Similarly, groups of RMAs and fledgling RMA associations can reach out for guidance and help in establishing and growing their own networks. The creation and growth of the International Network of Research Management Societies (INORMS, see Kulakowski, 2023, Chapter 1.7) is a testament to this, and also discussed by Andersen and Romano (2023, Chapter 2.8).

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References

Allen, L., Scott, J., Brand, A., Hlava, M., & Altman, M. (2014). Publishing: Credit where credit is due. *Nature*, *508*(7496), 312–313.

Andersen, J., & Romano, V. (2023). Pathways towards the creation of RMA associations. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 797–804). Emerald Publishing.

Christensen, J. F., & Smith, L. (2023). Diversity and internationalisation: A new core competence for research managers? In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 405–415). Emerald Publishing.

Dutta, M., Oliveira, C. I., Fischer, M., & Kerridge, S. (2023). Routes into research management and administration. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 125–140). Emerald Publishing.

European Commission. (2022f, April). Action 17 – Research Management initiative. *ERA Policy Agenda*. https://era.gv.at/public/documents/4606/17_-_Enhance_public_research_institutions_strategic_capacity_explanatory_docum_4Fflm4c.pdf

Fischer, M. (2023). *RAPIDS: Research Administration Professional IDentity Values Scale*. RAPIDS. https://bit.ly/ncurarapids

Hochman, M. B. M., Tambiah, T., & Thomson, C. J. (2023). History of research management in Australia and New Zealand. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 47–53). Emerald Publishing.

Juk, J., & Baisch, R. (2023). Research management and administration in Brazil. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 485–492). Emerald Publishing.

Kerridge, S. (2023b). The profession of research management and administration in the UK. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 759–767). Emerald Publishing.

Kerridge, S., Ajai-Ajagbe, P., Kiel, C., Shambrook, J., & Wakefield, B. (2022). *RAAAP-2 datasets (17 linked datasets)*. https://doi.org/10.6084/m9.figshare.18972935.v1

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Kerridge, S., & Scott, S. F. (2018a). Research administration around the world. *Research Management Review*, *23*(1), 34.

Kerridge, S., & Scott, S. (2018b). *RAAAP "Research Administration as a Profession" data sets and supporting files (Version 2)*. figshare. https://doi.org/10.6084/m9.figshare.c.4022284

Kirkland, J. (2023). The contribution of international donors to African research management. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 17–26). Emerald Publishing.

Kulakowski, E. (2023). The establishment and history of the international network of research management societies. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 83–95). Emerald Publishing.

Marčić, S., & Pepić, A. (2023). Research management and administration in the Western Balkans. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 641–646). Emerald Publishing.

Monahan, K., Shaklee, T., & Zornes, D. (2023). History of research administration/management in North America. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 27–36). Emerald Publishing.

Naffah, S. C., & Calixo, A. N. (2023). Maturity in the professionalisation of the research managers and administrators in Colombia. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 493–502). Emerald Publishing.

Oliveira, C. I., Fischer, M., Kerridge, S., & Dutta, M. (2023). The Research Administration as a Profession Survey. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 113–123). Emerald Publishing.

Oliveira, F., Trentini, A., & Poli, S. (2023). Understanding organisational structures in RMA – An overview of structures and cases in a global context. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 231–246). Emerald Publishing.

Poli, S., Kerridge, S., Ajai-Ajagbe, P. A., & Zornes, D. (2023). Research management as labyrinthine – How and why people become and remain research managers and administrators around the world. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 141–154). Emerald Publishing.

Poli, S., Oliveira, F., & Trentini, A. (2023). Exploring forms of knowledge and professionalism in RMA in a global context. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 221–230). Emerald Publishing.

Ritchie, J., Lythgoe, E., & Donovan, D. (2023). RMA education, training and professional development in North America and Europe. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 177–186). Emerald Publishing.

Romano, V., Del Bello, A., & Albanesi, A. (2023). Professional Associations and Professional Development Frameworks for RMAs. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 355–372). Emerald Publishing.

Rostan, M., Ceravelo, F. A., & Metcalfe, A. S. (2014). The internationalization of research. In F. Huang, M. Finkelstein, & M. Rostan (Eds.), *The internationalization of the academy, changes, realities and prospects* (Vol. 10). https://doi.org/10.1007/978-94-007-7278-6_7

Santos, J. M. R. C. A., Varela, C., Kerridge, S., & Fischer. M. (2023). Where do RMAs work? In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 155–166). Emerald Publishing.

Shaklee, T. (2023). Research Administration in the United States. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 473–481). Emerald Publishing.

Shambrook, J., Lasrado, V., Roberts, T. J., & O'Neal, T. (2015). *2015 Profile of a research administrator*. https://srainternational.org/sites/default/files/documents/Shambrook,%20Jennifer.pdf

Takahashi, M., & Ito, S. (2023). The profession of research management and administration in Japan. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 519–526). Emerald Publishing.

UK Research and Innovation. (n.d.). *101 Jobs that change the world*. UKRI. https://www.ukri.org/news-and-events/101-jobs-that-change-the-world/

White-Jones, A. (2022). Value in the international space: Examining the challenges and barriers on research administration international research teams. *Journal of Research Administration, 53*(1), 12–29.

Yang-Yoshihara, M., Kerridge, S., & Poli, S. (2023). Emerging trends and insights in research management and administration. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 807–814). Emerald Publishing.

Yang-Yoshihara, M., Poli, S., & Kerridge, S. (2023). Evolution of professional identity in research management and administration. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 297–307). Emerald Publishing.

Zsár, V., & Angyal, Z. (2023). Professionalisation of research support in Hungary through the lens of the non-research specific requirements of Horizon Europe. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 323–339). Emerald Publishing.

Section 6: Reflections

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Chapter 6

Emerging Trends and Insights in Research Management and Administration

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Abstract

This final chapter, presented by the book's three Editors, provides a reflection and discussion of the key findings presented throughout the book. First, it delves into the book's vision and the process of creation. The findings in the book affirm the continuous growth of the field, highlight the diverse nature of the RMA landscape, and reveal the substantial variation in the status of the profession and the availability of data among regions and countries. To understand the unique features of the RMA profession from multitude of angles and in each country's context, the Editors emphasize the importance of inviting authors to share their perspectives in their own voices and styles, which became central to the book's mission. Second, this chapter presents discussions on pivotal findings in four areas: (1) growth of the RMA profession in specific countries and regions, (2) crucial contribution of professional associations to advancing RMA, (3) essential soft skills for RMAs and promotion of diversity, equity, and inclusion, and (4) advancing RMA through increasing training and capacity-building initiatives.

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This chapter also alludes to potential policy implications and concludes with the Editors' hope that the book serves as a catalyst for further exploration of the RMA field and RMA professions.

Keywords: Profession; professional associations; soft skills; training and development; policy; gender; mental health legitimacy; Global North-South; diversity, equity, and inclusion; accreditation programmes

Reflection

The Emerald Handbook of Research Management and Administration Around the World was born out of an idea shared by the three editors to create a book that captures the state of the emerging profession of the RMAs globally. We first met at an international conference in early 2020 and continued our conversation online as the COVID-19 pandemic began. What started as a simple idea to combine our research into a paper quickly evolved into a more ambitious plan to involve authors from around the world. In retrospect, it may have seemed a little foolhardy, but we were determined to put our idea into action. The pandemic's global quarantine and subsequent remote platform innovation led to an increase in online meetings, which helped us to bridge geographical distance and encouraged us to reach out to a wider audience.

Our primary goal was to understand how research activities were managed and administered in various regions of the world, with a particular focus on identifying any cross-national differences and similarities in the evolution of the field. To achieve this, we collaborated with seven regional editors who would facilitate communication with the authors contributing to the country-specific chapters. The process was initiated with an online meeting in August of 2021, where the book's vision was conveyed to the regional editors. We also aimed to ensure a comprehensive perspective on research administration by extending invitations to both practitioners and researchers, allowing for insights from multiple viewpoints. Over the course of the following months, the potential authors were identified and requested to submit an abstract for peer review, followed by a fuller manuscript that went through several revisions.

During this time, the editors worked on securing publishers and potential sponsors, and upon receiving positive peer reviews of our proposal, Emerald Publishing came on board. Though the process sounds simple and linear, given the book's scope, the journey was anything but that. To capture snapshots of RMAs across the globe, authors were solicited from eight regions – Africa, Asia, Australasia, Middle East, East and Central Europe, West Europe, North and Central America, and South America. The various Research Administration as a Profession (RAAAP1) survey data made it possible to make comparisons across regions and generate local insights. The resultant studies presented in this book confirmed that the data availability varied greatly across regions and countries. A project of this scale required a sincere collaboration, tenacity, grit, and cross-cultural understanding among all of us. With existing theories and frameworks being predominantly produced from North American and Western European scholarship, one of our objectives was to reach regions where studies on RMAs were previously not reported, at least in the English language, and allow authors to provide their own stories in their own voices. This achievement was particularly vital to our mission.

There are a total of 77 chapters from 127 authors from over 40 countries, which is unprecedented in RMA scholarship. Given the diversity in RMA activities and the

availability of data and scholarship across regions, we anticipated a variation in each country's contribution. Some authors had to rely on anecdotal information, but such variation in methodology was considered a healthy reflection of the current state of the discipline. Another issue we encountered was the concept of objectivity, which may vary across regions. To address this, we adopted a policy where authors were encouraged to write in a style that felt most authentic and relevant to their analysis. While the editors provided guidelines, we allowed for flexibility in writing styles, including the use of a first-person point of view. Again, this was seen as a valuable reflection of the state of the profession in each country.

Throughout the book, it became evident that the increasingly global nature of research activities presents both challenges and opportunities for the professionals in this field – facilitating collaborations between institutions, navigating new funding mechanisms, and ensuring compliance with regulatory requirements that transcend national boundaries. The varying accounts presented in the book on the history, current status, and potential of RMAs around the world provide valuable insights into the emerging field.

Emerging Trends and Insights

In the following sections, we will summarise and discuss four key findings that we believe are particularly noteworthy, along with their potential policy implications.

Growth of RMA Profession in Specific Countries and Regions

As we traverse the pages of this book, a recurring theme emerges: RMAs (Research Managers and Administrators) are steadily gaining recognition on both national and international fronts, solidifying their status as vital components of the global research effort. In the preface of a reference book that covered research administration and management in the United States up to the early 2000s, Kulakowski and Chronister (2006) highlighted a noteworthy observation. They pointed out that many individuals step into the role of an RMA without even realising that they are embarking on a distinct profession. This serendipitous career path and the relatively inconspicuous presence of RMAs in higher education were recurrent findings in various studies by Western European researchers during the late 2000s and throughout the 2010s. However, the landscape is evolving. The chapters within this book provide compelling evidence that the role of RMA is gaining greater prominence as an emerging profession, and becoming increasingly visible in countries and regions such as North America, Western Europe, and some parts of Eastern Europe (Hungary, e.g., see Chapter 4.2, Zsár & Angyal, 2023), Australasia, and some parts of Africa (South Africa, e.g., see Chapter 5.4, Labuschagne, 2023) and Asia (Japan and Malaysia, e.g., see Chapters 5.12, Takahashi & Ito, 2023; and 5.13, Ibrahim & Wei, 2023). While these findings certainly present an encouraging trend, it's important to exercise caution and refrain from drawing excessively optimistic conclusions prematurely. Observations in this book from various other parts around the globe – including the South America, the Middle East, and the rest of Central and Eastern Europe as well as Africa – indicate that individuals involved in research administration often remain invisible and their roles are largely unrecognised In fact, despite the growing demand for the RMA expertise, a well-defined and structured career path for those seeking to enter the field remains a work in progress in any country. This sentiment was captured in the open-ended responses

in the RAAAP-3 survey (Kerridge, Dutta, et al., 2022); while a significant number of participants reported a strong sense of affiliation with their respective institutions, they also expressed the feeling that their actual role within the institution is not entirely understood and that they felt more connected with their broader RMA communities.

We would like to emphasise that the lack of recognition and understanding of the role RMAs play in research poses significant policy implications, both at institutional and national levels. Without clear professional trajectories for them institutions may struggle to find the right candidates to manage complex research programmes. Furthermore, this invisibility of the RMA profession could lead to a loss of talent in the field, as individuals may not consider this as a viable career option. As research activities continue to globalise, institutions may face significant challenges in keeping up with the ever-changing governmental regulations and funding requirements. The long-term research competitiveness of institutions, and even entire nations, may hinge on their ability to attract and retain a highly skilled workforce with expertise in navigating these challenges. Therefore, it is crucial for policymakers to recognise the vital role that RMAs play in facilitating global research collaborations and to take proactive measures to continue raising awareness of the profession, thereby encouraging top talent to pursue careers in this field.

Crucial Contribution of Professional Associations to Advancing RMA

Another key finding of this book is the increasing prominence of professional associations in the development and advancement of the RMA profession. The chapters in Section 1 of Part 1 have emphasised the essential roles played by various associations in North American (Chapter 1.2, Monahan et al., 2022), Western European (Chapter 1.6, Groeninx van Zoelen, 2023), some parts in South American (Chapters 5.8, Juk & Baisch, 2023; and 5.9, Naffah & Calixo, 2023), and Australasian countries (Chapter 1.4, Hochman et al., 2023), while also highlighting the emerging trend of professionalisation in regions like Africa (Chapters 1.1, Kirkland, 2023; and 5.4, Labuschagne, 2023) and Asia (Chapters 1.3, Takahashi, 2023; 5.12, Takahashi & Ito, 2023; and 5.13, Ibrahim & Wei, 2023). There are also early indications of the emergence of such associations in some parts of the Central and Eastern European countries (Chapter 1.5, Zsár, 2023a) as well as in the Caribbean (Chapter 5.6, Ivey, 2023).

Professional associations provide social and cultural capital that can help individuals working in the field to feel a sense of affiliation and foster a supportive community. While there may be variations in the specific roles and activities, intra-national associations provide understanding and networking among RMAs within particular regions and help them address localised challenges, opportunities, and solutions (Chapter 4.4). Some regional associations, such as European Association of Research Managers and Administrators (EARMA) (Chapter 1.6), Australasian Research Management Society (ARMS) (Chapter 1.4, Hochman et al., 2023), and the Southern African Research and Innovation Management Associations (the RMA) (Chapter 1.1, Kirkland, 2023), as well as international organisations such as National Council of University Research Administrators (NCURA) and Society of Research Administrators International (SRAi) (Chapter 1.7, Kulakowski, 2023) offer a sense of belonging that transcends national boundaries, contributing to the elevation of the legitimacy and mobility of RMAs.

Importantly, professional associations serve as a critical platform for RMAs to share and disseminate knowledge on emerging topics including their own identity (Chapters 3.6, Zsár, 2023b; and 3.7, Yang-Yoshihara, Poli, et al., 2023). Many of these associations hold meetings and conferences, where members can address topics that

are pertinent to the individuals working in this field. Gender and diversity may be one of the emerging topics of importance. As various chapters in the book point out, there is a large concentration of female RMAs, particularly in regions where this profession is more established. Yet, there can be a skewed representation of women when it comes to leadership and opportunity. This point will be elaborated in the next section, but the professional associations help elevate the discussions and debates to ensure that the profession advances as an equitable and inclusive field. Another area that needs attention might be mental health. Chapter 4.5 (Shambrook, 2023) addresses the demanding nature of RMA work that can take a toll on individuals working in the field, and professional associations can play an important role in supporting the health and well-being of their members. Through programmes and research, these associations can help recognise and address areas for improvement, advocating for national and institutional policies, and initiatives that raise awareness of the important role that RMAs play in the research ecosystem. Furthermore, international associations offer a vital forum for addressing global challenges. At the INORMS 2023 congress in Durban, South Africa, one of the key topics of discussion was the disparities between the Global North and South. Scholars, policymakers, and practitioners discussed the possible consequences of imbalanced partnerships, which could lead to research dependency in the Global South (Nicholson, 2023).

Essential Soft Skills for RMAs and Promotion of Diversity, Equity, and Inclusion

The book also highlights the importance of soft 'transferable' skills in RMA (see Chapters 2.3, Dutta et al., 2023; 2.8, Andersen & Romano, 2023; 3.1, Poli, Oliveira, et al., 2023; 3.7, Yang-Yoshihara, Poli, et al., 2023; 4.1, Dyason & Pillay, 2023; and 4.4, Romano et al., 2023). Expertise in communication, collaboration, and cross-cultural understanding are crucial for professionals who manage and administer research. Effective RMA requires a workforce equipped not only with hard technical expertise but also with the ability to convey complex information and to negotiate agreements between parties with different, and sometimes conflicting, interests. In today's global research landscape, where international collaborations are often vital, It is essential to establish strong relationships and partnership with key stakeholders, including researchers, funders, and institutional leaders. Research management is a dynamic profession that requires tenacity, adaptability, and empathy. Despite discussion about Artificial Intelligence (AI) making some professions obsolete, it is important to recognise that soft skills essential for effective research management may not be easily substituted by AI technologies.

Soft skills are a critical force in promoting diversity, equity, and inclusion (DEI) in research organizations and higher education insitutions (HEIs), by fostering understanding, open communication, and collaboration among individuals from diverse backgrounds. Raising awareness about DEI helps to address the systemic inequities and underrepresentation persisted in research and scientific training, and gender is one area that can be particularly pertinent to the field of RMA. The profession is predominantly female in most parts of the world (see Chapter 5.44, Kerridge, Andersen, et al., 2023), especially in the United States and Western Europe, where RMA is more established as a profession (see Chapter 2.2, Oliveira, Fischer, et al., 2023). One can argue that gender discrimination in workplace, including Higher Education Institutes (HEIs) (see Chapters 2.6, Junqueira & Bezerra, 2023; and 3.7, Yang-Yoshihara, Poli, et al., 2023) could have contributed to the invisibility of the RMA workforce. While

78% of the RAAAP-3 survey respondents were female, we realised that they represented only 63% of the authors in this book. Prioritsing DEI, efforts can enhance research management while fostering a culture of respect, collaboration, and belonging within organizations (see Chapter 4.8, Christensen & Smith, 2023). Interestingly, the RAAAP-3 survey results from Asia and Africa show a different RMA landscape, with more advanced degree holders and fewer females (see Chapter 2.2, Oliveira, Fischer, et al., 2023). This suggests a completely different RMA landscape emerging in regions where the profession is still relatively new. Tailored training and education programmes are vital to equip researchers, administrators, and policymakers with the knowledge and skills needed to promote DEI.

Advancing RMA through Increasing Training and Capacity-building Initiatives

With the growing globalisation of research, there is a pressing need to nurture and support individuals pursing careers in research management. Establishing a clear and structured professional path for RMAs can accelerate the advancement of the field. This entails implementing capacity-building initiatives with a multidisciplinary approach, covering areas such as fundamentals of research, project management, regulations and compliance, communication skills, financial management, teamwork and leadership, data management, and professional development. Some educational programmes offer master's degrees in RMA, especially in North America. In addition, many professional associations such as the US-based NCURA and SRAi, the EARMA, the UK-based Association of Research Managers and Administrators (ARMA), the International Professional Recognition Council (IPRC) associated with SARIMA, the Southern African Research and Innovation Management Association, and the ARMS in Australasia, offer accreditation or certificate programmes (see Chapters 1.2, Monahan et al., 2022; 1.4, Hochman et al., 2023; 1.6, Groeninx van Zoelen, 2023; 2.7, Ritchie et al., 2023; 2.8, Andersen & Romano, 2023; 4.4, Romano et al., 2023; 5.4, Labuschagne, 2023; 5.7, Shaklee, 2023; and 5.40, Kerridge, 2023b). Accreditation programmes may vary in their approaches and frameworks (see Chapters 2.7, Ritchie et al., 2023; and 4.4, Romano et al., 2023), however, they all provide professional development that can provide legitimacy to the field as a whole. Legitimacy elevates the mobility of RMAs, allowing them to move up the ranks within and across institutions and pursue new opportunities.

However, it is important to recognise that the benefits of professional associations and their accreditation programmes may not be evenly distributed across the globe. While accreditation programmes can help build a clearer path for RMAs and promote mobility of these professionals, they can also contribute to a widening gap between resource-rich and resource-poor institutions and nations. As discussed earlier, this book confirmed that in many countries in Eastern and Central Europe, and the Middle East, some parts of Asia and Africa, and Central and South America lack mature professional associations. The limited representation of these regions in this book perhaps reflects the state of development of the RMA profession in those areas. Institutions and countries with access to resources may be more likely to participate in accreditation programmes, harness global funding opportunities, and increase their visibility. Conversely, those without resources may lag behind, perpetuating global inequities in research resources situation could further expand inequity in research resources across the globe, and there is a need for increased efforts to reduce the potential for further widening of the gap between institutions and across countries.

Final Remarks

We hope that this book provides an insightful examination of the evolving RMA profession, drawing on the perspectives of researchers and practitioners from diverse regions and disciplines. Its primary aim is to increase the visibility and recognition of RMAs while raising social awareness about the crucial role they play in facilitating increasingly globalised research and cross-national collaborations. We encourage all those who are committed to the development of the profession to engage in education, practice, and research to help advance the field further.

As the profession of RMAs continues to grow and evolve, the book captures a snapshot of its current state. However, this is just the beginning, and ongoing dialogue and collaboration are necessary to continue to drive the field forward. It is our sincere hope that readers use this book as a platform to engage in discussions that can help shape the future of RMAs. By working together and sharing ideas, we can effectively address the challenges and capitalise on the opportunities presented by this emerging field.

References

Andersen, J., & Romano, V. (2023). Pathways towards the creation of RMA associations. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 187–198). Emerald Publishing.

Christensen, J. F., & Smith, L. (2023). Diversity and internationalisation: A new core competence for research managers? In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 405–415). Emerald Publishing.

Dutta, M., Oliveira, C. I., Fischer, M., & Kerridge, S. (2023). Routes into research management and administration. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 125–140). Emerald Publishing.

Dyason, K., & Pillay, P. (2023). Professionalisation of research management and administration in Southern Africa – A case study. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 311–322). Emerald Publishing.

Groeninx van Zoelen, A. (2023). The development of research and innovation in Europe: A short history. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 69–82). Emerald Publishing.

Hochman, M., Tambiah, T., & Thomson, C. (2023). History of research management in Australia and New Zealand. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 47–53). Emerald Publishing.

Ibrahim, S., & Wei, T. H. (2023). Development of research management in Malaysia. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 527–533). Emerald Publishing.

Ivey, P. W. (2023). The profession of research management and administration in the Caribbean community. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 463–471). Emerald Publishing.

Juk, J., & Baisch, R. (2023). Research management and administration in Brazil. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 485–492). Emerald Publishing.

Junqueira, M. A. D. R., & Bezerra, R. C. d. R. (2023). The establishment of a research project management office at a medical school in University of São Paulo, FMRP-USP, Brazil. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 167–175). Emerald Publishing.

Kerridge, S. (2023b). The profession of research management and administration in the UK. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 759–767). Emerald Publishing.

Kerridge, S., Andersen, J., Fischer, M., Hochman, M., Oliveira, F., Takahashi, M., Theron, T., & Zsár, V. (2023). Reflections on research management and administration in various countries around the world. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 799–806). Emerald Publishing.

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. I. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Kirkland, J. (2023). The contribution of international donors to African research management. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 17–26). Emerald Publishing.

Kulakowski, E. (2023). The establishment and history of the international network of research management societies. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 83–95). Emerald Publishing.

Kulakowski, E. C., & Chronister, L. U. (Eds.). (2011). *Research administration and management* (p. 916). Jones and Bartlett. ISBN: 978-1449634407.

Labuschagne, L. (2023). The profession of research management and administration in South Africa. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 443–451). Emerald Publishing.

Naffah, S. C., & Calixo, A. N. (2023). Maturity in the professionalisation of the research managers and administrators in Colombia. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 493–502). Emerald Publishing.

Nicholson, C. (2023). Global health research 'stuck in a vicious cycle' of inequity. *Research Professional News*, 31 May. https://www.researchprofessionalnews.com/rr-news-world-2023-5-global-health-research-stuck-in-a-vicious-cycle-of-inequity/

Oliveira, C. I., Fischer, M., Kerridge, S., & Dutta, M. (2023). The research administration as a profession (RAAAP) survey. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 113–123). Emerald Publishing.

Poli, S., Oliveira, C., & Zsár, V. (2023). From conceptualisation to action – The quest for understanding attitudes of research managers and administrators in the wider world. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 201–220). Emerald Publishing.

Ritchie, J., Lythgoe, E., & Donovan, J. (2023). RMA education, training and professional development in North America and Europe. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 177–186). Emerald Publishing.

Romano, V., Del Bello, A., & Albanesi, A. (2023). Professional associations and professional development frameworks. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 355–372). Emerald Publishing.

Shaklee, T. (2023). Research administration in the United States. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 473–481). Emerald Publishing.

Shambrook, J. (2023). RASPerS: Prevalence of occupational stress and associated factors in RMA professionals. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 373–383). Emerald Publishing.

Takahashi, M. (2023). Research managers and administrators in Asia: History and future expectations. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 37–45). Emerald Publishing.

Takahashi, M., & Ito, S. (2023). The profession of research management and administration in Japan. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 517–524). Emerald Publishing.

Yang-Yoshihara, M., & Poli, S. (2023). Introduction to Part 1. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 7–13). Emerald Publishing.

Yang-Yoshihara, M., Poli, S., & Kerridge, S. (2023). Evolution of professional identity in research management and administration. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 297–307). Emerald Publishing.

Zsár, V. (2023a). History of RMA in Central and Eastern European countries. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 55–68). Emerald Publishing.

Zsár, V. (2023b). The influence of RMA associations on identity and policymaking internationally. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 281–295). Emerald Publishing.

Zsár, V., & Angyal, Z. (2023). Professionalisation of research support in Hungary through the lens of the non-research specific requirements of Horizon Europe. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 323–339). Emerald Publishing.

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Glossary

A

ACU – The Association of Commonwealth Universities, https://www.acu.ac.uk/
ADEME – The French Agency for Ecological Transition, https://www.ademe.fr/en/frontpage/
AESA – European Union Aviation Safety Agency, https://www.seguridadaerea.gob.es/
AFORM – Education division at the University of Bologna, https://www.unibo.it/it/ateneo/organizzazione/amministrazione-generale/728/index.html
AGAUR – Agency for Management of University and Research Grants (Catalonia-Spain), https://fundit.fr/en/institutions/agency-management-university-and-research-grants-catalonia-agaur
AIPM – Australian Institute of Project Management, https://aipm.com.au/
AIREN – All-Island Research Excellence Network https://airen.network/
ANR – The French National Research Agency, https://anr.fr/en/
APM – Association for Project Management, https://www.apm.org.uk/
ARC – Academic Registrars' Council, https://arc.ac.uk/
ARIC – Research division at the University of Bologna, https://www.unibo.it/it/ateneo/organizzazione/amministrazione-generale/4082
ARMA – Association of Research Managers and Administrators UK, https://arma.ac.uk/ (formerly RAGnet)
ARMA-NL – Association of Research Managers and Administrators in The Netherlands (from 2008 to 2018 EUPMAN), https://armanl.eu/
ARMA-T – Association of Research Managers and Administrators in Austria
ARMS – Australasian Research Management Society, https://www.researchmanagement.org.au/
ARRA – American Recovery and Reinvestment Act of 2009, https://www.fcc.gov/general/american-recovery-and-reinvestment-act-2009
ARWU – The Academic Ranking of World Universities, also known as the Shanghai Ranking, https://www.shanghairanking.com/
ATTP – Associations of Technology Transfer Professional, Promoting and maintaining global standards in knowledge and technology transfer, https://attp.global/
AUFOS – Austrian non-university research organisations grant office services
AURAM – Austrian Universities` Research Managers and Administrators Network, https://aurora-universities.eu/infrastructure/auram-austrian-universities-research-administrators-and-managers/
AUTM – Association of University Technology Managers, non-profit association to educate, promote and inspire professionals to support the development of academic research, https://autm.net/

B

BESTPRAC – COST Targeted Network to be the Voice of research administrators building a network of administrative excellence, https://bestprac.eu/home/
BI – Business Intelligence
BPI – Best Practice Institute, a leadership development, executive coaching, and HR Benchmark Research company, https://www.bestpracticeinstitute.org/?view=guest
BRAMA – Brazilian Research Administration and Management Association, http://www.bramabrazil.org/

C

CabRIMA – Caribbean Research and Innovation Management Association, the professional body of research administrators in the English-speaking Caribbean, https://www.utech.edu.jm/academics/sgsre/the-caribbean-research-and-innovation-management-association-cabrima

CAP ® – Certified Administrative Professional, https://ihrmglobal.org/certified-administrative-professional-cap/

CARA – Canadian Association of Research Administrators, https://cara-acaar.ca/ (formerly CAURA)

CARDEA – an EU funded project to enable the Professionalisation of Research Management as a valued career choice, https://www.ucc.ie/en/cardea/

CARICOM – Caribbean Community, a grouping of twenty countries consisting of fifteen Member States and five Associate Members, https://dppa.un.org/en/caribbean-community-caricom

CARMA – The Catalan Research Managers network, https://agaur.gencat.cat/en/internacional/support_for_European_projects/xarxa-de-gestors-00001/

CASSSP – Chinese Association of Science of Science and S&T Policy Research, http://english.cast.org.cn/index.html

CAURA – Canadian Association of University Research Administrators (now CARA)

CDP – Continuing Professional Development, https://cpduk.co.uk/

CEA – The Chinese Economic Association is a not-for-profit research association to advance the knowledge of the general public about economic development in China, and to promote and publish research on the Chinese economy. https://ceauk.org.uk/

CERC – The Canada Excellence Research Chairs offers universities awards to support researchers and their teams to establish ambitious research programs, https://www.cerc.gc.ca/home-accueil-eng.aspx

CFI – Canada Foundation for Innovation is a non-profit corporation that invests in research infrastructure at Canadian universities, colleges, research hospitals and non-profit research institutions, https://www.innovation.ca/

CFR – The Code of Federal Regulations, https://www.govinfo.gov/app/collection/cfr

CFREF – Canada First Research Excellence Fund helps postsecondary institutions excel globally in research areas that create long-term economic advantages for Canada, https://www.cfref-apogee.gc.ca/home-accueil-eng.aspx

CIHR – Canadian Institute of Health Research is Canada's federal funding agency for health research, https://cihr-irsc.gc.ca/e/193.html

CNR – National Research Council is the largest public research institution in Italy, the only one under the Research Ministry performing multidisciplinary activities, https://www.cnr.it/en

CNRS – The French National Centre for Scientific Research explores the living world, matter, the Universe, and the functioning of human societies to meet the major challenges of today and tomorrow, https://www.cnrs.fr/en/cnrs

COFAR – Council of Financial Assistance Reform

COGR – Council of Governmental Relations, https://www.cogr.edu/

COST – European Cooperation in Science and Technology, https://www.cost.eu/

COST BESTPRAC – COST targeted network officially ended in October 2019, it has remained active now part of EARMA https://bestprac.eu/home/

CRA – Certificate in Research Administration (by EARMA), https://earma.org/courses-and-training/

CRA® – Certified Research Administrator, a registered professional certification offered by Research Administrators Certification Council (RACC), https://www.cra-cert.org/cra-body-of-knowledge

CRC – Canada Research Chairs, https://www.chairs-chaires.gc.ca/home-accueil-eng.aspx

CRIS – Current Research Information System, https://www.wlv.ac.uk/its/digital-campus/current-research-information-system-cris/

CRM – Certificate in Research Management (EARMA, ARMA, CARA), https://arma.ac.uk/qualifications/

CRL – Certificate in Research Leadership (EARMA, ARMA, CARA), https://arma.ac.uk/wp-content/uploads/2017/08/CLRM-Fact-Sheet.pdf
CZARMA – Czech Association of Research Managers and Administrators, https://www.czarma.cz/en

D

DARMA – Danish Association for Research Managers and Administrators, https://darma.dk/
DFF – Independent Research Fund Denmark, https://dff.dk/en
DHET – Republic of South Africa Department of Higher Education and Training, https://www.dhet.gov.za/
DNRF – Danish National Research Foundation, https://dg.dk/en/
DOD – Department of Defence (USA), https://www.defense.gov/
Dog – a person's best friend
DFHERIS – Department of Further and Higher Education Research Innovation & Science, Ireland, https://www.gov.ie/en/organisation/department-of-higher-education-innovation-and-science/#
DOL – Department of Labour (USA), https://www.dol.gov/

E

EARMA – The European Association of Research Managers and Administrators, https://earma.org/
EEA – European Economic Area, https://www.efta.int/eea
EMBRAPA – Brazilian Agricultural Research Corporation as one of the major public research institutions in Brazil, https://www.embrapa.br/en/international
Emiratisation – A collection of initiatives, incentives, and provisions of the UAE Government to increase the number of Emirati nationals employed in public and private sectors
ERA – Electronic Research Administration, https://www.era.nih.gov/
ESRAM – Early-Stage Research Administrators Masterclass (EARMA), https://earma.org/conferences/earma-early-stage-research-administrator-masterclass/
EUA – The European University Alliance aims to support the internationalisation of European Higher Education, https://europeanunialliance.eu/
EUA – The European University Association plays a crucial role in the Bologna Process and in influencing EU policies on higher education, research and innovation, https://eua.eu/
EU-ERFA – The purpose of EU-ERFA is to enhance knowledge about Horizon Europe among administrative staff members at public research institutions, https://ufm.dk/en/research-and-innovation/funding-programmes-for-research-and-innovation/eu-and-international-funding-programmes/horizon-europe/counselling/network-groups/the-eu-erfa-networking-group
EUPMAN – EU Project Managers network in the Netherlands until 2018 then ARMA-NL, https://armanl.eu/

F

FAPESP – São Paulo Research Foundation (Brazil) to support only research institutions located in São Paulo state, https://fapesp.br/en
FDP – Federal Demonstration Partnership, https://thefdp.org/default/
FFA – The Norwegian Research Institute's cooperative body, https://www.earto.eu/member/ffa-association-of-norwegian-research-institutes/
FFATA – Federal Funding Accountability and Transparency Act
Finn-ARMA – Finnish Association of Research Managers and Administrators, https://finn-arma.fi/
FNP – Foundation for Polish Science, https://www.fnp.org.pl/en/

FoRMAtion – FoRMAtion aims to support students in higher education as potential Research Managers and Administrators (RMAs) by reinforcing the high-level and transversal skills needed for developing and managing excellent European research, innovation and educational projects, https://www.formation-rma.eu/
FORTRAMA – German Association of Research Managers, https://fortrama.net/
FP – Framework Programme
FPs – EU Framework Programmes, https://cros-legacy.ec.europa.eu/content/research-projects-under-framework-programmes-0_en
FRM – Financial Risk Manager
FTE – Full Time Equivalent (in relation to employment or effort on a project)

G

GAO – Government Accounting Office, https://www.gao.gov/
GDP – Gross Domestic Product

H

HE – Higher education is the tertiary level of education leading to award of an academic degree. Higher education, also called post-secondary education, third-level or tertiary education, is an optional final stage of formal learning that occurs after completion of secondary education
HEIs – Higher Education Institutions, education providers at the post-secondary levels
HERD – Higher Education Research and Development
HEU – Horizon Europe is a research and innovation funding programme until 2027, https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en
HR – Human Resources
HRPP – Human Research Protection Program, https://www.hhs.gov/ohrp/index.html

I

IACUC – Institutional Animal Care and Use Committees, https://olaw.nih.gov/resources/tutorial/iacuc.htm
ICEARMA – Icelandic Association for Research Managers and Administrators, https://icearma.is/
ICT – Information and Communications Technology
IDEX – A cryptocurrency
IFD – Innovation Fund Denmark, https://innovationsfonden.dk/en
IHE – Institution of Higher Education
INORMS – International Network of Research Management Societies, https://inorms.net/
INRAE – National Research Institute for Agriculture, Food, and the Environment, https://www.inrae.fr/en
INRIA – National Institute for Research in Digital Science, and Technology, https://www.inria.fr/en
INSERM – National Institute of Health and Medical Research, https://www.inserm.fr/en/home/
IP – Intellectual Property
IPMA – The International Project Management Association develops project management competences in their geographic areas of influence as well as training organizations and consulting companies, https://ipma.world/
IPR – Intellectual Property Rights
IR – Institutional Research
IRB – Institutional Review Boards
IRIS project – Institutional Research Information Systems project
IUA – International Underwriting Association, https://www.iua.co.uk/

K

KAU – King Abdulaziz University, https://www.kau.edu.sa/home_english.aspx
KAUST – King Abdullah University of Science and Technology (KAUST) in Saudi Arabia, https://www.kaust.edu.sa/en
KE – Knowledge Exchange
KM – Knowledge Mobilisation
KOsRIS II – coordination of independent research institutes of Slovenia, https://www.kosris.si/kdo-smo/
KRAB – Polish National Council of Research Project Coordinators, http://www.krab.edu.pl/
KSA – Knowledge Sharing Alliance, https://www.oecd.org/knowledge-sharing-alliance/
KSU – The Kunsill Studenti Universitarji (University Students' Council) is the oldest national student union in Europe, https://www.ksu.org.mt/about/ksu-today OR King Saud University https://ksu.edu.sa/en/
KT – Knowledge Transfer

L

L-ARMA – un-official association of research managers and administrators in Lithuania

M

MEN – Polish Ministry of Education and Science, https://www.gov.pl/web/science/ministry1
MESR – The Luxembourg Ministry of Higher Education and Research, https://mesr.gouvernement.lu/en.html
MRC – Medical Research Council to fund research at the forefront of science to prevent illness, develop therapies and improve human health, https://www.ukri.org/councils/mrc/
MUR – Ministry University and Research (Italy), https://www.mur.gov.it/it
MyRMA – Malaysia Association of Research Managers and Administrators, http://myrma.org/

N

NARMA – Norwegian Association of Research Managers and Administrators, https://narma.no/
NARMA/UHR – The Norwegian Network for Research Administration, https://narma.no/om-narma/english-about-narma-and-contact/and The Norwegian Association of Higher Education Institutions, https://www.uhr.no/en/about-uhr/
NAWA – Polish National Agency for Academic Exchange, https://nawa.gov.pl/en/nawa
NCAR – National Conference on the Administration of Research
NCBR – Polish National Centre for Research & Development, https://www.gov.pl/web/ncbr-en
NCN – Polish National Science Centre, https://www.ncn.gov.pl/en
NCP – National Contact Point
NCP-PL – Polish National Contact Point for Research Programmes of the EU, https://www.gov.pl/web/ncbr-en/national-contact-point and https://www.fnp.org.pl/en/partner/krajowy-punkt-kontaktowy/
NCURA – National Council of University Research Administrators, https://www.ncura.edu/Home.aspx
NCURA UIH – The National Council of University Research Administrators, https://www.ncura.edu/Home.aspx Association of Higher Education Institutions
NEOM – NEOM City, Saudi Arabia, https://www.neom.com/en-us
NFR – The Norwegian Research Council, https://www.forskningsradet.no/en/
NGMA – National Grants Management Association, https://www.ngma.org/
NIH – National Institutes of Health, https://www.nih.gov/
Non-RPO – Non Research Performing Organisations
NORDP – National Organization of Research Development Professionals, to advance the global capacity for and impact of research by strengthening the practice and profession of research development., https://www.nordp.org/

NRC – National Research Council, (Italy) https://www.cnr.it/en, (Canada) https://nrc.canada.ca/en, (USA) https://tethys.pnnl.gov/organization/national-research-council-national-academies-nrc
NRDIO – National Research, Development, and Innovation Office, https://nkfih.gov.hu/about-the-office
NRRP – National Recovery and Resilience Plan, https://www.mef.gov.it/en/focus/The-National-Recovery-and-Resilience-Plan-NRRP/
NSERC – Natural Sciences and Engineering Research Council, https://www.nserc-crsng.gc.ca/index_eng.asp
NSF – National Science Foundation, https://www.nsf.org/gb/en
NSTC – National Science and Technology Council, https://www.gov.uk/government/groups/office-for-science-and-technology-strategy
NTG – Next Tourism Generation Alliance, https://nexttourismgeneration.eu/
NUAS – The Nordic Association of University Administrators, https://www.nuas.org/
NUC – National Universities Commission is a government commission for promoting quality higher education in Nigeria, https://www.nuc.edu.ng/

O

OEPUK – The Austrian Private Universities Conference, https://oepuk.ac.at/?lang=en
OHRP – Office of Human Research Protections, https://www.hhs.gov/ohrp/index.html
OMB – Office of Management and Budget, https://www.whitehouse.gov/omb/
OPRR – Office for Protection from Research Risks, https://www.cambridge.org/core/journals/politics-and-the-life-sciences/article/abs/office-for-protection-from-research-risks-oprr/ACF481E5D264AA8EEAEBA406F45779C6
ORD – Office of Research and Development, https://www.research.va.gov/
OSRD – Office of Science Research and Development, https://www.loc.gov/rr/scitech/trs/trsosrd.html
OSTP – Office of Science and Technology Policy, https://www.whitehouse.gov/ostp/

P

PAN – Polish Academy of Sciences, https://pasific.pan.pl/polish-academy-of-sciences/
PAPFE – The Student Permanence and Training Support Program, https://prip.usp.br/apoio-estudantil/
PCAST – President's Council of Advisors on Science and Technology, https://www.whitehouse.gov/pcast/
PCF – Professional Competency Framework
PDF – Professional Development Framework
PI – Principal Investigator (leader of a research project)
PIA – Le Programme d'investissements d'avenir, https://www.gouvernement.fr/le-programme-d-investissements-d-avenir
PIC – Participant Identification Code (for EU Framework Programmes)
PIoS – Professionals at the Interface of Science
PMBoK – Project Management Body of Knowledge
PMI – Project Management Institute, https://www.pmi.org.uk/
PMP® – Project Management Professional, a registered professional certification offered by Project Management Institute, https://www.pmi.org.uk/prof-development/professional-qualifications
PNCDI – Romanian National Plan for Research, Development, and Innovation, https://uefiscdi.gov.ro/programe-pncdi-iii-coordonate-de-uefiscdi
POC – Proof Of Concept
POPIA – Protection of Personal Information Act
PraxisAuril – PraxisUnico supports the knowledge exchange and research commercialisation profession, https://www.praxisauril.org.uk/
PRIM&R – Public Responsibility in Medicine and Research, https://primr.org/

Q

QEF – QEF's mission is to safeguard the standards and enhance the quality of Icelandic higher education and the management of research activities, https://qef.is/

R

RAAAP – Research Administration As A Profession survey and data sets, https://inorms.net/activities/raaap-taskforce/ and https://bit.ly/raaap
RACC – Research Administrators Certification Council, https://www.cra-cert.org/
RAPIDS – Research Administration Professional IDentity Values Scale (a project), https://bit.ly/ncurarapids
RASperS – Research Administration Stress Perception Survey (a series of surveys)
R&D – Research and Development
R&I – Research and Innovation
REAC – The Research Evaluation and Allocation Committee
REF – Research Excellence Framework – a multi-annual research assessment process in the UK, https://www.ref.ac.uk/
RFP – Request for Proposals
RI – Research Institution (broadly equivalent to an RPO)
RM ROADMAP – an EU funded project to create and inform a bottom-up consensus on the future of Research Management https://www.rmroadmap.eu/
RMA – Research Management and Administration (the occupation/profession/area)
RMA – Research Manager and Administrator (an individual working in RMA)
RMAN-J – Research Manager and administrator network Japan, https://www.rman.jp/english/
ROI – Return on Investment
RPO – Research Performing Organisations
RSOs – Research Support Offices

S

SADC – Southern African Development Community, https://www.sadc.int/
SAM – Medical Shared Support Services at UNIBO, https://www.unibo.it/it/ateneo/organizzazione/amministrazione-generale/3080
SARIMA – Southern African Research and Innovation Management Association, https://www.sarima.co.za/
Sheikh – An Arab leader, the chief or head of an Arab tribe, family, or village
Sheikha – A female member of a ruling Arab family
SNCDI – Strategy for Research, Development, and Innovation, https://gov.ro/en/government/cabinet-meeting/national-research-development-and-innovation-strategy-sncdi-2014-2020-engine-of-economic-and-social-development
SNITTS – A non-profit member-driven organisation and a knowledge arena for actors in the academic innovation support system, https://www.snitts.se/
SNS – Science, Technology, and Innovation National Systems
SRA – Society for Research Administrators (now SRAI)
SRAI – Society for Research Administrators International, https://www.srainternational.org/home (formerly SRA)
SSHRC – Social Sciences and Humanities Research Council, https://www.sshrc-crsh.gc.ca/home-accueil-eng.aspx
STI – Science, Technology, and Innovation
STPC – Icelandic Research Council, https://www.government.is/topics/science-research-and-innovation/science-and-technology-policy-council/
SUPA – Society of University Patent Administrators now AUTM, https://autm.net/about-autm/mission-history
SWARMA – Swedish Association of Research Managers and Administrators, https://swarma.se/en/english/

T

TETFUND – Tertiary Education Trust Fund, https://tetfund.gov.ng/
THEA – Technological Higher Education Association, https://www.thea.ie/
TRANSFERA – a partnership platform for technology transfer within Czech universities providing assistance to academic research groups and facilitating communication with industry, https://portfolio.transfera.cz/en/technology-overview/

U

UNIBO – Alma Mater Studiorum, University of Bologna, https://www.unibo.it/it
USAID – International development agency and a catalytic actor driving development results, https://www.usaid.gov/

V

V4 + WB Network – The network to strengthen the network of Researchers Managers and Administrators (RMAs) from Visegrad Four (V4) and Western Balkan (WB) countries, https://hetfa.eu/international-projects/v4wb-rmas/

W

WACMR – West African Council for Medical Research
WARIMA – West African Research and Innovation Management Association, https://warima.org/
WFH (USA) – World Federation of Haemophilia, https://wfh.org/usa/
WHO – World Health Organization, https://www.who.int/

References

References

AAMRI. (2023). *Association of Australian Medical Research Institutes.* https://www.aamri.org.au

Aarrevaara, T., & Dobson, I. R. (2016). An analysis of the opinions of university non-academic staff in the Nordic countries. *Journal of the European Higher Education Area*, *3*, 1–14.

Abdul Hamid, Z. (2018, October 29). A centralised research management agency. *New Straits Times*. Retrieved May 5, 2022, from https://www.nst.com.my/opinion/columnists/2018/10/426094/centralised-research-management-agency

Abouammoh, A. M. (2018). The regeneration aspects for higher education research in the Kingdom of Saudi Arabia. In J. Jung, H. Horta, & A. Yonezawa (Eds.), *Researching higher education in Asia: History, development and future* (pp. 327–352). Springer. https://doi.org/10.1007/978-981-10-4989-7_19

Abu Dhabi Department of Education and Knowledge (ADEK). (2022). *Higher education institutions in Abu Dhabi*. https://www.adek.gov.ae/en/Education-System/Higher-Education/List-of-Higher-Education-Institutions-in-Abu-Dhabi

Academy of Sciences Malaysia (ASM). (2021). *Science outlook 2020: Unlocking the future*. ASM.

Acker, S., McGinn, M. K., & Campisi, C. (2019). The work of university research administrators: Praxis and professionalization. *Journal of Praxis in Higher Education*, *1*(1), 61–85.

Act No 2/2003. (2003). Act on public support for Scientific Research, No. 3/2003. Retrieved March 1, 2022, from https://web.archive.org/web/20070220072312/http:/eng.menntamalaraduneyti.is/Acts/nr/2700

Acts Online. (2022). Retrieved September 14, 2022, from https://www.acts.co.za/higher_education_act_1997

Adams, J. (2012). Collaborations: The rise of research networks. *Nature*, *490*(7420), 335.

African Academy of Sciences (AAS). (2018). *Africa beyond 2030. Leveraging knowledge and innovation to secure sustainable development goals*. AAS.

African Capacity Building Foundation. (2017). *Africa capacity report 2017: Building capacity in science, technology and innovation for Africa's transformation*. ACBF.

African Union. (2063). *Agenda 2063*. Retrieved November 27, 2022, from https://au.int/sites/default/files/documents/36204-doc-agenda2063_popular_version_en.pdf

AGAUR. (2010). *Professional and Curricular Profile of the International Research and Innovation Project Manager (GPIRI) in Catalonia. An overview on the generic and specific competences and the existing training needs for this professional profile. 2010 report*. https://gencat.sharepoint.com/sites/InformesobreelperfildelgestordRDI

AGAUR. (2023a). *Research Managers Network CARMA*. https://agaur.gencat.cat/en/internacional/support_for_European_projects/xarxa-de-gestors-00001/

AGAUR. (2023b, June). *11th Research Managers meeting in Catalonia*. Professionalising Research Management in Catalonia. https://agaur.gencat.cat/en/detalls/activitatagenda/11-Trobada-de-gestors-2023

AGAUR. (n.d.). *International area*. https://agaur.gencat.cat/en/internacional/index.html

Aghion, P., Dewatripont, M., & Stein, J. C. (2008). Academic freedom, private-sector focus, and the process of innovation. *RAND Journal of Economics*, *39*(3), 617–635.

Agostinho, M., Alves, C. M., Aresta, S., Borrego, F., Borlido-Santos, J., Cortez, J., Lima Costa, T., Lopes, J. A., Moreira, S., Santos, J., Trindade, M., Varela, C., & Vidal, S. (2018). The interface of science: The case for a broader definition of research management. *Perspectives: Policy and Practice in Higher Education*, *24*(1), 19–27. https://doi.org/10.1080/13603108.2018.1543215

Aigrain Report. (1969). *Scientific and technological cooperation between European Countries; Possibilities in 7 Sectors*. Doc. 7301/11/69-E, and 10.121/11/69-E Brussels.

AIPM. (2022). *Australian Institute of Project Management website*. Retrieved March 20, 2022, from https://www.aipm.com.au/home

Aithal, P. S. (2016). Creating innovators through setting up organizational vision, mission and core values: A strategic model in higher education. *International Journal of Management, IT and Engineering*, *6*(1), 310–324.

Ajelabi, I., & Tang, Y. (2010). The adoption of benchmarking principles for project management performance improvement. *International Journal of Managing Public Sector Information and Communication Technologies (IJMPICT)*, *1*(2), 1–8.

Aked, N. H., & Gummett, P. J. (1976). Science and technology in the European communities: The history of the COST projects. *Research Policy*, *5*(3), 270–294.

Akerman, K. (2020). Invisible imposter: identity in institutions. *Perspectives: Policy and Practice in Higher Education*, *24*(4), 126–130.

Akindele, A. T., & Kerridge, S. (2019, July 8–11). *Benefits of research management and administration for African universities: The way forward* [Paper presentation]. COREVIP: 2019: The Role of Higher Education Institutions in Promoting the Continental Education Strategy for Africa, Egypt. https://www.researchgate.net/publication/346962911_Benefits_of_Research_Management_and_Administration_for_African_Universities_-_The_Way_Forward

Akindele, A., & Makinde, O. (2019). *Universities in Africa – HEICAT analysis*. figshare. https://doi.org/10.6084/m9.figshare.8307569.v1

Al Ankari, K. bin M. (2013). Foreword. In L. Smith & A. Abouammoh (Eds.), *Higher education in Saudi Arabia: Achievements, challenges and opportunities* (pp. 159–166). Springer. https://doi.org/10.1007/978-94-007-6321-0_15

Al Jalila Foundation. (2023). *Mohammed Bin Rashid Medical Research Institute*. https://.aljalilafoundation.ae/what-we-do/research/mohammed-bin-rashid-medical-research-institute/

Al Kuwaiti, A., Downing, K., & Subbarayalu, A. V. (2019). Performance of Saudi Universities in Global Rankings and appropriate strategies for its improvement. *Library Philosophy and Practice (e-journal)*, *2766*. https://digitalcommons.unl.edu/libphilprac/2766/

Al-Eisa, E. S., & Smith, L. (2013). Governance in Saudi higher education. In L. Smith & A. Abouammoh (Eds.), *Higher education in Saudi Arabia: Achievements, challenges and opportunities* (pp. 27–35). Springer. https://doi.org/10.1007/978-94-007-6321-0_3

Alhuthali, S., & Sayed, A. A. (2022). Saudi Universities rapid escalation in academic ranking systems: Implications and challenges. *Controversial Ideas*, *2*(1). https://doi.org/10.35995/jci02010008

Aliyu, M. H., Iliyasu, Z., Ingles, D. J., Cassell, H. M., Lloyd, W. H., Ahonkhai, A. A., Abdu, A., Audet, C. M., & Wester, C. W. (2021). The V-RAMP program: Building research administration and management capacity in Nigeria. *Journal of Global Health Reports*, *5*, 1–8. https://doi.org/10.29392/001c.24355

ALLEA. (2017). *The European code of conduct for research integrity*. All European Academies. https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/european-code-of-conduct-for-research-integrity_horizon_en.pdf

Allen, L., Scott, J., Brand, A., Hlava, M., & Altman, M. (2014). Publishing: Credit where credit is due. *Nature*, *508*(7496), 312–313.

Allen-Collinson, J. (2006). Just 'non-academics'? Research administrators and contested occupational identity. *Work, Employment & Society*, *20*(2), 267–288. http://dx.doi.org/10.1177/0950017006064114

Allen-Collinson, J. A. (2007). 'Get yourself some nice, neat, matching box files!' Research administrators and occupational identity work. *Studies in Higher Education*, *32*(3), 295–309. https://doi.org/10.1080/03075070701346832

Allen-Collinson, J. (2009). Negative 'marking'? University research administrators and the contestation of moral exclusion. *Studies in Higher Education*, *34*(8), 941–954. https://doi.org/10.1080/03075070902755641

Allen-Collinson, J. A. (2016). Just 'non-academics'?: Research administrators and contested occupational identity. *Work, Employment and Society*. https://doi.org/10.1177/0950017006064114

Allik, J. (2003). The quality of science in Estonia, Latvia and Lithuania after the first decade of independence. *Journal of the Humanities and Social Sciences, TRAMES*, *7*(57/52), 40–52.

Al-Ohali, M., & Burdon, S. (2013). International collaboration. In L. Smith & A. Abouammoh (Eds.), *Higher education in Saudi Arabia: Achievements, challenges and opportunities* (pp. 159–166). Springer. https://doi.org/10.1007/978-94-007-6321-0_15

Al-Ohali, M., & Shin, J. C. (2013). Knowledge-based innovation and research productivity in Saudi Arabia. In L. Smith & A. Abouammoh (Eds.), *Higher education in Saudi Arabia: Achievements, challenges and opportunities* (pp. 95–102). Springer.

Alshuwaikhat, H. M., Adenle, Y. A., & Saghir, B. (2016). Sustainability assessment of higher education institutions in Saudi Arabia. *Sustainability*, *8*(8), 750. https://doi.org/10.3390/su8080750

Alsuhaibani, M., Alharbi, A., Alqaryan, S. K., Aldress, T., Alharbi, M., & Alharethy, S. (2018). The impact of the "Brain Drain" involving Saudi physicians: A cross-sectional study. *Journal of Nature and Science of Medicine*, *1*(2), 69. https://doi.org/10.4103/JNSM.JNSM_32_18

Altbach, P. G. (1998). *Comparative higher education: Knowledge, the university, and development*. Greenwood Publishing Group.

Altbach, P. G. (2013a). Advancing the national and global knowledge economy: The role of research universities in developing countries. *Studies in Higher Education*, *38*(3), 316–330. https://doi.org/10.1080/03075079.2013.773222

Altbach, P. G. (Ed.). (2013b). *The international imperative in higher education*. Springer Science & Business Media.

Altbach, P. G. (2016). *Global perspectives on higher education* (p. 303). Johns Hopkins University Press.

Altbach, P. G., & de Wit, H. (2015). Internationalization and global tension: Lessons from history. *Journal of Studies in International Education*, *19*(1), 4–10. https://doi.org/10.1177/1028315314564734

Altbach, P. G., & De Wit, H. (2018). Too much academic research is being published. *International Higher Education*. https://doi.org/10.6017/ihe.2019.96.10767

Altbach, P. G., & Umakoshi, T. (2004). Asian universities: Historical perspectives and contemporary challenges, 12–37, 58–90, 91–125, 188–215, 238–267, 328–363.

Altonji, J. G., & Blank, R. M. (1999). Race and gender in the labor market. In *Handbook of labor economics* (Vol. 3). Elsevier.

Amano, I. (2002). Structural changes in Japanese Higher Education in the 1990s. *The Journal of Educational Sociology*, *70*, 39–57.

Amsler, S. S., & Bolsmann, C. (2012). University ranking as social exclusion. *British Journal of Sociology of Education*, *33*(2), 283–301. https://doi.org/10.1080/01425692.2011.649835

Andersen, J. (2018). Preaward – Project preparation. In J. Andersen, K. Toom, S. Poli, & P. Miller (Eds.), *Research management: Europe and beyond* (pp. 147–171). Elsevier.

Andersen, P. D., Borup, M., Finnbjörnsson, T., Vals, E., & Malmér, T. (2007, January). *Foresight in the Nordic research and innovation council systems*. Risø National Laboratory. ISBN: 978-87-550-3614-7 (Risø-R-1613(EN)).

Andersen, P. I., De Craemer, D., Dello, S., Dorić, B., Obradovic Kuzminov, B., Ravagni, V., Rieneck, W., Šola Spasić, M., Zsár, V. (2019). BESTPRAC H2020 coordinator's survival kit: Overview of key coordinator tasks, issues, relevant BESTPRAC products, and other tools and resources.

Andersen, J., & Romano, V. (2023). Pathways towards the creation of RMA associations. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 187–198). Emerald Publishing.

Andersen, J., Toom, K., Poli, S., & Miller, P. F. (2017). *Research management: Europe and beyond*. Academic Press.

Andersson, B., Shah, H., Su, G., & Mayer, T. (2022). *Troika!* World Scientific. https://doi.org/10.1142/12252

Andrade, R. O. (2021). Ciência à Míngua. *PESQUISA FAPESP*, *304*(June), 34–40.

Andreson, R. (2016). *The best job of all*. NCURA. https://www.ncura.edu/Publications/ProductInfo.aspx?productcd=ChildrensBook

Anh Tuyet. (2021). Enterprises "in trouble" because of the Science and Technology Development Fund. *Vietnam Economic Journal Online*. https://vneconomy.vn/doanh-nghiep-gap-nan-vi-quy-phat-trien-khoa-hoc-va-cong-nghe.htm

ANI. (n.d.). *Evaluation CTIs*. Retrieved October 26, 2022, from https://www.ani.pt/pt/valorizacao-do-conhecimento/interface/cti-centros-de-tecnologia-e-inova%C3%A7%C3%A3o/

ANI, FCT, PI. (2021). Presentation of collaborative laboratories. *CoLABs.* Retrieved October 26, 2022, from https://www.ani.pt/media/7080/en_brochura_colab_2022.pdf

Antell, K., Foote, J. B., Turner, J., & Shults, B. (2017). Dealing with data: Science Librarians' Participation in Data Management at Association of Research Libraries Institutions. *College & Research Libraries*. https://doi.org/10.5860/crl.75.4.557

ANVUR. (n.d.). *Rapporto Biennale 2018 – ANVUR – Agenzia Nazionale di Valutazione del Sistema Universitario e della Ricerca*. Retrieved October 27, 2022, from https://www.anvur.it/rapporto-biennale/rapporto-biennale-2018/

APM. (2022). *Association for Project Management website*. Retrieved March 20, 2022, from https://www.apm.org.uk/body-of-knowledge/

APUA. (2022). *Asociace Pracovníků Univerzit*. Retrieved September 30, 2022, from https://apua.cz/

Arab News. (2022, November 24). *Saudi Arabia to launch a new strategy for research and development soon: Minister*. https://arab.news/j2g9j

ARC. (2023). *Australian Research Council.* https://www.arc.gov.au

ARMA. (2011). *A professional development framework for research managers and administrators*. Association of Research Managers and Administrators. Retrieved November 26, 2022, from https://arma.ac.uk/wp-content/uploads/2018/11/PDF-Final.docx

ARMA UK, AESA, Wellcome Trust. (2021). *Global goals: Co-creating Africa–UK research management solutions.* https://arma.ac.uk/global-goals-co-creating-africa-uk-research-management-solutions/

ARMS. (2022). *Australasian Research Management Society website*. Retrieved April 4, 2022, from https://researchmanagement.org.au/

ARMS. (2023a). *Special Interest Groups.* https://www.researchmanagement.org.au/special-interest-groups

ARMS. (2023b). *Networks.* https://www.researchmanagement.org.au/networks

ARMS. (2023c). *ARMS Foundation Level Accreditation Program (FLAP).* https://www.researchmanagement.org.au/arms-foundation-level-accreditation-program-flap

ARMS. (2023d). *What will I study?* https://www.researchmanagement.org.au/what-will-i-study

ARMS. (2023e). *Strategic plan.* https://www.researchmanagement.org.au/strategic-plan

ARMS. (2023f). *Corporate members*. https://www.researchmanagement.org.au/corporate-members

ARMS. (2023g). *Singapore*. https://www.researchmanagement.org.au/regional-interest-group/singapore

Aronsson, G., Gufstafsson, K., & Dallner, M. (2000). Sick but yet at work: An empirical study of sickness presenteeism. *Journal of Epidemiology and Community Health*, *54*, 502–509.

ARRS. (2020). *Funding and control*. http://www.arrs.si/sl/finan/letpor/.

Arthur, L. (2016). Communities of practice in higher education: Professional learning in an academic career. *International Journal for Academic Development*, *21*(3), 230–241.

ASAFAS. (2022). *Graduate School of Asian and African Area Studies*. Kyoto University. Retrieved November 26, 2022, from https://www.asafas.kyoto-u.ac.jp/en/

ASEAN. (2022, July). *STI coordinator: Co-creative mechanism in STI coordination between Japan and ASEAN*. Retrieved November 26, 2022, from https://sites.google.com/kyoto-u.ac.jp/sti-coordinator

ASEAN Secretariat. (2022). *ASEAN Plan of Action on Science, Technology, and Innovation (APASTI) 2016 – 2025*. Retrieved November 26, 2022, from https://asean.org/book/asean-plan-of-action-on-science-technology-and-innovation-apasti-2016-2025/

Ashfaque, J. M. (2017). Algebra in the house of wisdom. *Mathematics Today*, p. 212.

Asmal, K. (2001). *National plan for higher education.* South African Department of Education. Retrieved September 14, 2022, from https://www.researchgate.net/publication/44827892_National_Plan_for_Higher_Education

Association of Commonwealth Universities (ACU). (2008). *Research management staff survey*. Global Research Management Network. Retrieved October 26, 2022, from https://www.acu.ac.uk/

Association of Commonwealth Universities (ACU). (2011). *Research Global*, *2*(1), 6–7.

Association of Commonwealth Universities (ACU). (2020). *Association of Commonwealth Universities – Measures – Research management: Activities and perspectives*. ACU.

Association of Universities and Colleges of Canada. (2008). *Momentum: The 2008 report on university research and knowledge mobilization*.

Atkinson, T. N., Gilleland, D., & Barrett, T. G. (2007). The dimensions of influence on research administrator behavior: Toward a theoretical model of research administration as a public service profession. *Journal of Research Administration: Society of Research Administration*, *38*(1), 9–30.

Atwood, C. (2020). *Succession planning basics* (2nd ed.). American Society for Training and Development.

Australasian Research Management Society. (2022). *Enabling Global Research Excellence*. Retrieved October 26, 2022, from https://www.researchmanagement.org.au/

Australian Council of Professions. (n.d.). *What is a profession?* https://www.professions.org.au/what-is-a-professional/

Australian Government Department of Finance. (2017). *Commonwealth Grants Rules and Guidelines 2017*. https://www.finance.gov.au/sites/default/files/2019-11/commonwealth-grants-rules-and-guidelines.pdf

Austrian Ministry of Education, Science and Research. (n.d.). *Wie entwickelt sich die Forschungsfinanzierung?* https://www.bmbwf.gv.at/Themen/Forschung/Forschung-in-%C3%96sterreich.html

AXELOS. (2022). *What is Prince2 webpage?* Retrieved March 20, 2022, from https://www.axelos.com/best-practice-solutions/prince2/what-is-prince2

Ayyar, S. (2021a). *First Indian delegation at the congress of the International Network of Research Management Societies (INORMS 2018)*. https://indiaalliance.org/news/first-indian-delegation-at-the-congress-of-inorms

Ayyar, S. (2021b). *Second Indian delegation at the congress of the International Network of Research Management Societies (INORMS 2021)*. https://indiaalliance.org/news/inorms-hiroshima

Ayyar, S., & Jameel, S. (2019). India Research Management Initiative (IRMI) – An initiative for building research capacity in India. *Wellcome Open Research*, *4*, 18. https://doi.org/10.12688/wellcomeopenres.15073.2

Baas, J., Boyack, K., & Ioannidis, J. P. A. (2021). *August 2021 data-update for "Uptodated science-wide author databases standardized citation indicators"* (Mendeley Data; Version V3) [Data set]. Elsevier BV. https://doi.org/10.17632/btchxktzyw.3

Backman, J., Haverinen, S., & Bingham, E. (2023). The profession of research management and administration in Finland. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 663–667). Emerald Publishing.

Bagani, K. (2022, April). *Dreamed it! Believed in it! Did it! And still a long way to go for research -administration at Ahmedabad University*. https://www.ncura.edu/portals/0/docs/magazine/rainasiapacific_ncuramagazine_marchapr2022.pdf

Balazs, K., Faulkner, W., & Schimank, U. (1995). Transformation of the research systems of post-communist Central and Eastern Europe: An introduction. *Social Studies of Science*, *25*(4), 613–632.

Ball, S. J. (2015). Living the neo-liberal university. *European Journal of Education*, *50*(3), 258–261. https://doi.org/10.1111/ejed.12132

Baloyi, M. C. (2015). *Mergers in South African higher education: Realization of policy intentions?* [UNISA]. https://uir.unisa.ac.za/bitstream/handle/10500/20938/thesis_baloyi_mc.pdf?sequence=1&isAllowed=y

Baltaru, R. D., & Soysal, Y. N. (2018). Administrators in higher education: Organisational expansion in a transforming institution. *Higher Education*, *76*(2), 213–229.

Banaji, M. R., & Greenwald, A. G. (2016). *Blindspot: Hidden biases of good people*. Bantam.

Banscherus, U., Baumgärtner, A., Böhm, U., Globchykova, O., Schmitt, S., & Wolter, A. (2017). Wandel der Arbeit in Wissenschaftsunterstützenden Bereichen an Hochschulen. *Hochschulreformen und Verwaltungsmodernisierung aus Sicht der Beschäftigten. Study 362*. Hans-Böckler-Stiftung.

Baral, A. (2021, December). From national to international: A concept made functional. *NCURA Magazine*. https://www.ncura.edu/Portals/0/Docs/Magazine/RAinAsiaPacific_Dec2021_NCURAMagazine.pdf

Barbosa, C., Borrego, F., Costa, T., Ferreira, A., Martins, M., Moreira, S., Santos, J., & Silva, J. (2023). The profession of research management and administration in the Portugal. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 735–744). Emerald Publishing.

Baré, L., Beard, J., Marshman, I., & Tjia, T. (2021). *Does the COVID-19 emergency create an opportunity to reform the Australian university workforce?* LH Martin Institute, University of Melbourne. https://melbourne-cshe.unimelb.edu.au/lh-martin-institute/fellow-voices/evolving-australian-university-workforce

Barnett, R. (1990). *The idea of higher education*. McGraw-Hill Education (UK).

Barnett, R. (1997). *Higher education: A critical business*. McGraw-Hill Education (UK).

Barnett, R. (2008). Critical professionalism in an age of supercomplexity. In B. Cunningham (Ed.), *Exploring professionalism* (pp. 190–209). Institute of Education, Bedford Way Papers.

Barnett, R. (2017). *The ecological university: A feasible utopia*. Routledge.

Barnett, R., & Di Napoli, R. (2008a). Introduction. In R. Barnett & R. Di Napoli (Eds.), *Changing identities in higher education: Voicing perspectives*. (pp. 1–8). Routledge.

Barnett, R., & Di Napoli, R. (2008b). Identity and voice in higher education: Making connections. In R. Barnett & R. Di Napoli (Eds.), *Changing identities in higher education: Voicing perspectives* (pp. 197–204). Routledge.

Baro, E. E., Bosah, G. E., & Obi, I. C. (2017). Research funding opportunities and challenges: A survey of academic staff members in Nigerian tertiary institutions. *The Bottom Line*, *30*(1), 47–64. https://doi.org/10.1108/BL-07-2016-0027

Barrow, M., Grant, B., & Xu, L. (2022). Academic identities research: Mapping the field's theoretical frameworks. *Higher Education Research & Development*, *41*(2), 240–253. https://doi.org/10.1080/07294360.2020.1849036

Beasley, K. L. (2006). The history of research administration. In E. C. Kulakowski & L. U. Chronister (Eds.), *Research administration and management* (1st ed., pp. 9–29). Jones & Bartlett Learning.

Becher, T., & Kogan, M. (1992). *Process and structure in higher education* (2nd ed.). Routledge.

Becher, T., & Trowler, P. (2001). *Academic tribes and territories: Intellectual enquiry and the culture of disciplines* (2nd ed.). Open University Press.

Behari-Leak, K., & Le Roux, M. N. (2018). Between a rock and a hard place, third space practitioners exercise agency. *Perspectives in Education*, *36*(1). https://doi.org/10.18820/2519593X/pie.v36i1.3

Beime, K. S., Englund, H., & Gerdin, J. (2021). Giving the invisible hand a helping hand: How 'Grants Offices' work to nourish neoliberal researchers. *British Educational Research Journal*, *47*(1), 1–22. https://doi.org/10.1002/berj.3697

Bell, B. (2012). Interviewing: A technique for assessing science knowledge. In E. Hoyle & J. Megarry (Eds.), *Learning science in the schools* (pp. 359–376). Routledge.

Benmousa, K., Laaziri, M., Khoulji, S., & Larbi, K. M. (2018). Web information system for the Governance of University Research Engineering. *Technology & Applied Science Research*, *8*(4), 3287–3293.

Bergeron, B. P. (2003). *Essentials of shared services*. John Wiley & Sons, Inc.

Berman, J. E., & Pitman, T. (2010). Occupying a 'third space': Research trained professional staff in Australian universities. *Higher Education*, *60*(2), 157–169. https://doi.org/10.1007/s10734-009-9292-z

Bertero, M., Farinelli, C., & Poli, S. (2012, April). From academia to management and from management to academia: The search for a new professional route. *NCURA Magazine*, *XLIV*(2), 17–19.

BESTPRAC. (2017). *Welcome to the BESTPRAC-WIKI*. Retrieved October 26, 2022, from http://www.bestprac-wiki.eu/Main_Page

BESTPRAC. (2019). *Cost targeted network TN1302. Report 2014–2019. Excellent research requires top research support!* Retrieved October 26, 2022, from https://bestprac.eu/fileadmin/mediapool-bestprac/documents/Outputs/Communication_materials/BESTPRAC_booklet_2014-2019.pdf

Bezecný, I. (2017). We can't do excellent research without excellent research management. *NCURA Magazine*, *XLIX*(6), 46–47.

Bibbo, B. (2006). Conference of expat Arab scientists begins today. *Gulf News*, April 24. https://gulfnews.com/world/gulf/qatar/conferece-of-expat-arab-scientists-begins-today-1.234144

Bin Byat, A., & Sultan, O. (2014). The United Arab Emirates: Fostering a unique innovation ecosystem for a knowledge-based economy. In S. Dutta & B. Lanvin (Eds.), *The Global Innovation Index 2014: The human factor in innovation* (pp. 101–110). https://www.globalinnovationindex.org/userfiles/file/reportpdf/GII-2014.pdf#page=101

Bjarnason, B. (1996). Presentation at Rannís General Meeting April 19th, 1996. Retrieved March 1, 2022, from https://www.bjorn.is/greinar/nr/152

Bobek, B. L. (2002). Teacher resiliency: A key to career longevity. *The Clearing House*, *75*(4), 202–205.

Bonnici, C. (2018). *University research management in European small island states: The case for Cyprus, Iceland and Malta*. [Doctoral thesis]. University of Malta]. Retrieved November 27, 2022, from https://www.um.edu.mt/library/oar/bitstream/123456789/36895/1/18PHD%20management%2001.pdf

Borden, M. H. V. (2008). The role of professional associations in the formation of professional identity. In R. Barnett & R. Di Napoli (Eds.), *Changing identities in higher education* (pp. 145–157). Bedford Way Press.

Borrás, C., Díaz, A., Alonso, E., Lorda, E., & Vera, A. (2020). *The International Research Manager in Catalonia 2020 Report (AGAUR)*. https://agaur.gencat.cat/web/.content/Documents/Internacionalitzacio/informe_IRMA_AGAUR_2020_final-en-GB.pdf

Bossu, C., & Brown, N. (Eds.). (2018). *Professional and support staff in higher education*. Springer. https://doi.org/10.1007/978-981-10-1607-3_29-2

Bossu, C., Brown, N., & Warren, V. (2018). Professional and support staff in higher education: An introduction. In C. Bossu & N. Brown (Eds.), *Professional and support staff in higher education* (pp. 1–8). Springer. https://doi.org/10.1007/978-981-10-6858-4_29

Botha, J., & Hunter-Hüsselmann, M. (2016). The management and use of research-related information by a selection of research-intensive universities in South Africa. In J. Botha & N. Muller (Eds.), *Institutional research in South African Higher Education – Intersecting contexts and practices* (pp. 99–318). SunMeDIA.

Boulton, G., & Lucas, C. (2008). *What are universities for?* [Position paper]. League of European Research Universities (LERU). https://doi.org/10.1007/s11434-011-4608-7

Brozen, Y. (1961). The future of industrial research. *The Journal of Business*, *34*(4), 434–441.AQ1

Bublitz, E., & Noseleit, F. (2011). *The skill balancing act: Determinants of and returns to balanced skills* (pp. 1–36). Jena Economic Research Papers, 2011-025.

Bundesministerium für Bildung und Forschung (BMBF). (Hrsg). (2022). *Bundesbericht Forschung und Innovation 2022. Daten und Fakten zum deutschen Forschungs- und Innovationssystem*. Retrieved September 20, 2022, from https://www.bundesbericht-forschung-innovation.de/files/BMBF_BuFI-2022_Datenband.pdf

Bush, V. (1945). *Science the endless frontier*. National Science Foundation. https://www.nsf.gov/od/lpa/nsf50/vbush1945.htm

Bush, G. P. (1954). *Bibliography on research administration annotated*. The University Press of Washington, DC.

Caldwell, J. (2022). Professional identity and professional services staff: Understanding and impact. *Perspectives: Policy and Practice in Higher Education*, *26*(4), 140–147. https://doi.org/10.1080/13603108.2022.2073288

Caligiuri, P. (2021). *Build your cultural agility: The nine competencies of successful global professionals*. Kogan Page.

Callender, C., Locke, W., & Marginson, S. (Eds.). (2020). *Changing higher education for a changing world*. Bloomsbury Academic.

Campbell, D. R. L. (2010). *The role and development of the research administration profession in higher education* [Master's Thesis]. Washington State University. http://www.dissertations.wsu.edu/Thesis/Spring2010/d_campbell_041810.pdf

Canadian Association of University Research Administrators (CAURA). (2007, May 8). *CAURA annual general meeting*. https://cara-acaar.ca/members/documents

CAPCS – Research Support Center at the Health Complex of the State University of Rio de Janeiro. (2022, September 20). http://www.capcs.uerj.br/capcs/

CARA. (2014). *Member survey*. https://cara-acaar.ca/members/documents (note: accessible only by CARA members).

CARA. (2015). *Member survey*. https://cara-acaar.ca/members/documents (note: accessible only by CARA members).

CARA. (n.d.). *Canadian Association of Research Administrators*. https://cara-acaar.ca/AboutUs

Carayannis, E. G., & Campbell, D. F. J. (2016). Mode 3 knowledge production: Systems and systems theory, clusters and networks. *Journal of Innovation and Entrepreneurship*, *5*(17), 1–24.

Carter, I., & Langley, D. (2009). Overview of research management and administration. *Perspectives: Policy and Practice in Higher Education*, *13*(2), 31–32. https://doi.org/10.1080/13603100902805359

Carvalho, V. D., Rodrigues, W. R., & Freitas, O. G., Jr. (2011). *Um Modelo de Escritório de Gerenciamento de Projetos para as Organizações Públicas: o caso da UFAL*. In Anais do 10° Congresso Brasileiro de Gestão do Conhecimento, São Paulo, SP.

Casci, T., & Adams, E. (2020). Research culture: Setting the right tone. *eLIFE*, *9*, e55543. https://doi.org/10.7554/eLife.55543

Cech, E. A. (2022). The intersectional privilege of white able-bodied heterosexual men in STEM. *Science Advances*, *8*(24), eabo1558.

Cedefop. (2021). *European inventory of NQFs 2020 – Italy*. https://www.cedefop.europa.eu/files/italy_-_european_inventory_on_nqf_2020.pdf

Center for Southeast Asian Studies (CSEAS). (2017). *Kyoto University: 50 years of history at CSEAS*. Center for Southeast Asia Studies, Kyoto University. https://history.cseas.kyoto-u.ac.jp/

Central Statistics Office. (2021, March 2). *Business Expenditure on Research & Development 2019 – 2020 – CSO*. Central Statistics Office. Retrieved September 17, 2022, from https://www.cso.ie/en/releasesandpublications/er/berd/businessexpenditureonresearchdevelopment2019-2020/

Centres of Excellence in Catalonia (CERCA). (n.d.). https://cerca.cat/en/centres-cerca/

Chalela, S. (2020). *La gestión de la investigación en universidades colombianas* [Doctoral dissertation]. Universitat Autònoma de Barcelona.

Chandler, D. (2005). *Constructing global civil society: Morality and power in international relations* (paperback ed.). Palgrave Macmillan.

Chankseliani, M., Lovakov, A., & Pislyakov, V. (2021). A big picture: Bibliometric study of academic publications from post-Soviet countries. *Scientometrics*, *126*, 8701–8730.

Chatterjee, P., & Werner, R. M. (2021). Gender disparity in citations in high-impact journal articles. *JAMA Network Open*, *4*(7), e2114509.

Checkel, J. T. (1999). Social construction and integration. *Journal of European Public Policy*, *6*(4), 545–560. https://doi.org/10.1080/135017699343469

Cherry, A., Haselip, J., Ralphs, G., & Wagner Isabella, E. (Eds.). (2018). *Africa–Europe research and innovation cooperation – Global challenges, bi-regional responses*. Palgrave Macmillan.

Chiusoli, E., Samoggia, S., & Trentini, A. (2014). "*I servizi amministrativi e gestionali nell'Area medica: una proposta" (Management and administration support services in the medical field: a proposal)*. Final project work of the Master in HE and Research Management from Milan Polytechnic 2012/2014. Olimpio Brivio and Giuseppe Colpani.

Christensen, J. F., & Smith, L. (2023). Diversity and internationalisation: A new core competence for research managers? In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 405–415). Emerald Publishing.

Chronister, L. U., & Killoren, R. (2006). The organization of the research enterprise. In E. C. Kulakowski & L. U. Chronister (Eds.), *Research administration and management* (pp. 41–61). Jones and Bartlett.

City University of New York. (2023). *Master of Science in Research Administration and Compliance*. School of Professional Studies. https://sps.cuny.edu/academics/graduate/master-science-research-administration-and-compliance

Clark, B. R. (1983). The higher education system. In B. R. Clark (Ed.), *The higher education system*. University of California Press.

Clark, B. R. (1998). Creating entrepreneurial universities: Organizational pathways of transformation. In S. M. Glynn & R. Duit (Eds.), *Issues in higher education*. Elsevier.

Cloete, N., Bailey, T., Pillay, P., Bunting, I., & Maassen, P. (2011). *Universities and economic development in Africa*. Centre for Higher Education Transformation (CHET).

Cloete, N., Bunting, I., & van Schalkwyk, F. (2018). *Research universities in Africa*. African Minds.

COARA. (2022). *Agreement on reforming research assessment. Coalition for advancing research assessssment*. https://coara.eu/app/uploads/2022/09/2022_07_19_rra_agreement_final.pdf

Coates, H., Xie, Z., & Hong, X. (2020). Engaging transformed fundamentals to design global hybrid higher education (TNE4.0). *Studies in Higher Education*, *46*(1), 166–176. https://doi.org/10.1080/03075079.2020.1859683

Cole, K. W. (2013). University faculty value the CRA – They just don't realize it yet! *Research Management Review*, *19*(2), 1–9.

Colella, A. J., McKJay, P. F., Daniels, S. R., & Signal, S. M. (2012). Employment discrimination. In *The Oxford handbook of organizational psychology* (Vol. 2). Oxford University Press.

Collins, P. H. (2015). Intersictionality's definitional dilemmas. *Annual Review of Sociology*, *41*(1), 1–20.

Commonwealth of Nations. (2013, May 8). *Commonwealth of nations*. Retrieved October 11, 2022, from https://www.commonwealthofnations.org/sectors-malaysia/education/research_institutes/

CONFIES, MCTIC, & SEBRAE. (2012, May 27). *O que pensa o pesquisador brasileiro sobre a burocracia?* http://confies.org.br/institucional/relatorio-o-que-pensa-o-pesquisador-brasileiro-sobre-a-burocracia/

Connell, R. (2019). *The good university: What universities actually do and why it's time for radical change*. Bloomsbury Publishing.

Consejo Nacional de Educación Superior – CESU. (2014). Acuerdo por lo superior 2034. Propuesta de política pública para la excelencia de la Educación Superior en Colombia en el escenario de paz.

Consort. (2017). *Scoping work on research management in sub-Saharan Africa*. Wellcome Trust. https://wellcome.org/sites/default/files/current-state-of-research-management-in-africa.pdf

Costley, C., Elliott, G. C., & Gibbs, P. (2010). *Doing work-based research: Approaches to enquiry for insider-researchers*. Sage Publications.

Council of Europe. (2020). *Council conclusions on the New European Research Area* (No. 13567/20; ECOMP.3.B). Council of Europe. https://data.consilium.europa.eu/doc/document/ST-13567-2020-INIT/en/pdf

Council of Governmental Relations (COGR). (2022). *History*. https://www.cogr.edu/history

Council of Ministers. (2005). *Regulations on the Procedure for the Development and Implementation of STPs, approved by the Resolution of the Council of Ministers of the Republic of Belarus of 31 August 2005 No. 961*. http://www.gknt.gov.by/deyatelnost/polozhenie-o-poryadke-razrabotki-i-vypolneniya-nauchno-tekhnicheskikh-programm.php

Council of Ministers of Education, Canada. (n.d.). *Postsecondary education: Number of institutions*. https://www.cmec.ca/299/education-in-canada-an-overview/index.html

Council on Governmental Relations. (2022). *History*. https://www.cogr.edu

Cox, A. M., Kennan, M. A., Lyon, L., & Pinfield, S. (2017). Developments in research data management in academic libraries: Towards an understanding of research data service maturity. *Journal of the Association for Information Science and Technology*, *68*(9), 2182–2200. https://doi.org/10.1002/asi.23781

Crespi, T. B., Rezende da Costa, P., Preusler, T. S., & Porto, G. S. (2019). The alignment of organizational structure and R&D management in internationalized public company: The EMBRAPA case. *Innovation & Management Review*, *16*(2), 193–216. https://doi.org/10.1108/INMR-07-2018-0046

Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. Sage Publications.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publications.

Crotty, M. J. (1998). *The foundations of social research: Meaning and perspective in the research process* (pp. 1–256). Sage Publications.

Croucher, G., & Woelert, P. (2016). Institutional isomorphism and the creation of the unified national system of higher education in Australia: An empirical analysis. *Higher Education*, *71*, 439–453. https://doi.org/10.1007/s10734-015-9914-6

Cultural Division, Embassy of the United Arab Emirates. (2011). *Higher education. Education in the UAE*. http://www.uaecd.org/higher-education

Cunningham, J., O'Reilly, P., O'kane, C., & Mangematin, V. (2012). The inhibiting factors that principal investigators experience in leading publicly funded research. *Journal of Technology Transfer*, *39*, 93–110. https://doi.org/10.1007/s10961-012-9269-4

Curnow, C. K., & McGonigle, T. P. (2006). The effects of government initiatives on the professionalization of occupations. *Human Resource Management Review*, *16*(3), 284–293. https://doi.org/10.1016/j.hrmr.2006.06.001

CyberPedia. (n.d.). *Profession. Approaches to the classification of professions (in Russian)*. https://cyberpedia.su/3x1067.html

Cypriot Chief Scientist for Research and Innovation. (2020, October 9). *Speech of chief scientist for Research and Innovation of the Republic of Cyprus*, Dr. Nicolas Mastroyiannopoulos – Reflect Festival. Retrieved August 11, 2022, from https://chiefscientist.gov.cy/speech-of-chief-scientist-for-research-and-innovation-of-the-republic-of-cyprus-dr-nikolas-mastroyiannopoulos-reflect-festival-09-october-2020/

CYSTAT – Cyprus Statistical Service. (2021, July 15). *Research and development activities in Cyprus in 2019* [Press Release]. Retrieved August 11, 2022, from https://www.cystat.gov.cy/en/PressRelease?id=58482

CYSTAT – Cyprus Statistical Service. (2022). *Publications: Business sectors – Tourism*. Retrieved August 11, 2022, from https://www.cystat.gov.cy/en/PublicationList?s=51&p=1

Czech Ministry of Education, Youth and Sports. (2011). *Operational programme education for competitiveness*. Retrieved December 27, 2021, from https://www.op-vk.cz/cs/siroka-verejnost/projekty/individualni-projekty-ostatni-ipo/grant-office-network-czech-republic.html

Czech Ministry of Education, Youth and Sports. (2022a). *The list of research organisations*. Retrieved June 8, 2022, from https://www.msmt.cz/vyzkum-a-vyvoj-2/seznam-vyzkumnych-organizaci

Czech Ministry of Education, Youth and Sports. (2022b). *Annual reports of the Czech universities processed by the Ministry of Education, Youth and Sports*. Retrieved November 5, 2021, from https://www.msmt.cz/vzdelavani/vysoke-skolstvi/vyrocni-zpravy-o-hospodareni

D'Agostino, R., Lasker, L., Nivin, D. T., Proctor, R., & Stevenson, B. L. (1969). Profile of a research administrator: Report of the Research Committee to the Second National Meeting of the Society of Research Administrators. *Journal of the Society of Research Administrators*, *1*(1), 3–22. https://www.srainternational.org/resources/journal/journal-archives

Daly, S. (2013). Philanthropy, the new professionals and higher education: The advent of Directors of Development and Alumni Relations. *Journal of Higher Education Policy and Management*, *35*(1), 21–33. https://doi.org/10.1080/1360080X.2012.727701

Danish Ministry of Higher Education and Science. (2011, June 28). *The University Act, Act No. 695*. https://ufm.dk/en/legislation/prevailing-laws-and-regulations/education/universities

Danish Ministry of Higher Education and Science. (2022, April 12). *The EU-ERFA Networking Group*. https://ufm.dk/en/research-and-innovation/funding-programmes-for-research-and-innovation/eu-and-international-funding-programmes/horizon-europe/counselling/network-groups/the-eu-erfa-networking-group

Day, N., & Muhammad, A. (2011). *The atlas of Islamic-world science and innovation country case study no. 1: Malaysia*. Creative Commons.

de Jong, S. (2023). A novel definition of professional staff. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 99–111). Emerald Publishing.

De Jong, S. P. L., & Del Junco, C. (under review). *How do professional staff influence academic knowledge development? A literature review and research agenda*.

De Jong, S. P. L., Smit, J. P., & Van Drooge, L. H. A. (2016). Scientists' response to societal impact policies: A policy paradox. *Science and Public Policy*, *43*(1), 102–114. https://doi.org/10.1093/scipol/scv023

Decree of the Establishment of the Higher Education System in Colombia (Decree 80/1980). Colombia. https://www.funcionpublica.gov.co/eva/gestornormativo/norma.php?i=67073

Decree of the Establishment of the National Council of Science and Technology (Decree 2859/1968). Colombia. https://minciencias.gov.co/sites/default/files/upload/reglamentacion/decreto-2869-1968.pdf

Deem, R., Hillyard, S., & Reed, M. (2010). *Knowledge, higher education, and the new managerialism. The changing management of UK universities*. Oxford University Press.

Department for Business, Energy & Industrial Strategy. (2021). *R&D people and culture strategy*. Retrieved November 26, 2022, from https://www.gov.uk/government/publications/research-and-development-rd-people-and-culture-strategy

Department for Business, Energy & Industrial Strategy. (2022, July). *Supporting UK R&D and collaborative research beyond European programmes*. Retrieved November 26, 2022, from https://www.gov.uk/government/publications/supporting-uk-rd-and-collaborative-research-beyond-european-programmes/supporting-uk-rd-and-collaborative-research-beyond-european-programmes

Department of Education. (2023). *Commonwealth Grant Scheme (CGS)*. https://www.education.gov.au/higher-education-funding/commonwealth-grant-scheme-cgs

Department of Enterprise, Trade and Employment. (2006). *Strategy for science, technology and innovation*. Rialtas na hÉireann Government of Ireland. https://enterprise.gov.ie/en/publications/publication-files/forfás/strategy-for-science-technology-and-innovation-2006-2013.pdf

Department of Finance. (2014). *Economic impact of the foreign-owned sector in Ireland*. Rialtas na hÉireann Government of Ireland. https://assets.gov.ie/181238/fa02da26-7864-4e3a-808f-53f0c862d01c.pdf

Department of Further and Higher Education, Research, Innovation and Science. (2022a). *Impact 2030: Ireland's research and innovation strategy*. Rialtas na hÉireann Government of Ireland. https://assets.gov.ie/224616/5f34f71e-e13e-404b-8685-4113428b3390.pdf

Department of Further and Higher Education, Research, Innovation and Science. (2022b, May 18). *Minister Harris launches Impact 2030: Ireland's research and innovation strategy*. Rialtas na hÉireann Government of Ireland. Retrieved January 24, 2023, from https://www.gov.ie/ga/preasraitis/18f45-minister-harris-launches-impact-2030-irelands-new-research-and-innovation-strategy/

Department of Higher Education and Training. (2020a). *Report on the evaluation of the 2020 university research outputs*. http://www.dhet.gov.za/

Department of Higher Education and Training. (2020b). *Research agenda 2020–2023*. Retrieved September 14, 2022, from https://www.dhet.gov.za/ResearchNew/APPROVED%20DHET%20RESEARCH%20AGENDA%20.pdf

Department of Higher Education and Training. (2021). *Creative outputs evaluation report 2021*. Retrieved November 26, 2022, from https://www.dut.ac.za/wp-content/uploads/2022/02/Creative-outputs-report-2020.pdf

Department of Jobs, Enterprise and Innovation. (2013). *Innovation 2020*. Rialtas na hÉireann Government of Ireland. https://enterprise.gov.ie/en/publications/publication-files/innovation-2020.pdf

Department of Science and Technology. (2017). *10 year global change research plan for South Africa.* Retrieved September 14, 2022, from https://www.dst.gov.za/index.php/resource-center/strategies-and-reports/2318-10-year-global-change-research-plan-for-south-africa

Department of Science and Technology. (2020). *Research and development statistics at a glance 2019–2020*. Department of Science and Technology. http://www.nstmis-dst.org/Pdfs/R&DStatisticsataGlance2019-20.pdf

Derrick, G., & Nickson, A. (2014). Invisible intermediaries: A systematic review into the role of research management in university and institutional research processes. *Journal of Research Administration*, *45*(2), 11–45.

DESCA. (2022). *DESCA model consortium agreement*. Retrieved October 10, 2022, from https://www.desca-agreement.eu/desca-model-consortium-agreement/

Dibb-Leigh, J. (2007). *An historical account of ARMS* [Presentation]. ARMS Conference, Australia. Retrieved November 26, 2022, from https://www.researchmanagement.org.au/sites/default/files/uploaded-content/website-content/arms_origins.pdf

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, *48*(2), 147–160. https://doi.org/10.2307/2095101

DMRID – Deputy Ministry of Research, Innovation and Digital Policy. (2022a). *Centres of excellence*. Retrieved August 11, 2022, from https://research-innovation.dmrid.gov.cy/dmrid/rd/rd.nsf/pagek0_el/pagek0_el?opendocument

DMRID – Deputy Ministry of Research, Innovation and Digital Policy. (2022b). *National research and innovation system*. Retrieved August 11, 2022, from https://research-innovation.dmrid.gov.cy/dmrid/rd/rd.nsf/pagea0_el/pagea0_el?opendocument

Dobbins, M., & Knill, C. (2009). Higher education policies in Central and Eastern Europe: Convergence toward a common model? *Governance*, *22*(3), 397–430.

Dobson, I. R. (2000). 'Them and us'—General and non-general staff in higher education. *Journal of Higher Education Policy and Management*, *22*(2), 203–210. https://doi.org/10.1080/713678142

Drummond, C. N. (2003). Strategic planning for research administration. *Journal of Research Administration*, *34*(2), 4–10.

Dubai Knowledge and Human Development Authority (KHDA). (2022, May). *Dubai's private higher education institutions open data*. https://web.khda.gov.ae/en/Resources/KHDA%E2%80%99s-data-statistics

Dubai Statistics Center. (2021). *Yearly population estimates*. https://www.dsc.gov.ae/Report/DSC_SYB_2021_01_03.pdf

Dudziak, E. A. (2012, May 27). *Quem financia a pesquisa brasileira? Um estudo InCites sobre o Brasil e a USP*. SIBiUSP. Retrieved May 27, 2022, from https://www.aguia.usp.br/noticias/quem-financia-a-pesquisa-brasileira-um-estudo-incites-sobre-o-brasil-e-a-usp/

Dunleavy, K., Noble, M., & Andrews, H. (2019). The emergence of the publicly engaged research manager. *Research for All*, *3*(1), 105–124.

Dutta, S. (2012). *The Global Innovation Index 2012: Stronger innovation linkages for global growth*. INSEAD.

Dutta, M. (2020, August). Research administration in a public health institution in India. *NCURA Magazine*. https://www.ncura.edu/Portals/0/Docs/Magazine/RAinAsiaPacific__Dutta_Aug20.pdf

Dutta, S., Lanvin, B., & Wunsch-Vincent, S. (2015). *The global innovation index 2015 – Effective innovation policies for development*. Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO).

Dutta, M., Oliveira, C. I., Fischer, M., & Kerridge, S. (2023). Routes into research management and administration. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 125–140). Emerald Publishing.

Dyason, K., & Pillay, P. (2023). Professionalisation of research management and administration in Southern Africa – A case study. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 311–322). Emerald Publishing.

Dyason, K., Williamson, C., Moyo, S., & Jackson, J. (2017). *Professionalization of research management in Southern Africa*. TDR/World Health Organisation.

Earley, P. C. (2002). Redefining interactions across cultures and organizations: Moving forward with cultural intelligence. *Research in Organizational Behavior*, *24*, 271–299.

Earley, P. C., & Ang, S. (2002). *Cultural intelligence: Individual interactions across cultures*. Stanford University Press.

Eagly, A. H., & Carli, L. L. (2008). *Through the labyrinth: The truth about how women become leaders*. Harvard Business School Press.

Eason, C. M., Mazerolle, S. M., Denegar, C. R., Burton, L., & Mcgarry, J. (2018). Validation of the professional identity and values scale among an Athletic Trainer Population. *Journal of Athletic Training*, *53*(1), 72–79. https://doi.org/10.4085/1062-6050-209-16

Egorov, I., & Carayannis, E. G. (1999). Transforming the Post-Soviet research systems through incubating technological entrepreneurship. *The Journal of Technology Transfer*, *24*(2/3), 159–172. https://doi.org/10.1023/A:1007899204658

Ely, R. J., & Thomas, D. A. (2001). Cultural diversity at work: The effects of diversity perspectives on work group processes and outcomes. *Administrative Science Quarterly*, *46*(2), 229–273.

Embrapa. (2022). *Embrapa em Números*. Retrieved March 27, 2022, from https://www.embrapa.br/en/embrapa-em-numeros

Emerald Publishing. (2020). *The power of diverse voices*. Global Inclusivity Report 2020. https://www.emeraldgrouppublishing.com/power-of-diverse-voices

Enders, J. (2004). Higher education, internationalisation, and the nation-state: Recent developments and challenges to governance theory. *Higher Education*, *47*(3), 361–382.

Enders, J., & Naidoo, R. (2022). The rise and work of new professionals in higher education. In C. Sarrico, M. J. Rosa, & T. Carvalho (Eds.), *Research handbook on academic careers and managing academics* (pp. 89–98). Edward Elgar. https://doi.org/10.4337/9781839102639.00014

Eraut, M. (1994). *Developing professional knowledge and competence*. Psychology Press.

ERC. (2020). *ERC gender action* [Presentation]. European Commission. https://erc.europa.eu/sites/default/files/document/file/ERC_gender_actions_and_data.pdf

Escobar, H. (2019, July 25). Quanto custa a burocracia na ciência? R$9 bilhões por ano. *Jornal da USP*. Retrieved September 20, 2022, from https://jornal.usp.br/universidade/politicas-cientificas/quanto-custa-a-burocracia-na-ciencia-r-9-bilhoes-por-ano/

Escobar, H. (2021, May 27). Dados mostram que ciência brasileira é resiliente, mas está no limite. *Jornal da USP*. https://jornal.usp.br/?p=425214

ESSENCE and UKCDR. (2022). *Four approaches to supporting equitable research partnerships*. https://www.ukcdr.org.uk/wp-content/uploads/2022/09/UKCDR_ESSENCE_Equitable_Research_Partnerships.pdf

ESSENCE on Health Research. (2012). *Five keys to improving research costing in low- and middle- income countries*. https://tdr.who.int/docs/librariesprovider10/meeting-reports/tdr_essence_1.12_eng.pdf

ESSENCE on Health Research. (2020). *Five keys to improving research costing in low- and middle-income countries* (2nd ed.). https://tdr.who.int/publications/m/item/2020-09-29-five-keys-to-improving-research-costing-and-pricing-in-low-and-middle-income-countries

Etzioni, A. (Ed.) (1969). *The semi-professions and their organization. Teachers, nurses, social workers.* Free Press.

EURAXESS Cyprus. (2022). *Cyprus research landscape*. Retrieved August 11, 2022, from https://www.euraxess.org.cy/cyprus/information-assistance/research-landscape

European Association of Research Managers and Administrators. (2022). *Courses & training | EARMA*. Retrieved September 22, 2022, from https://earma.org/courses-and-training/

European Commission, Directorate-General for Research and Innovation, Karamat Ali, D., Schuyt, T., & Bekkers, R. (2015). *EUFORI study: European Foundations for Research and Innovation: Synthesis report*. European Commission. https://data.europa.eu/doi/10.2777/13420

European Commission. (2011, July 21). *Towards a European framework for research careers*. Retrieved from https://era.gv.at/public/documents/2309/Towards_a_European_Framework_for_Research_Careers_final.pdf

European Commission. (2014). *Fifth RTD Framework Programme, 1998–2002*. https://cordis.europa.eu/programme/id/FP5

European Commission. (2017a). *Interim evaluation of Horizon 2020: Commission staff working document*. Directorate-General for Research and Innovation. http://dx.publications.europa.eu/10.2777/220768

European Commission. (2017b). *Peer review Poland's higher education and science system*. Horizon 2020 Policy Support Facility, Directorate-General for Research and Innovation.

European Commission. (2020). *2020 European Semester: Assessment of progress on structural reforms, prevention and correction of macroeconomic imbalances, and results of in-depth reviews under Regulation (EU) No 1176/2011* (p. 6).

European Commission. (2021a). *European research area policy agenda – Overview of actions for the period 2022–2024*. Publications Office of the European Union. https://ec.europa.eu/info/sites/default/files/research_and_innovation/strategy_on_research_and_innovation/documents/ec_rtd_era-policy-agenda-2021.pdf

European Commission. (2021b). *Eurostat – R&D expenditure, enlargement countries – Statistics on research and development*. Retrieved October 2, 2022, from https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Enlargement_countries_-_statistics_on_research_and_development

European Commission. (2021c). *Directorate-General for Research and Innovation: She figures 2021: Gender in research and innovation: Statistics and indicators*. Publications Office. https://data.europa.eu/doi/10.2777/06090

European Commission. (2022a). *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee of the regions. On a European strategy for universities (18/01/2022)*. Belgium.

European Commission. (2022b). *European Research Area Policy Agenda: Overview of Actions for the Period 2022–2024*. Publications Office of the European Union. https://doi.org/10.2777/52110

European Commission. (2022c). *Knowledge ecosystems in the new ERA. Using a competence-based approach for career development in academia and beyond*. Publications Office of the European Union. Retrieved November 27, 2022, from https://data.europa.eu/doi/10.2777/150763

European Commission. (2022d). *Research and development (database)*. Retrieved October 25, 2022, from https://ec.europa.eu/eurostat/data/database

European Commission. (2022e, October 26). *Understanding skills*. Retrieved from https://ec.europa.eu/social/main.jsp?catId=1215&langId=en[

European Commission. (2022f, April). Action 17 – Research Management initiative. *ERA Policy Agenda*. https://era.gv.at/public/documents/4606/17_-_Enhance_public_research_institutions_strategic_capacity_explanatory_docum_4Fflm4c.pdf

European Commission. (2023a). *Horizon-dashboard. For data concerning Horizon 2020 or Horizon Europe*. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/horizon-dashboard

European Commission. (2023b, September 7). *Questions and answers on the UK's Association to Horizon Europe and Copernicus*. https://ec.europa.eu/commission/presscorner/detail/en/qanda_23_4373

European Parliament. (2018). *Overcoming innovation gaps in the EU-13 Member States*. European Parliament Scientific Foresight Unit (STOA). https://www.europarl.europa.eu/RegData/etudes/STUD/2018/614537/EPRS_STU(2018)614537_EN.pdf

European Parliament. Directorate General for Parliamentary Research Services. (2020). *Building synergies between education, research and innovation by aligning the EU funding programmes*. European University Association. https://eua.eu/downloads/publications/policy%20input_synergies%20paper%20.pdf

European University Association. (2021). *University without walls. A vision for 2030*.

EUROSTAT. (2021). Regions and cities. https://ec.europa.eu/eurostat/cache/RCI/myregion/#?reg=ES51&ind=1-2_demo_r_d2jan

Evans, L. (2002). *Reflective practice in educational research*. A&C Black.

Evans, L. (2008). Professionalism, professionality and the development of education professionals. *British Journal of Educational Studies*, *56*(1), 20–38.

Evans, L. (2011). Developing research capacity in social sciences: A professionality based model. *International Journal for Researcher Development*, *1*(2), 134–149. https://doi.org/10.1108/1759751x201100010

Evans, L. (2012). Developing research cultures and researchers in HE: The role of leadership. Paper presented at the annual conference of the society for research into higher Education (SRHE), December 11, 2007. School of Education, University of Leeds. http://leeds.ac.uk/educol/documents/175679.pdf

Eveline, J. (2005). Woman in the ivory tower: Gendering feminised and masculinised identities. *Journal of Organizational Change Management*, *18*(6), 641–658.

Executive Order 12881. *Establishment of the National Science and Technology Council*. 58 FR 62491.

Executive Order 12882. *President's Committee on Science and Technology*. 58 FR 62493.

Exworthy, M., & Halford, S. (1999). *Professionals and the new managerialism in the public sector*. Open University Press.

Falk, E. (2011). Current research management practice in the Africa and Caribbean regions. *Research Global*, *2*(1), 5. Association of Commonwealth Universities (ACU).

FAPESP. (2012). 2012 Annual Report. https://fapesp.br/publicacoes/relat2012_sintese.pdf
FAPESP. (2016). 2016 Annual Report. https://fapesp.br/publicacoes/relat2016_sintese.pdf
FAPESP. (2020). *Relatório de Atividades 2020*. https://fapesp.br/relatorio2020
FAPESP. (2022a). *Escritório de Apoio Institucional ao Pesquisador (EAIP)*. Retrieved March 27, 2022, from http://www.fapesp.br/eaip
FAPESP. (2022b). *Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP) Homepage*. https://fapesp.br/13634/sobre-os-escritorios-de-apoio-institucional-ao-pesquisador-eaip
FCT. (2019). *Evaluation LAs*. Retrieved October 26, 2022, from https://www.fct.pt/apoios/unidades/avaliacoes/docs/LA_ResultadosProvisorios.xlsx
FCT. (2021). *Evaluation units*. Retrieved October 26, 2022, from https://www.fct.pt/apoios/unidades/avaliacoes/2017/docs/Avaliacao_UnidadesI&D2017_2018_Resultados_finais.xlsx
Federal Demonstration Partnership (FDP). (2022). *History*. http://www.thefdp.org/default/about/history
Fejzic-Cengic, F. (2020). Fatima Al-Fihri Founder of the First World University. *Studies in Media and Communication*, *8*(2), 14–20.
Feldman, J., Liders, G., Lowry, P., Monahan, K., Moreland, K., Pogatshnik, J., Rodis, J., & Webb, P. (2017). *The role of research administration* (4th ed.). NCURA.
Ferreira, A. (2023a). Living on the edge: Continuous precarity undermines academic freedom but not academic identity in the neoliberal academia. In A. Vatansever & Y. Kölemen (Eds.), *Free as a Bird: Academic Precariat and the state of academic freedom in the Global North* (pp. 79–100). Routledge. https://doi.org/10.4324/9781003256984-7
Fischer, M. (2023). *RAPIDS: Research Administration Professional IDentity Values Scale*. RAPIDS. https://bit.ly/ncurarapids
Fischer, M., Kerridge, S., Oliveira, C. I., & Dutta, M. (2022). *RAAAP-3 HIBARMA questionnaire (Version 3)*. figshare. https://doi.org/10.6084/m9.figshare.20459370.v3
Flesia, C. (2013). Research priorities and their impact on the national innovation system. In T. Andersson & A. Djeflat (Eds.), *The real issues of the Middle East and the Arab Spring: Addressing research, innovation and entrepreneurship* (pp. 299–313). Springer. https://doi.org/10.1007/978-1-4614-5248-5_13
Flexner, P. (1915). Is social work a profession? *School and Society*, *1*, 901–911.
Florini, A. M. (2001). Transnational civil society. In M. Edwards & J. Gaventa (Eds.), *Global citizen action*. Earthscan.
Fogel, S. (2021, March 4). *Research support office at the University of Vienna. The future of the RMA profession* [Event]. EARMA Digital Event. https://earma.wildapricot.org/event-4155067
Forest, F. (Dir.). (2021). *Les universités en France*. Presses universitaires de Rouen et du Havre.
Forfás. (2011). *The report of the Research Prioritisation Steering Group*. Forfás. https://enterprise.gov.ie/en/publications/publication-files/research-prioritisation.pdf
Forskerforbundet – The Norwegian Association of Researchers. (2021). *Gender balance at HEIs (2002–2021)/Kjønnsbalanse i UH-sektoren (2002–2021)*. https://www.forskerforbundet.no/var-politikk/fakta-om-forskning/nokkeltall-uh/
Fosci, M., Loffreda, L., Chamberlain, A., & Naidoo, N. (2019). *Assessing the needs of the research system in Kenya*. Report for the SRIA programme. Research Consulting.
Fragkiadaki, E., Triliva, S., Balamoutsou, S., & Prokopiou, A. (2013). The path towards a professional identity: An IPA study of Greek family therapy trainees. *Counselling and Psychotherapy Research*, *13*(4), 290–299. https://doi.org/10.1080/14733145.2013.768287
French Ministry of Higher Education and Research. (2018). *PAPFE. Plan d'action pour l'amélioration de la participation française aux dispositifs européens*. https://www.enseignementsup-recherche.gouv.fr/fr/plan-d-action-national-pour-/l-amelioration-de-la-participation-francaise-aux-dispositifs-europeens-46886
French Ministry of Higher Education and Research. (2022). *Etat de l'Enseignement supérieur, de la Recherche et de l'Innovation en France n°15*. https://publication.enseignementsup-recherche.gouv.fr/eesr/FR/EESR-FR.pdf
French Ministry of Higher Education and Research. (2023). *RéFéRens*. REFérentiel des Emplois-types de la recherche et de l'Enseignement Supérieur. https://data.enseignementsup-recherche.gouv.fr/pages/la_bap/?refine.referens_bap_id=J
Frølich, N., Christensen, T., & Stensaker, B. (2019). Strengthening the strategic capacity of public universities: The role of internal governance models. *Public Policy and Administration*, *34*(4), 475–493. https://doi.org/10.1177/0952076718762041

Fumasoli, T., & Huisman, J. (2013). Strategic agency and system diversity: Conceptualizing institutional positioning in higher education. *Minerva*, *51*, 155–169.

Gamboa, E. B., Falla, D. G., & Pallares, C. (Eds.). (2022). *Modelo de Gestión Institucional de la Investigación y la Innovación en Instituciones de Educación Superior de América Latina*. ASCUN, Editorial UPTC, Fondo Editorial Universidad Antonio Nariño y Universidad de Manizales, Bogotá, Colombia. https://doi./10.19053/9789588481562

Gander, M., Girardi, A., & Paull, M. (2019). The careers of university professional staff: A systematic literature review. *Career Development International*, *24*(7), 597–618. https://doi.org/10.1108/CDI-07-2018-0191

Garcia, J. E. M., Visco, M. A. L., & Bernardes, R. C. (2013). Escritório de projetos aplicado a PD e I: O caso do hospital Albert Einstein. *Gestão e Saúde*, *4*(3), 1063–1083.

Garrido, R., Trowbridge, C. A., & Tamura, N. (2019). Ten simple rules for providing optimal administrative support to research teams. *PLoS Computational Biology*, *15*(10), e1007292.

Gergely, A. (2003). *Közép-Európa lengyel perspektívából*. (*Central Europe through the Polish perspective*). *14*(3), 9–12.

Gerhart Center. (2017). *Catalysing impact investing: The case of Emirates Foundation*. https://documents.aucegypt.edu/Docs/Business/Emirate%20Foundation.pdf

Gibbons, M. (1998). Higher education relevance in the 21st century.

Gibbs, T., & Kharouf, H. (2020). The value of co-operation: An examination of the work relationships of university professional services staff and consequences for service quality. *Studies in Higher Education*, *0*(0), 1–15. https://doi.org/10.1080/03075079.2020.1725878

Giddens, A. (1991). *Modernity and self-identity: Self and society in the late modern age*. Stanford University Press.

Ginsberg, B. (2013). *The fall of the faculty* (Reprint ed.). Oxford University Press.

Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2012). Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. *Organizational Research Methods*, *16*(1), 15–31. https://doi.org/10.1177/1094428112452151

Giorgilli, F., & Bodino, A. (2019). *foRMAtion*. Retrieved September 15, 2022, from https://www.formation-rma.eu/

Gíslason, Ú. K. (2017). *Háskóli í fremstu röð? - Stoðþjónusta rannsóknaverkefna við Háskóla Íslands í evrópsku samhengi*. http://hdl.handle.net/1946/26501

Glatz, F. (2005). Közép-Kelet-Európa helyének újragondolása. (Rethinking the positioning of Central and Eastern Europe). In P. Módos (Ed.), *Közép-Európai olvasókönyv. Reading Book on Central Europe* (pp. 39–47). Az Európai Utas Alapítvány Közép-Európai Kulturális Intézete. Osiris Kiadó.

Goh, J., Pfeffer, J., & Zenios, S. A. (2015). The relationship between workplace stressors and mortality and health costs in the United States. *Management Science*, *62*(2), 608–628.

Goodman, I. (2019). Remembering 50 years in research administration. *The Journal of Research Administration*, *L*(1), 13–19.

Gordon, G., & Whitchurch, C. (Eds.). (2010). *Academic and professional identities in higher education: The challenges of a diversifying workforce*. Routledge.

Gornall, L. (1999). 'New professionals': Change and occupational roles in higher education. *Perspectives: Policy and Practice in Higher Education*, *3*(2), 44–49. https://doi.org/10.1080/13603109981847

Gornall, J. (2010). The role of the media in the Stoke CNEP saga. *Journal of the Royal Society of Medicine*, *103*(5), 173–177.

Gornitzka, Å., & Larsen, I. M. (2004). Towards professionalisation? Restructuring of administrative work force in universities. *Higher Education*, *47*(4), 455–471. https://doi.org/10.1023/B:HIGH.0000020870.06667.f1

Goschin, Z., Sandu, S., & Goschin, G.-G. (2015). How soon could Romania close the R&D gaps against EU-28? *Procedia Economics and Finance*, *22*, 160–167.

Gottipatti, P. (2020, December). Strengthening research management at a clinical institution in India: The workings of a grants office. *NCURA Magazine*. https://www.ncura.edu/Portals/0/Docs/Magazine/RAinAsiaPacific_Gottipati_Dec2020.pdf

Gottipatti, P. (2022). *Helping researchers to help themselves – Role of research management offices in capacity building*. https://www.indiaalliance.org/news/irmi-helping-researchers-to-help-themselves?fbclid=IwAR0r2IPaAXGcfFoWjZJr3xoFPSSUE6L0YmbuGnxP1lWd8smojYO47mQzhEo)

Government Accounting Office. (1966). *GAO Report*. https://www.gao.gov/assets/088039.pdf

Government Notices No. 395. (2017). *Higher Education Act: Policy on evaluation of creative outputs and innovations produced by South African Public Higher Education Institutions.* Retrieved September 14, 2022, from https://www.polity.org.za/article/higher-education-act-policy-on-evaluation-of-creative-outputs-and-inovations-produced-by-south-african-public-higher-education-institutions-2017-05-09

Government of India. (2020a). *National Education Policy 2020*. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf

Government of India. (2020b). *Science Technology and Innovation Policy 2020*. https://dst.gov.in/sites/default/files/STIP_Doc_1.4_Dec2020.pdf

Government of India. (2021). *Directory of R&D Institutions 2021*. https://dst.gov.in/sites/default/files/R%20%26%20D%20Directory%202021.pdf

Grant, J. (2021). *The new power university, The social purpose of higher education in the 21st century*. Pearson Education.

Gray, S. (2015). Culture clash or ties that bind? What Australian academics think of professional staff. *Journal of Higher Education Policy and Management*, *37*(5), 545–557. https://doi.org/10.1080/1360080X.2015.1079397

Green, J., & Langley, D. (2009). *Professionalising research management*. Retrieved September 15, 2022, from https://snowballmetrics.com/wp-content/uploads/2009-professionalising-research-management-2.pdf

Greenfield, V. A., Knopman, D., Talley, E., Bloom, G., Balkovich, E., Peterson, D. J., Bartis, J. T., Rattien, S., Rettig, R., Wang, M. Y. D., Mattock, M., Najjar, J., & Libicki, M. C. (2008). *Design of the Qatar National Research Fund: An overview of the study approach and key recommendations*. RAND Corporation. https://www.rand.org/content/dam/rand/pubs/technical_reports/2008/RAND_TR209.sum.pdf

Greenwood, R., Suddaby, R., & Hinings, C. R. (2002). Theorizing change: The role of professional associations in the transformation of institutionalized fields. *Academy of Management Journal*, *45*(1), 58–80.

Groeninx van Zoelen, A. (2023). The development of research and innovation in Europe: A short - history. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 69–82). Emerald Publishing.

Groeninx van Zoelen, A., & Kanters, E. (2023). The profession of research management and administration in the Netherlands. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 715–721). Emerald Publishing.

Grotti, S., & Suevo, S. (2021, September 28). *EARMA Digital Event: RMAs and informal power: How can we influence institutional research strategies and nudge researchers towards funding and excellence?* https://earma.wildapricot.org/event-4387879

Gryzik, A., & Knapińska, A. (Eds.). (2012). *Research and development project management in the science sector*. National Information Processing Institute – National Research Institute (in Polish).

GSES. (n.d.). *Graduate School of Energy Science*. Kyoto University. Retrieved November 26, 2022, from https://www.energy.kyoto-u.ac.jp/en/

GSGES. (2022, May). *Graduate School of Global Environmental Studies*. Kyoto University. Retrieved November 26, 2022, from https://www.ges.kyoto-u.ac.jp/en/

GSHES. (n.d.). *Graduate School of Human and Environmental Studies*, Kyoto University. Retrieved November 26, 2022, from https://www.h.kyoto-u.ac.jp/en/gr/

Gui, Q., Liu, C., & Du, D. (2019). Globalization of science and international scientific collaboration: A network perspective. *Geoforum*, *105*, 1–12. https://doi.org/10.1016/j.geoforum.2019.06.017

Guyan, K. (2022). *Queer data. Using gender, sex and sexuality data for action*. Bloomsbury Academic.

Guzmán-Valenzuela, C. (2016). Unfolding the meaning of public(s) in universities: Toward the transformative university. *Higher Education*, *71*, 667–679.

Guzzetti, L. (1995). *A brief history of European Union Research Policy*. Office for Official Publications of the European Communities. https://op.europa.eu/s/wYHu

Hang, C. C., Low, T. S., & Thampuran, R. (2016). The Singapore research story. In *The Singapore research story*. https://doi.org/10.1142/9417

Hansen, S., & Moreland, K. (2004). The Janus Face of research administration. *Research Management Review*, *14*(1), 43–53.

Harland, T. (2012). Higher education as an open-access discipline. *Higher Education Research & Development*, *31*(5), 703–710.

Harle, J. (2009). *The Nairobi Report. Frameworks for Africa-UK Research Collaboration in the Social Sciences and Humanities*. The British Academy, The Association of Commonwealth Universities. https://www.thebritishacademy.ac.uk/documents/1862/Nairobi-Process-Report.pdf

Harman, G., & Stone, C. (2006). Australian university technology transfer managers: Backgrounds, work roles, specialist skills and perceptions. *Journal of Higher Education Policy and Management*, *28*(3), 213–230. https://doi.org/10.1080/13600800600979959

HEFCE. (2007). *Higher Education Business and Community Interaction Survey*. Higher Education Funding Council for England. https://webarchive.nationalarchives.gov.uk/ukgwa/20120118171806mp_/http://www.hefce.ac.uk/pubs/hefce/2007/07_17/07_17.doc

Heller, R. F. (2022). *The distributed university for sustainable higher education* (p. 80). Springer Nature.

Heney, P. (2021). *2021 global R&D funding forecast released*. R&D World. https://www.rdworldonline.com/2021-global-rd-funding-forecast-released/

Henke, J., Schneider, S., & Sylvi, M. (2022). *Forschungsbezogenes Wissenschaftsmanagement: Konzept und Vermessung* [Lessons-Learned-Paper Nr. 1]. Institut für Hochschulforschung (HoF), Halle-Wittenberg.

Henkel, M. (2000). *Academic identities and policy change in higher education*. Jessica Kingsley.

Henkel, M. (2010). Introduction: Change and continuity in academic and professional identities. In G. Gordon & C. Whitchurch (Eds.), *Academic and professional identities in higher education: The challenges of a diversifying workforce* (pp. 3–12). Routledge.

Henkin, A. B., & Persson, D. (1992). Faculty as gatekeepers: Non-academic staff participation in University Governance. *Journal of Educational Administration*, *30*(2). https://doi.org/10.1108/09578239210014487

Henry, M. (2011). CabRIMA. *Research Global,* 2(1), 5. Association of Commonwealth Universities (ACU).

Higher Education Commission of Pakistan. (2022). *HEC recognized university and degree awarding institutions*. https://hec.gov.pk/english/universities/pages/recognised.aspx#k=#s=231

Hochman, M. B. M., Tambiah, T., & Thomson, C. J. (2023). History of research management in Australia and New Zealand. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 47–53). Emerald Publishing.

Hockey, J., & Allen-Collinson, J. (2009). Occupational knowledge and practice amongst UK University Research Administrators. *Higher Education Quarterly*, *63*(2), 141–159. https://doi.org/10.1111/j.1468-2273.2008.00409.x

Hollanders, H., & Es-Sadki, N. (2013). *Innovation union scoreboard 2013*. European Union.

Holmes-Watts, T., & Engelbrecht, S. (2021, October 26–29). *Research management competencies befitting our 'new normal' during and post Covid-19* [Conference presentation]. Southern African Research and Innovation Management Association (SARIMA) annual conference (Virtual).

Hong Hanh. (2023). University autonomy: More than 30% of lecturers have an income of over 200 million/year and budget problems. *Online newspaper of the People's Deputies (under the Office of the Vietnam National Assembly)*. https://daibieunhandan.vn/giao-duc-y-te1/tu-chu-dai-hoc-hon-30-giang-vien-co-thu-nhap-tren-200-trieu-nam-va-bai-toan-ngan-sach-i313570/

Hooi, & Wang, J. (2020). Research funding and academic engagement: A Singapore case. *Knowledge Management Research & Practice*, *18*(2), 162–174. https://doi.org/10.1080/14778238.2019.1638739

Horizon 2020 Key Figures. (n.d.). *Latvia*. https://webgate.ec.europa.eu/dashboard/extensions/CountryProfile/CountryProfile.html?Country=Latvia

Hoyle, E. (2012). Deprofessionalization in education. In E. Hoyle & J. Megarry (Eds.), *World yearbook of education 1980: The professional development of teachers* (pp. 42–57). Kogan Page.

Hu, Z., Tian, W., Guo, J., & Wang, X. (2020). Mapping research collaborations in different countries and regions: 1980–2019. *Scientometrics*, *124*(1), 729–745. https://doi.org/10.1007/s11192-020-03484-8

Huat, C. B., Dean, K., Engseng, H., Ho, K. C., Rigg, J., & Yeoh, B. (2019). Area studies and the crisis of legitimacy: A view from Southeast Asia. *Southeast Asia Research*, *27*(1), 31–48.

Huther, O., & Krucken, G. (2016). Nested organizational fields: Isomorphism and differentiation among European universities. In *The university under pressure* (pp. 53–83). Emerald Group Publishing Limited.

Hüther, O., & Krücken, G. (2018). *Higher education in Germany—Recent developments in an international perspective*. Springer International Publishing. https://www.springer.com/gp/book/9783319614786

IAMMSTI. (2021, June 17). *Joint Media Statement of the Informal ASEAN Ministerial Meeting on Science, Technology and Innovation (IAMMSTI)*. Retrieved November 27, 2022, from https://astnet.asean.org/test-news/

IBGE. (2022a, May 27). *Instituto Brasileiro de Geografia e Estatística*. https://www.ibge.gov.br/estatisticas/economicas/contas-nacionais/9300-contas-nacionais-trimestrais.html?=&t=series-historicas&utm_source=landing&utm_medium=explica&utm_campaign=pib#evolucao-taxa

IBGE. (2022b, May 27). *Instituto Brasileiro de Geografia e Estatística*. https://www.ibge.gov.br/explica/pib.php

Ibrahim, S., & Wei, T. H. (2023). Development of research management in Malaysia. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 527–533). Emerald Publishing.

Icearma. (2021). *Icelandic Association of Research Managers and Administrators website*. Retrieved March 1, 2022, from http://icearma.is/

INCONET-GCC Consortium. (2013). *Final Report Summary – INCONET-GCC (Science and Technology International Cooperation Network for Gulf Cooperation Countries Aiming at the Promotion of Bi-Regional Dialogue)*. https://cordis.europa.eu/project/id/244401/reporting

Independent Expert Group Report prepared for the Icelandic Ministry of Education, Science and Culture and the European Research Area and Innovation Committee. (2014, September). *ERAC peer review of the Icelandic research and innovation system*. European Commission. Retrieved March 3, 2022, from https://www.stjornarradid.is/media/menntamalaraduneyti-media/media/frettir2014/final-report-peer-review-sti-iceland2.pdf

India Research Management Initiative (IRMI). (n.d.). Retrieved May 9, 2022, from https://indiaalliance.org/india-research-management-initiative

Indian Research Information Network System. (n.d.). Retrieved May 10, 2022, from https://irins.org/irins/

INORMS. (2019). *RAAAP survey 2019*. INORMS. Retrieved October 31, 2021, from https://inorms.net/activities/raaap-taskforce/raaap-survey-2019/

INORMS. (2022). *Research Administration As A Profession (RAAAP) taskforce*. Retrieved August 11, 2022, from https://inorms.net/activities/raaap-taskforce/

INORMS. (n.d.). *Our members*. https://inorms.net/membership-directory/

Institute for Medical Research. (2016, August 7). *History: Founding and development of the institute*. Institute for Medical Research. Retrieved May 5, 2022, from https://www.imr.gov.my/index.php/en/corporate-info/history

Institute of Microbiology. (n.d.). http://mbio.bas-net.by/ob-institute/struktura-instituta/gruppa-soprovozhdeniya/

IPMA. (2022). *IPMA standards website*. Retrieved March 20, 2022, from https://www.ipma.world/individuals/standard/

Ireland. Higher Education Authority & Ireland. Higher Education Authority. International Assessment Committee. (2004a). *The Programme for Research in Third Level Institutions [PRTLI] Impact Assessment: Report by the International Assessment Committee* (Vol. 1). Higher Education Authority. https://hea.ie/assets/uploads/2017/06/PRTLI-Impact-Assessment-Volume-1-.pdf

Ireland. Higher Education Authority. International Assessment Committee & Irlanda. Higher Education Authority. (2004b). *The Programme for Research in Third Level Institutions [PRTLI] Impact Assessment: Report by the International Assessment Committee* (Vol. 2). Higher Education Authority. https://hea.ie/assets/uploads/2017/06/PRTLI-Impact-Assessment-Volume-2-.pdf

Islamabad Capital Territory Administration. (2022). *List of registered national NGOs*. https://ictadministration.gov.pk/wp-content/uploads/List-of-NGOs.pdf

Italian Research Managers. (2022a, October 26). *A professional framework for the Research Manager & Administrator (RMA) role in Italy*. https://www.italianresearchmanagers.eu/wp-content/uploads/2022/09/Annex-IV-Framework-RMA_Italy2021.pdf

Italian Research Managers. (2022b, October 26). *Homepage*. Retrieved October 26, 2022, from https://www.italianresearchmanagers.eu/

Ito, S., & Watanabe, T. (2017, July). Survey analysis for workplace management of universities' research managers and administrators [Conference presentation]. In *Portland international conference on management of engineering and technology* (pp. 1–7). IEEE.

Ito, S., & Watanabe, T. (2020). *The relationship between the central role of University Research Administrators and the size of the institutions* [Conference presentation]. 18th annual conference of the Intellectual Property Association of Japan [Online].

Ito, S., & Watanabe, T. (2021). Multilevel analysis of research management professionals and external funding at universities: Empirical evidence from Japan. *Science and Public Policy*, scaa074. https://doi.org/10.1093/scipol/scaa074

Ivey, P. W. (2023). The profession of research management and administration in the Caribbean community. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 463–471). Emerald Publishing.

Ivey, P., & Henry, M. (2016). Research managers at Jamaica's National University are strategically deploying a modest Research Development Fund in support of impactful research. *Research Management Review*, *21*(1), 26–40.

Ivey, P., Oliver, G., & Henry, M. (2014). Evaluating the impact of research produced by a mission-directed emergent university. *Journal of Research Administration*, *42*(2), 73–88.

Jablecka, J. (1995). Changes in the management and finance of the research system in Poland: A survey of the opinions of grant applicants. *Social Studies of Science*, *25*(4), 727–753.

Jackson, J., Dyason, K., Mpye, D., & Sobuza, Z. (2020). Building sustainable research management capacity in sub-Saharan Africa. In R. Hanlin, A. Tigabu, & G. Sheikheldin (Eds.), *Building science systems in Africa: Conceptual foundations and empirical consideration* (pp. 210–233). Mkuki na Nyota Publishers Ltd and African Centre for Technology Studies.

Jansen, W., Warmenhoven, B., Fikkers, D. J., & Poel, M. (2014). *Study on assessing the research management performance of framework programmes projects*. European Commission. https://www.technopolis-group.com/wp-content/uploads/2020/02/Research-Management-Performance-of-projects-in-FP6-FP7-and-Horizon-2020.pdf

Japan Certification Board for Research Administration and Management Skills. (n.d.). Retrieved January 19, 2023, from https://www.crams.or.jp

JASTIP. (2021). *JASTIP online symposium 2021*. Retrieved November 26, 2022, from http://jastip.org/en/eventinfo/jastipsymposium2021/?lang=en

JASTIP. (n.d.). *Japan-ASEAN Science, Technology, and Innovation Platform (JASTIP)*. Retrieved November 26, 2022, from http://jastip.org/en/

Jensen, L. B., & Korsgaard, H. (2013, June 7). *Projekt RACC – Research administration as a choice of career* [DARMA annual meeting]. Retrieved August 30, 2023, from https://darma.dk/wp-content/uploads/2013_Research_Administration_as_a_Choice_of_Career.pdf

Jin, S. (2015). Evolution and tendency of Chinese science and technology policy. *Forum on Science and Technology in China*, (10), 5–9. https://doi.org/10.3969/j.issn.1002-6711.2015.10.002

Johns Hopkins University. (2023). *MS in Research Administration*. https://advanced.jhu.edu/academics/graduate/ms-research-administration/

Jónasson, H. (2015). *Presentation at Rannís 75th anniversary celebration*. Retrieved March 1, 2022, from https://www.rannis.is/media/arsskyrslur/Rannis_arsskyrsla_2015.pdf

Joo, S., & Schmidt, G. M. (2021). Research data services from the perspective of academic librarians. *Digital Library Perspectives*, *37*(3), 242–256. https://doi.org/10.1108/DLP-10-2020-0106

Joshi, A. (2021). *IRMI annual conference 2021: Celebrating the Indian research management community. IndiaBioscience report*. https://indiabioscience.org/news/2021/irmi-annual-conference-2021--celebrating-the-indian-research-management-community

Jotwani, G. (2017). *National guidelines for stem cell research*. Indian Council of Medical Research & Department of Biotechnology.

Juk, J., & Baisch, R. (2023). Research management and administration in Brazil. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 485–492). Emerald Publishing.

Junqueira, M. A. D. R. (2017). Identificação de variáveis que contribuem para o sucesso de um projeto de pesquisa científica financiado pela Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP) na Faculdade de Medicina de Ribeirão Preto (FMRP) da Universidade de São Paulo (USP) [Tese de Doutorado, Faculdade de Economia, Administração e Contabilidade de Ribeirão Preto]. *Biblioteca Digital USP*. https://doi.org/10.11606/T.96.2018.tde-24012018-144536

Junqueira, M. A. D. R., & Bezerra, R. C. d. R. (2023). The establishment of a research project management office at a medical school in University of São Paulo, FMRP-USP, Brazil. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 167–175). Emerald Publishing.

Junqueira, M. A. D. R., Bezerra, R. C. D. A. R., & Passador, C. S. (2015). O escritório de gestão de projetos de pesquisa como uma inovação organizacional nas universidades. *Revista GEINTEC*, *5*, 1835–1849.

Junqueira, M. A. D. R., da Rocha Bezerra, R. C., & Passador, C. S. (2015). O escritório de gestão de projetos de pesquisa como uma inovação organizacional nas universidades. *Revista Geintec-Gestao Inovacao e Tecnologias*, *5*(1), 1835–1849.

Junqueira, M. A. D. R., & Passador, C. S. (2019). The impact of the project management office on scientific research. *Journal of Public Administration*, *53*(6), 1179–1188. http://dx.doi.org/10.1590/0034-761220180125x

Kallenberg, T. (2016). Interacting spheres revisited. In R. M. O. Pritchard, A. Pausits, & J. Williams (Eds.), *Positioning higher education institutions: From here to there* (pp. 177–197). SensePublishers. https://doi.org/10.1007/978-94-6300-660-6_10

Kallenberg, T. (2020). Differences in influence: Different types of university employees compared. *Tertiary Education and Management*, *26*(4), 363–380. https://doi.org/10.1007/s11233-020-09058-w

Kanters, E., & Le Large, S. (2018, September 24). *Intervision session* [Meeting]. BESTPRAC WG meeting, Belgrade, Serbia. https://bestprac.eu/events/cost-tn1302-events/workshop-belgrade-september-2018/

Kaplan, N. (1959). The role of the research administrator. *Administrative Science Quarterly*, *4*(1), 20–42.

Karasek, R. A. (1979). Job demands, job decision latitude and mental strain: Implications for job redesign. *Administrative Science Quarterly*, *24*(2), 285–308.

Karlsson, S., & Ryttberg, M. (2016). Those who walk the talk: The role of administrative professionals in transforming universities into strategic actors. *Nordic Journal of Studies in Educational Policy*, *2016*(2–3), 31537. https://doi.org/10.3402/nstep.v2.31537

Kasim, A. M., Chang, L. W., Norpi, N. M., Kasim, N. H. A., & Hashim, A. (2021). Enhancing research mechanisms and institutional processes in Malaysia: A case study of Universiti Malaya (UM). *Journal of Research Management and Governance*, *4*(1), 10–23.

Katsapis, C. C. (2010). The incidence and types of occupational role stress among university research administrators. *The Journal of Higher Education Management*, *25*(1), 7–32.

Katsapis, C. (2012). The incidence and types of occupational role stress among university research administrators. *Research Management Review*, *19*(1), 1–23.

Kehm, B. M. (2015). Academics and new higher education professionals: Tensions, reciprocal influences and forms of professionalization. In T. Fumasoli, G. Goastellec, & B. M. Kehm (Eds.), *Academic work and careers in Europe: Trends, challenges, perspectives* (pp. 177–200). Springer.

Kehm, B. M. (2015a). Academics and new higher education professionals: Tensions, reciprocal influences and forms of professionalization. In *Academic work and careers in Europe: Trends, challenges, perspectives* (pp. 177–200). Springer. https://doi.org/10.1007/978-3-319-10720-2_9

Kehm, B. M. (2015b). The influence of new higher education professionals on academic work. In *Forming, recruiting and managing the academic profession* (pp. 101–111). Springer. https://doi.org/10.1007/978-3-319-16080-1_6

Kent, R. (2006). Joined-up thinking? The research office in the twenty-first century. *Issues in Research Management and Administration (IRMA-UK)*.

Kenyan Ministry of Education. (2019). *National research priorities 2018–2022*. https://www.nacosti.go.ke/nacosti/Docs/Information%20Centre/National%20Research%20Priorities.pdf

Kenyan Ministry of Education. (2020). *Science, technology and innovation policy 2020–2030. Revitalizing and harnessing science, technology and innovation in Kenya*. https://www.nacosti.go.ke/wp-content/uploads/2021/Docs/Draft%20Science%2C%20Technology%20and%20Innovation%20%28STI%29%20Policy%202020-2030.pdf

Kerridge, S. (2012). *Electronic research administration reflections on research management and administration (RMA) in UK universities and in particular on electronic research administration (ERA) and its perceived effect on the quality and quantity of research* [Doctoral dissertation]. University of Sunderland.

Kerridge, S. (2016). *RAAAP: Research administration as a profession*. https://www.acu.ac.uk/membership/member-communities/research-knowledge-information/articles/raaap-survey

Kerridge, S. (2021a). Research administration around the world. *Journal of Research Administration*, *52*(1), 11–14.

Kerridge, S. (2021b). Research management and administration – A profession? [In Japanese]. *Hitotsubashi Business Review*, *69*(2), 62–72.

Kerridge, S. (2023a). Is research management and administration (RMA) a profession? *Journal of Research Management and Administration*, *2*(1), 1–5.

Kerridge, S. (2023b). The profession of research management and administration in the UK. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 759–767). Emerald Publishing.

Kerridge, S. (2023c). Introduction to the RMA by Country Chapters. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 419–421). Emerald Publishing.

Kerridge, S., & Scott, S. F. (2016). *RAAAP questionnaire*. figshare. http://dx.doi.org/10.6084/m9.figshare.5278114

Kerridge, S., & Scott, S. (2018a). Research administration around the world. *Research Management Review*, *23*(1), 1–34.

Kerridge, S., & Scott, S. F. (2018b). *RAAAP "Research Administration as a Profession" data sets and supporting files*. figshare. https://doi.org/10.6084/m9.figshare.c.4022284

Kerridge, S., Ajai-Ajagbe, P., Kiel, C., Scott, S., Shambrook, J., Wakefield, B., & Zornes, D. (2020). *RAAAP-2 Questionnaire (pdf) (Version 1)*. figshare. https://doi.org/10.6084/m9.figshare.11901897.v1

Kerridge, S., Ajai-Ajagbe, P., Kiel, C., Shambrook, J., & Wakefield, B. (2022). *RAAAP-2 datasets (17 linked datasets) (Version 1)*. figshare. https://doi.org/10.6084/m9.figshare.18972935.v1

Kerridge, S., Andersen, J., Fischer, M., Hochman, M., Oliveira, F., Takahashi, M., Theron, T., & Zsár, V. (2023). Reflections on research management and administration in various countries around the world. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 799–806). Emerald Publishing.

Kerridge, S., Dutta, M., Fischer, M., & Oliveira, C. (2022). *RAAAP-3 HIBARMA main dataset*. figshare. https://doi.org/10.6084/m9.figshare.21120058

Kerridge, S., Pieterse, D., & Asserson, A. (2012). *Models of National Electronic Research Administration: A comparison of approaches in the UK, South Africa and Norway* [Conference presentation]. INORMS, Copenhagen.

King, D., Fosci, M., Loffreda, L., Gibson, C., & Johnson, R. (2020). *ARMA Research Office Survey 2020: Benchmarking UK Institutional Research Offices* (Version 1). Zenodo. https://doi.org/10.5281/zenodo.3935851

King, D., Roberts, A., & Blohm, S. (2023). *Contributing to a positive research environment*. Research Consulting for Midlands innovation. https://midlandsinnovation.org.uk/write/MediaUplo ads/Programmes/PRiSMs/Research_Enablers_Report.pdf

Kirkland, J. (2005a). Towards an integrated approach: University research management in an institutional context. *International Journal of Technology Management & Sustainable Development*, *4*(3), 155–166. https://doi.org/10.1386/ijtm.4.3.155/1

Kirkland, J. (2005b). Making universities powerhouses of innovation: An overview of this special issue. *International Journal of Technology Management & Sustainable Development*, *4*(3), 151–153. https://doi.org/10.1386/ijtm.4.3.151/1

Kirkland, J. (2005c). University research management: Towards a global profession? *International Journal of Technology Management & Sustainable Development*, *4*(1), 63–65. https://doi.org/10.1386/ijtm.4.1.63/3

Kirkland, J. (2008). University research management: An emerging profession in the developing world. *Technology Analysis & Strategy*, *20*(6), 717–726. https://doi.org/10.1080/09537320802426416

Kirkland, J. (2009). Research management, a global profession? *Perspectives: Policy and Practice in Higher Education*, *13*(2), 33–36. https://doi.org/10.1080/13603100902805383

Kirkland, J. (2023). The contribution of international donors to African research management. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 17–26). Emerald Publishing.

Kirkland, J., & Ajai-Ajagbe, P. (2013). *Research management in African universities: From awareness raising to developing structures*. Association of Commonwealth Universities. https://production-carnegie.s3.amazonaws.com/filer_public/df/ca/dfcac790-1792-4e8e-a7ea-b19ef174d403/ccny_report_2013_awareness.pdf

Kirkland, J., Bjarnason, S., Stackhouse, J., & Day, R. (2006). *International research management: Benchmarking programme*. Report to HEFCE by the Association of Commonwealth Universities. https://dera.ioe.ac.uk/6203/1/rd11_06.pdf

Kraemer-Mbula, E., Vaitsas, C., & Essegbey, G. O. (2018). The dynamics of EU – Africa research and innovation cooperation programmes. In A. Cherry, J. Haselip, G. Ralphs, & I. Wagner (Eds.), *Africa–Europe research and innovation cooperation*. Palgrave Macmillan. https://doi.org/10.1007/978-3-319-69929-5_3

Krasiński, Z. (2013, May 23). *View from Poland – Laying the foundations*. Research Europe Supplement.

Krasinski, Z. (2021, September 28). *Role of RMAs in the process of widening participation in Horizon Europe* [Event]. EARMA Digital Event. https://earma.wildapricot.org/event-4387879

Krasiński, Z., & Tomasik, C. (2023). The profession of research management and administration in Poland. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 613–621). Emerald Publishing.

Krauser, P. A. (2003). The research administrator as servant-leader. *Journal of Research Administration*, *34*(1), 14–18.

Krebs, R. E. (1992). A curriculum for professional research administrators? *SRA Journal*, *24*(1). https://www.proquest.com/docview/214811673

Krempkow, R., & Höhle, E. (2021). The roles of higher education managers in Germany: First results of an online survey. In B. Broucker, R. Pritchard, G. Melin, & C. Milsom (Eds.), *Sustaining the future of higher education* (pp. 192–210). Brill.

Krishnamoorthy, V. (2021, August). Adapting to a changing environment: Perspectives from a research administrator. *NCURA Magazine*.

Kristjánsdóttir, G. B., Gíslason, Ú. K., & Erlingsdóttir, Á. S. (2023). The profession of research management and administration in Iceland. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 687–695). Emerald Publishing.

Krücken, G., Blümel, A., & Kloke, K. (2013). The managerial turn in higher education? On the interplay of organizational and occupational change in German Academia. *Minerva*, *51*, 417–442. https://doi.org/10.1007/s11024-013-9240-z

Krug, K. (2015). It's not just the glass ceiling, it's the caste ceiling. In E. Whittaker (Ed.), *Solitudes of the workplace: Women in universities* (pp. 172–190). McGill-Queen's University Press.

Kulakowski, E. (2023). The establishment and history of the international network of research management societies. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 83–95). Emerald Publishing.

Kulakowski, E. C., & Chronister, L. U. (2006). *Research administration and management*. Jones & Bartlett Publishers.

Kulakowski, E. C., & Chronister, L. U. (Eds.). (2011). *Research administration and management* (p. 916). Jones and Bartlett. ISBN: 978-1449634407.

Kurt-Dickson, A., Poli, S., & Siesling, M. (2018, June 17). *New dynamics for new futures: Bridging academic and professional cultures [Conference presentation]*. International Network of Research Management Societies (INORMS), Edinburgh.

Kvale, S., & Brinkman, S. (2009). *Interviews. Learning the craft of qualitative research interviewing*. Sage.

Kyoto University. (2018, February). *Brief report: Diverse approaches to contributing to SDGs through STI Cooperation*. https://www.kyoto-u.ac.jp/en/news/2018-02-28

Kyoto University ASEAN Center, Research Project. (2022, August). https://www.oc.kyoto-u.ac.jp/overseas-centers/asean/en/

Labuschagne, L. (2023). The profession of research management and administration in South Africa. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 443–451). Emerald Publishing.

Landen, M., & McCallister, M. (2006). The research administrator as a professional: Training and development. In E. C. Kulakowski & L. U. Chronister (Eds.), *Research administration and -management* (pp. 75–82). Jones & Bartlett Publishers.

Lange, L. (2017). 20 years of higher education curriculum policy in South Africa. *Journal of Education*, *68*, 31–57. http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S2520-98682017000100004

Langley, D. (2012). Research management and administration. A reflection of where we are and where we need to go as a profession. *Perspectives: Policy and Practice in Higher Education*, *16*(3), 71–76. https://doi.org/10.1080/13603108.2012.659289

Langley, D., & Barsby, J. (2020). *Business case for creation of a masters degree in research management and administration* [StoRM – Masters in RMA].

Langley, D., & Green, J. (2009). Professionalising research management. *Research Global*, *22*, 6–7.

Langley, D., & Ofosu, M. H. (2007). Celebrating a profession: The global perspective. *The Journal of Research Administration*, *38*, 39–44.

Langley, D., & Theron, T. (2018, October 17). *Discovery relies on strong support staff. A lack of trained administrators is holding African scientists back*. Nature Index. https://www.nature.com/nature-index/news/discovery-relies-on-strong-support-staff

Law of Higher Education System in Colombia (Law 30/1992). Colombia. https://www.mineducacion.gov.co/1621/article-86437.html

Law of Scientific and Technology System Promotion in Colombia (Law 29/1990). https://www.mineducacion.gov.co/1621/articles-184681_archivo_pdf_ley29.pdf

Law of the Colciencias Institutional Transformation (Law 1289/2009). Colombia. https://minciencias.gov.co/node/302

Law of the Establishment of the Ministry of Science, Technology and Innovation in Colombia (Law 1951/2019). Colombia. https://www.funcionpublica.gov.co/eva/gestornormativo/norma.php?i=90308

Law of the Structuration of the General Royal System in Colombia (Law 1530/2012). Colombia. https://www.funcionpublica.gov.co/eva/gestornormativo/norma.php?i=47474

Law on Higher Education and Science of 20.07.2018. (2018). *Dziennik Ustaw. poz. 1668* (in Polish). https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20180001668/U/D20181668Lj.pdf

Lawrence, J. (2022). Career trajectories in the third space. In E. McIntosh & D. Nutt (Eds.), *The impact of the integrated practitioner in higher education: Studies in third space professionalism*. Routledge.

Lawrence, T., & Suddaby, R. (2006). Institutions and institutional work. In T. Lawrence, R. Suddaby, R. Clegg, C. Hardy, & W. R. Nord (Eds.), *Handbook of organization studies* (2nd ed., pp. 215–254). Sage. https://papers.ssrn.com/abstract=3197577

Lay Lek, C., & Al-Hawamdeh, S. (2001). Government initiatives and the knowledge economy: Case of Singapore. In W. Kim, T. W. Ling, Y. J. Lee, & S. S. Park (Eds.), *The human society and the internet internet-related socio-economic issues*. HSI 2001. Lecture Notes in Computer Science (Vol. 2105). Springer. https://doi.org/10.1007/3-540-47749-7_2

Layton, C. (1969). *European advanced technology: A programme for integration*. Allen and Unwin.

Lazear, E. P. (2003). *Entrepreneurship* [Discussion Paper 760]. Institute for the Study of Labour.

Lazear, E. P. (2004). Balanced skills and entrepreneurship. *American Economic Review*, *94*(2), 208–211.

Le Nevé, S. (2022). *Les universités d'Ile-de-France en proie à une pénurie de personnels administratifs et techniques*. Le Monde. https://www.lemonde.fr/societe/article/2022/06/18/les-universites-d-ile-de-france-en-proie-a-une-penurie-de-personnels-administratifs-et-techniques_6130961_3224.html

Leeson, P. T. (2010). Rational choice, round robin, and rebellion: An institutional solution to the problems of revolution. *Journal of Economic Behavior & Organization*, *73*(3), 297–307.

Légifrance. (2007). *Loi n° 2007-1199 du 10 août 2007 relative aux libertés et responsabilités des universités*. https://www.legifrance.gouv.fr/loda/id/JORFTEXT000000824315

Lehman, D. W. (2017). Organizational cultural theory and research administration knowledge management. *Journal of Research Administration*, *48*(2), 52–66.

Lem, P. (2022, July 6). Could Neom U be Saudi Arabia's next top university? *Times Higher Education (THE)*. https://www.timeshighereducation.com/news/could-neom-u-be-saudi-arabias-next-top-university

Lendvai, L. F. (2005). Közép-Európa mibenlétének problémája. (Existential problems of Central Europe). In P. Módos (Ed.), *Közép-Európai olvasókönyv. Reading Book on Central Europe* (pp. 13–26). Közép-európai olvasókönyv. Reading Book on Central Europe.

Letsholathebe, D. (2022). *United Nation's Commission on Science and Technology for Development (CSTD), twenty-fifth session, Geneva, March 28–April 1*. Presentation of reports on Science, Technology and Innovation Policy Review, Botswana Government.

Lewis, K. R. (2012). *Constructions of professional identity within UK higher education administration and management: the importance of collective self-confidence* Doctoral dissertation. Institute of Education, University of London.

Lewis, K. (2014). Constructions of professional identity in a dynamic higher education sector. *Perspectives: Policy and Practice in Higher Education*, *18*(2), 43–50.

Lewis, R. D. (2018). *When cultures collide. Leading across cultures* (4th ed.). John Murray Press.

Lewis, J. D., & Weigert, A. J. (2012). The social dynamics of trust: Theoretical and empirical research, 1985–2012. *Social Forces*, *91*(1), 25–31.

Leydesdorff, L. (2008). Caveats for the use of citation indicators in research and journal evaluation. *Journal of the American Society for Information Science and Technology*, *59*(2), 278–287.

Li, J. (2020). Thoughts on the performance evaluation of the department budget of NSFC. *Budget Management & Accounting*, (05), 14–16.

Li, F., & Hu, J. (2020). Status and training strategy of scientific research managers in basic scientific research unites. *China's Health Industry*, *17*(06), 30–32. https://doi:10.16659/j.cnki.1672-5654.2020.06.030

Liao, Y., & Ma, L. (2019). Do professional associations make a difference?: Linking municipal managers' association participation and attitudes toward citizen participation. *Public Management Review*, *21*(12), 1824–1847. https://doi.org/10.1080/14719037.2019.1577907

Lima, E. F., Almeida, V. L. L. D., & Maia, G. A. D. S. (2014). A Implantação do Escritório de Projetos (PMO) da Universidade Estadual de Mato Grosso do Sul (UEMS): uma iniciativa inovadora na gestão pública sul-mato-grossense.

Linder, J. C., Jarvenpaa, S., & Davenport, T. H. (2004). Toward an innovation sourcing strategy. *MIT Sloan Management Review*, *45*(2), 26–32.

Livermore, D. A. (2013). *Expand your borders: Discover ten cultural clusters (CQ Insight Series)*. Cultural Intelligence Center.

Locke, W. (2007). The changing academic profession in the UK: Setting the scene.

Locke, W. (2014). *Shifting academic careers: Implications for enhancing professionalism in teaching and supporting learning*. https://discovery.ucl.ac.uk/id/eprint/1475606/1/shifting_academic_careers_FINAL.pdf

Locke, W., Whitchurch, C., Smith, H., & Mazenod, A. (2016). Shifting landscapes. In *Meeting the staff development needs of the changing academic workforce*. Higher Education Academy.

Loi, W. Y. (2021). *Understanding the role of research professional staff in supporting academic researchers in a university* [Master's thesis].

Lopez, M., & Fujieda, A. (2021). Evolving historical trends in collaborative interdisciplinary research at the Center for Southeast Asian Studies (CSEAS). *CSEAS Newsletter*, No. 78.

Losinger, I. (2015). The non-nons: Secretarial and clerical staff. In E. Whittaker (Ed.), *Solitudes of the workplace: Women in universities* (pp. 156–171). McGill-Queen's University Press.

Low, P, K. C. & Aug, S.-L. (2012). *Filial piety and good leadership*. E-Leader Berlin Conference Paper.

Lowitja Institute. (2023). https://www.lowitja.org.au

Macfarlane, B. (2011). The morphing of academic practice: Unbundling and the rise of the para-academic. *Higher Education Quarterly*, *65*(1), 59–73. https://doi.org/10.1111/j.1468-2273.2010.00467.x

Magris, C. (2005). Közép-Európa – egy fogalom igézete. (Central Europe – The charm of a concept). In *Közép-európai olvasókönyv. Reading Book on Central Europe* (pp. 93–117). Az Európai Utas Alapítvány Közép-Európai Kulturális Intézete. Osiris Kiadó.

Marčić, S., & Pepić, A. (2023a). A Profession in the Making: Insights from Western Balkan Countries. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 385–394). Emerald Publishing.

Marčić, S., & Pepić, A. (2023b). Research management and administration in the Western Balkans. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 641–646). Emerald Publishing.

Marginson, S. (2007). *Prospects of higher education: Globalization, market competition, public goods and the future of the university*. BRILL.

Marginson, S. (2022). What is global higher education? *Oxford Review of Education*, *48*(12), 1–26.

Marginson, S., Croucher, G., Norton, A., & Wells, J. (2013). *The Dawkins Revolution: 25 years on*. Melbourne University Publishing. ISBN-9780522864151.

Marin, E., Iftimescu, S., Ion, G., Mihaela, S., & Proteasa, C. (2017). *Academic managers' perspective on research management in higher education institutions across Romania* [Conference presentation]. 3rd International conference on higher education advances, HEAd'17, June 21–23 , Valencia.

Marini, G., Locke, W., & Whitchurch, C. (2019). The future higher education workforce in locally and globally engaged higher education institutions: A review of literature on the topic of the academic workforce.

Marques, F. (2011). Mais tempo para a pesquisa. *PESQUISA FAPESP*, *184*(June), 29–31.

Marques, F. (2014). Suporte sofisticado. *Revista Pesquisa Fapesp*, *225*(Nov.), 32–35.

Marshall, D. R., Dibrell, C., & Eddleston, K. A. (2019). What keeps them going? Socio-cognitive entrepreneurial career continuance. *Small Business Economics*, *53*(1), 227–242.

Masaryk University. (2022a). *Czech Association of Research Managers and Administrators*. Retrieved September 30, 2022, from https://www.czarma.cz/

Masaryk University. (2022b). *Regional Grant Office network*. Retrieved September, 30, 2022, from https://improve.muni.cz/regon

Mason, J. (2002). *Qualitative researching* (2nd ed.). Sage.

Massey, J., & Cur, C. (2006). Setting the scene for international collaboration: INORMS 2006. *Research Global*, *14*, 14–15.

MASTIC. (2017). *Malaysian Science, Technology and Innovation Indicators report 2016*. Ministry of Science, Technology and Innovation.

MASTIC. (2021). *Malaysian Science, Technology and Innovation Indicators report 2020*. Ministry of Science, Technology & Innovation.

MASTIC. (2022). *Malaysian Science, Technology and Innovation Indicators report 2021*. Ministry of Science, Technology and Innovation.

McCarthy, S. (2022a, February 14). *Profile of researchers with high success rates in Horizon Europe* [Webinar]. 12th webinar hosted by the V4WB RMA Network project. https://hetfa.eu/wp-content/uploads/2022/03/RMA_presentation_SeanMcCharty.pdf

McCarthy, S. (2022b, March 30). *Profile of research support offices with high success rates* [Conference]. Final conference of the V4WB RMA Network project, Budapest, Hungary. https://hetfa.eu/wp-content/uploads/2022/04/PROFIL1.pdf

Mcinnis, C. (1998). Academics and professional administrators in Australian Universities: Dissolving boundaries and new tensions. *Journal of Higher Education Policy and Management*, *20*(2), 161–173. https://doi.org/10.1080/1360080980200204

MCTIC. (2016). *Estratégia Nacional de Ciência, Tecnologia e Inovação 2016|2022*. MCTIC.

Meadows, D. H., Meadows, D. L., Randers, J., & Behrens, W. W. (2018). The limits to growth. In K. Conca & G. D. Dabelko (Eds.), *Green planet blues* (pp. 25–29). Routledge.

Mehta, B., & Puri, I. (2022). *Enabling research through research management: The case of India*.

Mereu, S. (2021, September 28). *RMAs and informal power: How can we influence institutional research strategies and nudge researchers towards funding and excellence? RMAs and informal power: How can we influence institutional research strategies and nudge researchers towards funding and excellence?* [Event]. EARMA Digital Event. https://earma.wildapricot.org/event-4387879

MEXT. (2022). *Survey of the University–Industry Collaboration and Regional R&D*. Retrieved January 19, 2023, from https://www.mext.go.jp/a_menu/shinkou/sangaku/1413730_00013.htm

Meyer, E. (2016). *The culture map: Decoding how people think, lead, and get things done across cultures*. PublicAffairs.

Middlehurst, R. (2009). Developing higher education professionals: Challenges and possibilities. In *Academic and professional identities in higher education* (pp. 241–262). Routledge.

Middlehurst, R. (2010). Developing higher education professionals: Challenges and possibilities. In G. Gordon & C. Whitchurch (Eds.), *Academic and professional identities in higher education: The challenges of a diversifying workforce* (pp. 223–243). Routledge.

Miles, M., & Huberman, A. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Sage.

Ministerial Statement. (2021). *On university funding: 2022/23 and 2023/24.* Retrieved November 26, 2022, from https://www.dhet.gov.za/Institutional%20Funding/Ministerial%20Statement%20on%20University%20Funding,%20Dec%202021.pdf

Ministerio de Ciencia, Tecnología e Innovación (MinCiencias). (2022). *Resultados finales de la convocatoria 894 de 2021 para el reconocimiento y medición de Grupos de investigación, desarrollo tecnológico e innovación e Investigadores en Colombia.* https://minciencias.gov.co/sistemas--informacion/modelo-medicion-grupos

Ministrerie van Economische Zaken en Klimaat. (2021). *Toegepast Onderzoek Organisaties (TO2)*. https://www.bedrijvenbeleidinbeeld.nl/beleidsinstrumenten/to2

Ministrerie van Economische Zaken en Klimaat. (n.d.). *Dutch Venture Initiative*. https://www.bedrijvenbeleidinbeeld.nl/beleidsinstrumenten/dutch-venture-initiative

Ministry of Business, Innovation & Employment. (2015, October). *National Statement of Science Investment 2015–2025*. New Zealand Government. Retrieved November 26, 2022, from https://www.mbie.govt.nz/assets/2eaba48268/national-statement-science-investment-2015-2025.pdf

Ministry of Business, Innovation & Employment. (2021a, October). *The Research, Science and Innovation report – 2021*. New Zealand Government. Retrieved November 26, 2022, from https://researchscienceinnovation.nz/pdf/research-science-and-innovation-system-performance-report-2021.pdf

Ministry of Business, Innovation & Employment. (2021b, October). *Research, Science and Innovation. New Zealand Government*. Retrieved November 26, 2022, from https://www.mbie.govt.nz/dmsdocument/17637-future-pathways-green-paper

Ministry of Cabinet Affairs. (2021). *National Agenda 2021 – Competitive knowledge economy*. https://www.vision2021.ae/en/national-agenda-2021/list/economy-circle

Ministry of Community Development. (2021). *Federal Law No. 3 of 2021 regulating donations*. https://www.mocd.gov.ae/handlers/download.ashx?YXNzZXQ9NDI4MQ%3d%3d

Ministry of Education. (2019). *National research priorities 2018–2022*. https://www.nacosti.go.ke/nacosti/Docs/Information%20Centre/National%20Research%20Priorities.pdf

Ministry of Education and Training of Vietnam. (2019). *Higher education statistics for the academic year 2019–2020*. https://moet.gov.vn/thong-ke/Pages/thong-ko-giao-duc-dai-hoc.aspx?ItemID=7389

Ministry of Education Malaysia. (2015). *Malaysia education blueprint 2015–2025 (higher education)*. Ministry of Education Malaysia.

Ministry of Education of the People's Republic of China. (2021). *Overview of education in China – National education development in 2020*. http://www.moe.gov.cn/jyb_sjzl/s5990/202111/t20211115_579974.html

Ministry of Education Qatar. (n.d.). *Higher education in Qatar*. Retrieved September 20, 2022, from https://www.edu.gov.qa/en/Pages/higheredudefault.aspx?ItemID=58

Ministry of Human Resources and Emiratisation (MOHRE). (2021). *Share of UAE Nationals in the Workforce*. https://www.vision2021.ae/en/national-agenda-2021/list/card/share-of-uae-nationals-in-the-workforce

Ministry of Interior, Government of Pakistan. (2022). https://ingo.interior.gov.pk/List_of_Approved_INGOs.pdf

Ministry of Research and Universities. (2021). *Powers of the Catalan Government in R&D*. https://recercaiuniversitats.gencat.cat/en/01_departament_recerca_i_universitats/recerca_i_universitats_de_catalunya/politiques_i_principals_actuacions/politica_cientifica_a_catalunya_pnri_pri/les-competencies-del-govern-catala-en-materia-drd/index.html

Ministry of Research and Universities. (2022). *Catalonia's research policy*. Retrieved November 9, 2022, from https://recercaiuniversitats.gencat.cat/en/01_departament_recerca_i_universitats/recerca_i_universitats_de_catalunya/recerca/index.html

Ministry of Science and Technology of the People's Republic of China (MOST). (2014). *Circular of the state council on deepening the management reform of central finance science and technology program (special projects, funds, etc.)*. https://www.most.gov.cn/xxgk/xinxifenlei/fdzdgknr/fgzc/gfxwj/gfxwj2014/202107/t20210701_175618.html

Ministry of Science and Technology of the People's Republic of China (MOST). (2021). *Report on the development of scientific and technological talents in China 2020 was released*. https://www.most.gov.cn/kjbgz/202109/t20210907_176742.html#

Ministry of Science and Technology of Vietnam. (2020). *Science and technology book 2019*. Science and Technics Publishing House.

Ministry of Science and Technology of Vietnam. (2021). *Science and technology book 2020*. Science and Technics Publishing House.

Ministry of Science and Technology. (2013). *Law No. 29/2013/QH13 on Science and Technology*.

Ministry of Science, Technology and Innovation. (2016). *National science, technology and innovation policy 2021–2030*. Ministry Science, Technology and Innovation.

Ministry of Social Affairs and Health. (2021). *Parliamentary RDI Working Group proposes legislative act to increase funding for research and development*. https://stm.fi/en/-/10616/parliamentary-rdi-working-group-proposes-legislative-act-to-increase-funding-for-research-and-development

Ministry of Trade & Industry, Republic of Singapore. (1986). *The Singapore economy, new directions*.

Ministry of Trade & Industry, Republic of Singapore. (2011). *Research, Innovation and Enterprise (RIE) 2015*. https://www.mti.gov.sg/Resources/publications/Research-Innovation-and-Enterprise-RIE-2015

Minnema, L. (2011). From 9/11 to recession: Historically significant events in America and their impact on research administration. *Research Management Review*, *18*(1), 31–41.

Mirasol, J. M., & Inovejas, C. J. (2017). Bringing a culture of research in a higher education institution. *Journal of Higher Education Research Disciplines*. ISSN: 2546-0579, 72–82 (Online).

Mohamad, M. (1991). *Malaysian: The way forward (Vision 2020)*.

Mok, K. H. (2015). The quest for global competitiveness: Promotion of innovation and entrepreneurial universities in Singapore. *Higher Education Policy*, *28*, 91–106.

Monahan, K., Shaklee, T., & Zornes, D. (2023). History of research administration/management in North America. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 27–36). Emerald Publishing.

Monteiro, A., Santos, V., & Varajão, J. (2016). Project management office models – A review. *Procedia Computer Science*, *100*, 1085–1094.

Moore, W. E. (1970). *The professions: Roles and rules*. Russell Sage Foundation.

Morley, L. (1999). *Organising feminisms. The micropolitics of the academy*. St. Martin's Press.

Morley, L. (2008). The micropolitics of professionalism: Power and collective identities in higher education. In B. Cunningham (Ed.), *Exploring professionalism* (pp. 99–120). Bedford Way Papers.

Morley, L. (2013). The rules of the game: Women and the leaderist turn in higher education. *Gender and Education*, *25*(1), 116–131.

Morse, J. M. (2010). Simultaneous and sequential qualitative mixed method designs. *Qualitative Inquiry*, *16*(6), 483–491.

Mosoni-Fried, J. (1995). Industrial research in Hungary: A victim of structural change. *Social Studies of Science*, *5*(4), 777–803.

Mouton, J., & Valentine, A. (2017). The extent of South African authored articles in predatory journals. *South African Journal of Science*, *113*(7–8), 1–9. https://doi.org/10.17159/SAJS.2017/20170010

Mouwen, K. (2000). Strategy, structure and culture of the hybrid university: Towards the university of the 21st century. *Tertiary Education and Management*, *6*(1), 47–56.

Mujani, W. K., Muttaqin, A., & AbooTalib Khalid, K. (2014). Historical development of public institutions of higher learning in Malaysia. *Middle-East Journal of Scientific Research*, *20*, 2154–2157.

Mulder, S. (2004). *The SARIMA/DST/NRF/USAID Institutional Research Information Systems Project*. Internal report based on meetings between the stakeholders involved.

Musselin, C. (2005). Change or continuity in higher education governance? In I. Bleiklie & M. Henkel (Eds.), *Governing knowledge. higher education dynamics* (Vol. 9, pp. 65–79). Springer. https://doi.org/10.1007/1-4020-3504-7_5

Myers, P. E. (2007). Celebrating the first forty years of the Society of Research Administrators International. *Journal of Research Administration*, *38*(1), 19–31. https://link.gale.com/apps/doc/A174325634/AONE?u=googlescholar&sid=bookmark-AONE&xid=8c81aafb

Myers, P. P., & Smith, M. C. (2008). Research administration in history: The development of OMB Circular A-110 through Joseph Warner's COGR Subcommittee, 1976–1979. *Journal of Research Administration*, *39*(2), 15–32.

Naffah, S. C., & Calixo, A. N. (2023). Maturity in the professionalisation of the research managers and administrators in Colombia. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 493–502). Emerald Publishing.

Nanyang Technological University (NTU). (2022). *Our history*. https://www.ntu.edu.sg/about-us/history

Nanyang Technological University (NTU). (2023a). *Lee Kong Chian School of Medicine Research Administration and Support Services*. https://www.ntu.edu.sg/medicine/research/research-administration-and-support-services

Nanyang Technological University (NTU). (2023b). *Research at NTU > our people*. https://www.ntu.edu.sg/research/research-at-ntu/our-people#Content_C026_Col00

NARMA. (2021). *What is NARMA?* https://youtu.be/ZJaG1FGkHLo

NARMA. (2022). *NARMA statutes: Mandate and guidelines*. https://narma.no/om-narma/vedtekter/

NARMA. (2023). Professional Development Program survey results (2018–2022) – Association data.

NASB. (2018). *Strategy "Science and Technology: 2018-2040"* (p. 5). https://nasb.gov.by/congress2/strategy_2018-2040.pdf

National Assembly. (2003). *Law No. 11/2003/QH on Organisation of the People's Councils and the People's Committees*. https://thuvienphapluat.vn/van-ban/Bo-may-hanh-chinh/Luat-To-chuc-Hoi-dong-nhan-dan-va-Uy-ban-nhan-dan-2003-11-2003-QH11-51688.aspx

National Assembly. (2018). *Law No.34/2018/QH14 on amendments to the law on higher education*.

National Assessment and Accreditation Council. (n.d.). Retrieved May 10, 2022, from http://naac.gov.in/index.php/en/

National Bureau of Statistics. (2022). *Statistical bulletin of the People's Republic of China on national economic and social development in 2021*. http://www.stats.gov.cn/tjsj/zxfb/202202/t20220227_1827960.html

National Council of University Research Administrators. (2021). *Research administration remote work survey*. https://www.ncura.edu/MembershipVolunteering/RemoteWorkSurvey.aspx

National Council of University Research Administrators. (2022). *About us*. https://www.ncura.edu/GlobalInitiatives/AboutUs.aspx

National Institute for Occupational Safety and Health. (1999). *Stress at work*. Retrieved April 16, 2022, from http://www.cdc.gov/niosh/docs/99-101

National Institutional Ranking Framework. (n.d.). Retrieved May 10, 2022, from https://www.nirfindia.org/About

National Organization of Research Development Professionals. (2022). *NORDP Home*. https://www.nordp.org

National Research Council of Canada. (1999). *Report on plans and priorities*. https://publications.gc.ca/collections/Collection/BT31-2-2000-III-63E.pdf

National Research Foundation. (2020). *RIE2025 handbook*. https://www.nrf.gov.sg/rie-ecosystem/rie-2025handbook/

National Research Foundation. (2022). *RIE ecosystem*. https://www.nrf.gov.sg/rie-ecosystem/ecosystem/

National Research Programme. (2011). *Uchwała Rady Ministrów nr 164/2011 z dnia 16 sierpnia 2011 r*.https://archiwum.mrips.gov.pl/download/gfx/mpips/pl/defaultopisy/10411/1/1/zal.%201%20do%20uchwaly%20RM.pdf

National Science? & Technology Board, Republic of Singapore. (1991). *Science and technology: Window of opportunities*. National Technology Plan.

National Science Foundation. (2021). *Higher education research and development: Fiscal year 2020: Data tables: 3 higher education R&D expenditures, by source of funds, R&D field, and survey population: FY 2020*. https://ncses.nsf.gov/pubs/nsf22311

National Science Foundation (NSF). (2022a). *About*. http://www.nsf.gov/about

National Science Foundation (NSF). (2022b). *Higher Education Research and Development Survey (HERD)*. https://www.nsf.gov/statistics/srvyherd/

National Science Foundation (NSF). (2022c). *Science and engineering indicators 2022*. National Science Board. https://ncses.nsf.gov/pubs/nsb20223/

National Statistical Committee of the Republic of Belarus. (2022). *Science and innovation activity in the Republic of Belarus. Statistical Book* (pp. 29–30). http://scienceportal.org.by/upload/2022/Oct/scienceandinnovation22.pdf

Nature Index. (2021). *Leading 150 young universities | Nature Index 2021 Young Universities | Supplements*. Retrieved November 27, 2022, from https://www.natureindex.com/supplements/nature-index-2021-young-universities/tables/overall

Nature Index. (2022). *Saudi Arabia | Country/territory outputs*. Retrieved November 27, 2022, from https://www.natureindex.com/country-outputs/Saudi%20Arabia

Naureen, B., & Adeeb, M. A. (2014). Investigating academic research culture in public sector Universities of Pakistan. 5th World Conference on Educational Sciences – WCES 2013. *Procedia – Social and Behavioural Sciences*, *16*(2014), 3010–3015.

Nembaware, V., Glasser, S., Priest, A., Davies, A., Skelton, M., Bodzo, P., & Dandara, C. (2022). Competency-based training needs assessment for research managers and administrators in Africa and the United Kingdom to strengthen equitable partnerships [version 1; peer review: awaiting peer review]. *AAS Open Research*, *5*, 11. https://doi.org/10.12688/aasopenres.13272.1

Nembaware, V., Glasser, S., Priest, A., Davies, A., Skelton, M., Bodzo, P., Lelong, O., Naidu, A., Masimirembwa, C., Mutambiranwa, A., Hay, A., Wonkam, A., & Dandara, C. (2022). Competency-based training needs assessment for research managers and administrators in Africa and the United Kingdom to strengthen equitable partnerships. *AAS Open Research*, *5*, 11. https://doi.org/10.12688/aasopenres.13272.1

NEOM. (2022). NEOM appoints Founding President of its flagship university, NEOM U. Retrieved November 27, 2022, from https://www.neom.com/en-us/newsroom/neom-appoints-university-president

Netemeyer, R. G., Boles, J. S., & McMurrian, R. (1996). Development and validation of work/family conflict and family–work conflict scales. *Journal of Applied Psychology*, *81*(4), 400–410.

Ng, P. T. (2013). The global war for talent: Responses and challenges in the Singapore higher education system. *Journal of Higher Education Policy and Management*, *35*(3), 280–292.

NHMRC. (2023). *National Health and Medical Research Council*. https://www.nhmrc.gov.au

Nicholson, C. (2023). Global health research 'stuck in a vicious cycle' of inequity. *Research Professional News*, 31 May. https://www.researchprofessionalnews.com/rr-news-world-2023-5-global-health-research-stuck-in-a-vicious-cycle-of-inequity/

Nicolaus Copernicus University. (2020). *Report on the qualitative research of employees of the central administration of Polish universities as part of the project "Invisible, non existent, indispensable – University administration for scientific excellence"*.

Nicolescu, L. (2002). Reforming higher education in Romania. *European Journal of Education*, *37*(1), 91–100.

Njoki Kingiri, A., & Awono Onana, C. (2021). Central and East Africa. In S. Schneegans, T. Straza, & J. Lewis (Eds.), *UNESCO science report: The race against time for smarter development*. UNESCO Publishing.

Norris, J. T., & Youngers, J. A. (1998). *Sponsored program offices in higher education: A continuing evolution responding to federal requirements*. Council on Governmental Relations: 50th Anniversary — Journal of Papers. Council on Governmental Relations, 33. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.cogr.edu/sites/default/files/A_Continuing_Evolution_-_Responding_to_Federal_Requirements.pdf

Norwegian Ministry of Education and Research. (2021). Strategy for Norway's participation in Horizon Europe and the European Research Area. Publication code: F-4467 E. https://www.regjeringen.no

Norwegian Ministry of Education and Research. (2022). *The Norwegian Research system*. https://www.regjeringen.no/no/tema/forskning/innsiktsartikler/forskningssystemet/id2000708/

Norwegian Network for Administration and Research Management. (2022, October 26). *Homepage*. https://narma.no/om-narma/english-about-narma-and-contact/

NRF Annual Report 2020/21. (2022). https://www.nrf.ac.za/wp-content/uploads/2022/02/NRF-Annual-Report-2020-21-final.pdf

Nukala, V., Iqbal, S., & Kar, B. (2020). *Fostering international cooperation: Enabling mobility, research, and capacity building – A listening session report*. https://www.indiaalliance.org/news/hhs-ia-listening-session-report

NWO. (2000). *NWO-Talentprogramma*. https://www.nwo.nl/onderzoeksprogrammas/nwo-talent programma

NWO. (2019). *Onderzoeksbeleid NOW. NWO-strategie 2019–2022*. https://www.nwo.nl/onderzoeksbeleid-now

O'Connor, P. (2015). *Management and gender in higher education*. (pp. 1–224). Oxford University Press.

O'Connor, P., Carvalho, T., Vabø, A., & Cardoso, S. (2015). Gender in higher education: A critical review. *The Palgrave international handbook of higher education policy and governance* (pp. 569–585). Palgrave MacMillan.

O'Keefe, T., & Courtois, A. (2019). 'Not one of the family': Gender and precarious work in the neoliberal university. *Gender Work and Organization*, *26*, 463–479.

O'Sullivan, G. (2005, February 01). *Ireland's Programme for Research in Third Level Institutions*. PEB Exchange, Programme on Educational Building 2005/03, (2005/03), 13-16. https://doi.org/10.1787/575658184383

Observatorio Colombiano de Ciencia y Tecnología – OcyT. (2021). Indicadores de Ciencia, Tecnología e Innovación en Colombia. Versión Preliminar. https://ocyt.org.co/wp-content/uploads/2022/12/informe-indicadores-CTeI-2021-MA.pdf

Odeyemi, O. A., Bamidele, F. A., & Adebisi, O. A. (2019). Increased research productivity in Nigeria: More to be done. *Future Science OA*, *5*(2), 10–13. https://doi.org/10.4155/fsoa-2018-0083

OECD. (2019). *OECD review of higher education, research and innovation: Portugal*. OECD Publishing.

OECD. (2020). *Addressing societal challenges using transdisciplinary research*. OECD Policy Paper. Retrieved November 26, 2022, from https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/STP/GSF(2020)4/FINAL&docLanguage=En

OECD. (2021a). *Multi-dimensional review of the Western Balkans: Assessing opportunities and constraints*. Retrieved September 24, 2022, from https://www.oecd.org/development/mdcr/countries/western-balkans/

OECD. (2021b). *OECD economic surveys: Italy 2021*. OECD. https://doi.org/10.1787/07d8b9cd-en

OECD. (2021c). *OECD Economic Surveys Austria*. OECD Economic Surveys: Austria. https://www.oecd.org/economy/surveys/Austria-2021-OECD-economic-survey-overview.pdf

OECD. (2022). *OECD data purchasing power parities (PPP)*. Retrieved October 25, 2022, from https://data.oecd.org/conversion/purchasing-power-parities-ppp.htm

Office for National Statistics. (2022, November 22). *Gross domestic expenditure on research and development, UK: 2020.* ONS Website, Statistical Bulletin. Retrieved November 26, 2022, from https://www.ons.gov.uk/economy/governmentpublicsectorandtaxes/researchanddevelopmentexpenditure/bulletins/ukgrossdomesticexpenditureonresearchanddevelopment/2020

Office of Human Research Protections. (2022). *About OHRP*. https://www.hhs.gov/ohrp/about-ohrp/index.html

Office of Management and Budget (OMB). (2013). *2 CFR 200 uniform administrative requirements, cost principles, and audit requirements for federal awards*. https://www.ecfr.gov/current/title-2/subtitle-A/chapter-II/part-200?toc=1

Office of Management and Budget (OMB). (2023). Electronic Code of Federal Regulations. Retrieved from Title 2/Subtitle A/Chapter II/Part 200: Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.

Office of the Attorney General. (2018). *Technological Universities Act (Issue 3/2018)*. Rialtas na hÉireann Government of Ireland. https://www.irishstatutebook.ie/eli/2018/act/3/enacted/en/html

Okonji, P. E., Okiki, O. C., Idowu, I. A., & Alo, B. I. (2018). Assessing university research governance practices and structures in developing countries: The Nigerian universities experience. *Research Management Review*, *23*(1), 1–10.

Oliveira, F. S. (2020). *Administração e gestão de projetos de pesquisa e sua contribuição às atividades de pesquisa, desenvolvimento e inovação: estudo de caso da Embrapa*. Embrapa Agroindústria Tropical-Tese/dissertação (ALICE).

Oliveira, F. S. d., & Bonacelli, M. B. M. (2019). Institutionalization of research administration in Brazil: Some evidences. *Journal of Technology Management & Innovation*, *14*(2), 69–80. https://dx.doi.org/10.4067/S0718-27242019000200069

Oliveira, J. M., de Almeida Jurach, G., Pinto, R. S., & Kerchirne, L. M. (2017). Project offices and the federal universities: A study on project management in the context of higher education institutions. *Journal of Business and Projects*, *8*(3), 18–28.

Oliveira, C. I., Fischer, M., Kerridge, S., & Dutta, M. (2023). The research administration as a -profession (RAAAP) survey. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 113–123). Emerald Publishing.

Oliveira, C., Romano, V., & Albanesi, A. (2022). *Paths towards the creation of RMAs professional communities | EARMA*. Retrieved October 27, 2022, from https://earma.org/abstracts/submission/235/view/

Oliveira, C., Trindade, M., Varela, C., Campelo, D., Domingues, A., & Martins, M. (2022). foRMAtion International Curriculum for Future Research Managers and Administrators. *Curriculum developed within the project 'Innovative and smart module for potential Research Managers and Administrators in higher education – foRMAtion'*. https://doi.org/10.34619/9bxl-h4cg

Oliveira, F., Trentini, A., & Poli, S. (2023). Understanding organisational structures in RMA – An overview of structures and cases in a global context. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 231–246). Emerald Publishing.

Olson, M. (1971). *The logic of collective action*. Harvard University Press.

Olvido, M. M. J. (2021). Developing research culture: An outcomes perspective. *The Journal of Research Administration (SRA International)*, *52*(1), 15–36.

Organisation for Economic Co-operation and Development (OECD). (2015). *Frascati Manual 2015: Guidelines for collecting and reporting data on research and experimental development*. https://www.oecd.org/innovation/frascati-manual-2015-9789264239012-en.htm

Organisation of Economic Cooperation and Development (OECD). (2004). *University research management: Meeting the institutional challenges*. OECD Publishing. http://www.oecd.org

Page, S. E. (2019). *The diversity bonus: How great teams pay off in the knowledge economy*. Princeton University Press.

Pakistan Center for Philanthropy. (2022). *Building synergies and partnerships*. https://pcp.org.pk/npo-directory/

Parkes, S., Blackwell Young, J., Cleaver, E., & Archibald, K. (2014). *Academic and professional services in partnership literature review and overview of results: Leading the student experience*. Higher Education Academy (HEA). https://www.advance-he.ac.uk/knowledge-hub/academic-and-professional-services-partnership-literature-review-and-overview-results

Pearson, A. K. (2008). Disrespecting' administrative staff work: Can we talk? In A. Wagner, S. Acker, & K. Mayuzumi (Eds.), *Whose university is it, anyway? Power and privilege on gendered terrain* (pp. 127–139). Sumach.

Pellegrinelli, S., & Garagna, L. (2009). Towards a conceptualization of PMOs as agents and subjects of change and renewal. *International Journal of Project Management*, *27*(7), 649–656.

Pemsel, S., & Wiewiora, A. (2013). Project management office a knowledge broker in project-based organisations. *International Journal of Project Management*, *31*(1), 31–42.

Perez, C. (2020). *Invisible women*. Penguin Publishing.

Perkin, H. J. (1989). *The rise of professional society: England since 1880*. Routledge.

Pillai, V. (2011, August 16). *The National Science and Research Council*. myForesight. Retrieved May 5, 2022, from https://www.myforesight.my/the-national-science-and-research-council/

Pillai, M., & Raghavan, V. (2021, March). Celebrating a decade of success: Research management at a life science cluster in India. *NCURA Magazine*.

Pillay, P., & Pabla, J. (2022, May 4–6). *Professionalisation of research management in Africa* [Conference presentation]. European Association of Research Managers and Administrators (EARMA) annual conference, Norway.

Planning and Statistics Authority. (2020). *Findings of Research & Development Survey in the state of Qatar 2018.* https://www.psa.gov.qa/en/statistics/Statistical%20Releases/Social/RAndD/2018/RD_Qatar_2018_En.pdf

Plum, E., Achen, B., Dræby, I., & Jensen, I. (2008). *Cultural intelligence. The art of leading cultural complexity*. Middlesex University Press.

PM2. (2022). *The OpenPM2 initiative webpage*. Retrieved March 20, 2022, from https://www.pm2alliance.eu/history-of-pm2/

PMI. (2013). *Um Guia do Conhecimento em Gerenciamento de Projetos (Guia PMBoK) − Quinta Edição* (5a. Edição ed.). Editora Saraiva.

Poli, S. (2011). Centralised versus decentralised. Issues of professionalism in research support services. Presentation to the EARMA conference, June 22–24, Braganca.

Poli, S. (2013). *Institutional focussed study – IFS*. EdD Institute of Education.

Poli, S. (2017). Navigating cultures and roles during a professional doctorate. In C. McMaster, C. Murphy, S. Cronshaw, & N. C. McMaster (Eds.), *Postgraduate study in the UK: Surviving and succeeding*. Libri Publishing.

Poli, S. (2018a). Who are today's research managers? Roles, professional development, and evolution of the profession. In J. Anderson, K. Toom, S. Poli, & P. F. Miller (Eds.), *Research management: Europe and beyond* (pp. 1–29). Elsevier. https://doi.org/10.1016/B978-0-12-805059-0.00001-82121

Poli, S. (2018b). Organizational structures. In J. Andersen, K. Toom, S. Poli, & P. F. Miller (Eds.), *Research management: Europe and beyond* (pp. 89–107). Elsevier Inc.

Poli, S. (2021d, December 6–10). *Research management staff move toward greater levels of professionalism* [Conference presentation]. Society for Research into Higher Education (SRHE) annual conference (Virtual). https://www.academia.edu/63637244/Research_management_staff_move_toward_greater_levels_of_professionalism

Poli, S. (2022a, March 1–3). *Understanding professionalism in research management in a post-pandemic age – How we can build up a professional portfolio consistently in the long run* [Conference presentation]. VICRA annual conference (SRAI) – virtual international conference for early-career research administrators.

Poli, S. (2022b, May 4–6). *Research management striving to re-invent an up-to-date idea of professionalism in a post-pandemic age* [Conference presentation]. European Association of Research Managers and Administrators EARMA 2022 annual conference, Oslo.

Poli, S. (2022c, March 1–3). *Research into RMA supports professionalism as well as our day-to-day job*. International Convention for Research Administrators (VICRA) (Virtual). https://www.academia.edu/73326244/Research_into_RMA_supports_professionalism_as_well_as_our_day_to_day_job

Poli, S., Andersen, J., Toom, K., & Wilkman, L. (2014, August). Shaping a new profession in higher education. *NCURA Magazine*, *XLIV*(4), 54–56.

Poli, S., Andersen, J., Toom, K., & Wilkman, L. (2018). *Introducing the EARMA European certificate in research management*. Higher Education and Research Institutions.

Poli, S., & Hancock, E. (2010). *Centralised versus decentralised. Issues of professionalism in research support services* [Conference presentation]. European Association of Research Managers and Administrators EARMA conference.

Poli, S., Kerridge, S., Ajai-Ajagbe, P., & Zornes, D. (2023). Research management as labyrinthine – How and why people become and remain research managers and administrators around the world. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 141–154). Emerald Publishing.

Poli, S., Kurt-Dickson, A., & Siesling, M. (2016, June 6–8). *Being blended (as) research managers in different context of higher education* [Conference presentation]. Association of Research Managers and Administrators ARMA conference, Birmingham.

Poli, S., Oliveira, F., & Trentini, A. (2023). Exploring forms of knowledge and professionalism in RMA in a global context. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 221–230). Emerald Publishing.

Poli, S., Oliveira, C., & Zsár, V. (2023). From conceptualisation to action – The quest for understanding attitudes of research managers and administrators in the wider world. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 201–220). Emerald Publishing.

Poli, S., Romano, V., & Albanesi, A. (2019). *Are research managers regarded as servant leaders in today's research in HE in Italy*. Retrieved October 27, 2022, from https://scholar.google.com/citations?view_op=view_citation&hl=it&user=cmKYVccAAAAJ&citation_for_view=cmKYVccAAAAJ:hqOjcs7Dif8C

Poli, S., & Taccone, D. (2023). Professional staff in support services in education and research – How to connect research with practice. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 341–353). Emerald Publishing. https://doi.org/10.1108/978-1-80382-701-820231028

Poli, S., & Toom, K. (2013). Exploring the theory. Research management as a newer field of investigation. *EARMA LINK Magazine, European Association of Research Managers and Administrators*, January 7–8.

Poli, S., & Toom, K. (2015, June 28–July 1). *What combination of skills and career paths in today's research management and administration (RMA)?* [Conference presentation]. European Association of Research Managers and Administrators (EARMA) annual conference, The Netherlands.

Polytechnic University of Madrid. (n.d.). *XIV edition. Promotion and management of international R&D&I projects and actions (15ECTS)*. Retrieved September 11, 2023, from https://www.upm.es/Investigacion/soporte/OPI/formacion/Horizon

Pontikakis, D., Mcdonnell, T., & Geoghegan, W. (2005). *Conceptualising a national innovation system: Actor roles and incentives*.

PORDATA. (2022). *Remuneração base média mensal dos trabalhadores por conta de outrem: Total e por nível de qualificação*. Retrieved October 26, 2022, from https://www.pordata.pt/municipios/remuneracao+base+media+mensal+dos+trabalhadores+por+conta+de+outrem+total+e+por+nivel+de+qualificacao-269

Powell, W. W., Oberg, A., Korff, V., Oelberger, C., & Kloos, K. (2017). Institutional analysis in a digital era: Mechanisms and methods to understand emerging fields. In G. Krücken, C. Mazza, R. E. Meyer, & P. Walgenbach (Eds.), *New themes in institutional analysis* (pp. 305–344). Edward Elgar.

Prime Minister. (2020a). *Decision No. 569/QD-TTg of the Prime Minister promulgating the Strategy for Science, Technology and Innovation Development to 2030*. https://thuvienphapluat.vn/van-ban/Linh-vuc-khac/Quyet-dinh-569-QD-TTg-2022-Chien-luoc-phat-trien-khoa-hoc-cong-nghe-va-doi-moi-sang-tao-512896.aspx

Prime Minister. (2020b). *Decision 34/2020/QD-TTg of the Prime Minister promulgating the List of Vietnamese Occupations*. https://thuvienphapluat.vn/van-ban/Lao-dong-Tien-luong/Quyet-dinh-34-2020-QD-TTg-Danh-muc-nghe-nghiep-Viet-Nam-su-dung-trong-thong-ke-ve-lao-dong-458436.aspx

PRS Legislative Research. (2022). *Demand for grants 2022–23 analysis: Science and technology*. https://prsindia.org/budgets/parliament/demand-for-grants-2022-23-analysis-science-and-technology

Public Policy on Science, Technology and Innovation in Colombia (CONPES 4089/2022). Colombia. https://colaboracion.dnp.gov.co/CDT/Conpes/Econ%C3%B3micos/4089.pdf

Punch, K. F. (2012). *Developing effective research proposals* (2nd ed.). Sage.

Putnam, R. D. (2001). *Bowling alone: The collapse and revival of American community* (1. Touchstone ed.). Simon & Schuster [u.a.].

Qatar National Research Fund. (2022, May). *Report in response to the request on Research administrators in Qatar [Google Slides]*. Qatar National Research Fund.

Qatar National Research Fund. (n.d.). *Qatar research institutions*. https://www.qnrf.org/en-us/Funding/Collaboration/Qatar-Research-Institutions

Qatar Research, Development and Innovation (QRDI) Council. (2020). *Qatar Research, Development and Innovation 2030 Strategy*. https://qrdi.org.qa/en-us/#QRDI2030

Qu, M. (2021). The role of grassroots administrators in building international partnerships: A multi-level governance perspective. *Learning and Teaching*, *14*(3), 1–21. https://doi.org/10.3167/latiss.2021.140302

Quality Board for Higher Education in Iceland. (n.d.). *Our mission is to safeguard the standards and enhance the quality of Icelandic higher education and the management of research activities*. Retrieved March 3, 2022, from https://qef.is

Quinsee, S. (2022). Leadership in the third space. *The impact of the integrated practitioner in higher education: Studies in third space professionalism*, 33–39.

RACC Website. (n.d.). Retrieved April 3, 2022, from http://www.cra-cert.org/

Rannis. (n.d.). *About Rannis*. The Icelandic Centre for Research. Retrieved March 1, 2022, from https://en.rannis.is/activities/

Rasmussen, E. (2008). Government instruments to support the commercialization of university research: Lessons from Canada. *Technovation*, *28*, 506–517.

Rašula J. (2004). *6. Okvirni program EU s poudarkom na postopkih prijave in sodelovanju Slovenije*. Univerza v LJubljani, Ekonomska fakulteta.

Reardon, S. (2021). 'We're problem solvers': Research administrators offer guidance to working scientists. *Nature*, *595*, 321–322. https://doi.org/10.1038/d41586-021-01829-8

Regan, J. A., & Graham, C. (2018). A career in professional services: accident, serendipity or something more? *Journal of Higher Education Policy and Management*, *40*(1), 3–17. https://doi.org/10.1080/1360080X.2017.1411062

Register of Grants – National Research Foundation. (n.d.). Retrieved September 14, 2022, from https://www.nrf.ac.za/information-portal/register-of-grants/

Regulation 744/2020: "Regulamento de Carreiras, Retribuições e Contratação do Pessoal Técnico, Administrativo e de Gestão da Universidade de Aveiro em regime de contrato de trabalho". (2020). University of Aveiro. https://dre.pt/dre/en/detail/tipo/744-2020-141963750

Rehm, J. (2018, September 13). Ten years after the economic crash, R&D funding is better than ever. *Nature News*. https://www.nature.com/articles/d41586-018-06634-4

Reillon, V. (2018). *EU framework programmes for research and innovation : Evolution and key data from FP1 to Horizon 2020 in view of FP9 : In-depth analysis*. Publications Office European Parliament, Directorate-General for Parliamentary Research Services. https://data.europa.eu/doi/10.2861/60724

Reiser, R. A., Moore, A. L., Bradley, T. W., Walker, R., & Zhao, W. (2015). Supporting faculty efforts to obtain research funding: Successful practices and lessons learned. *The Journal of Faculty Development*, *29*(3), 43–50.

Republic of Kenya THIRD MEDIUM TERM PLAN 2018–2022. *Transforming lives: Advancing socio-economic development through the "big four"*. http://vision2030.go.ke/wp-content/uploads/2019/01/THIRD-MEDIUM-TERM-PLAN-2018-2022.pdf

Republic of Kenya, Science, Technology and Innovation Act No. 28 of 2013 Revised Edition 2014. (2013). https://www.nacosti.go.ke/nacosti/Docs/Information%20Centre/Science-Technology-and-Innovation-Act-No.-28-of-20131.pdf

Republic of Slovenia. (2020). https://www.gov.si/novice/2020-12-22-pomembni-datumi-za-slovenijo/

Republic of Slovenia, Ministry of Infrastructure. (2018). *Ministry of infrastructure.* https://www.gov.si/en/state-authorities/ministries/ministry-of-infrastructure/

Republic of South Africa. Department of Higher Education and Training. (2015). *Research outputs policy* [Government Gazette No. 38552:188].

Research Administrator Certification Council. (2022). *Introduction*. https://cra-cert.org/introduction

Research Administrators Certification Council (RACC). (2022a). *Introduction*. https://cra-cert.org/introduction

Research Administrators Certification Council (RACC). (2022b). *Research administrator directory*. https://cra-cert.org/find-a-certificant

Research in Estonia. (n.d.). *Facts and figures*. https://researchinestonia.eu/research-landscape/facts-and-figures/

Research Infosource. (n.d.). *Canada's top 40 research hospitals*. https://researchinfosource.com/top-40-research-hospitals/2021

Research Managers are Essential to a Healthy Research Culture. (2021). *Nature*, *595*, 150. https://doi.org/10.1038/d41586-021-01823-0

Research Outputs Policy|South African Government. (n.d.). Retrieved September 14, 2022, from https://www.gov.za/documents/research-outputs-policy-11-mar-2015-1027

Reynolds, M., & Vince, R. (2004). Organizing reflection: An introduction. In R. Vince (Ed.), *Organizing reflection* (pp. 1–14). Routledge.

Rhoades, G. (2010). Envisioning invisible workforces – Enhancing intellectual capital. In C. Whitchurch & G. Gordon (Eds.), *Academic and professional identities in higher education: The*

challenges of a diversifying workforce (pp. 35–54). Routledge – An Imprint of Taylor & Francis Group. ISBN: 978-0-203-86525-5

Ricketts, K., & Pringle, J. K. (2014). Going up? Perceived career progress of female general staff across New Zealand universities. *Journal of Higher Education Policy and Management*, *36*(5), 496–508.

RIF – Research and Innovation Foundation. (2020). *Cyprus secured more than €250 million from "Horizon 2020".* Retrieved August 11, 2022, from https://www.research.org.cy/en/cyprus-secured-more-than-e250-million-from-horizon-2020/

RIF – Research and Innovation Foundation. (2022). *Cyprus National RTDI Strategy.* Retrieved August 11, 2022, from https://www.research.org.cy/en/strategic-planning/national-strategy/#ethniko_plaisio

Risse, T. (2009). Social constructivism and European integration. In A. Wiener & T. Diez (Eds.), *European integration theory* (2nd ed., pp. 144–159). Oxford University Press.

Risse-Kappen, T., Ropp, S. C., & Sikkink, K. (Eds.). (2013). *The persistent power of human rights: From commitment to compliance*. Cambridge University Press.

Ritchie, J., Lythgoe, E., & Donovan, D. (2023). RMA education, training and professional development in North America and Europe. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 177–186). Emerald Publishing.

Roberts, T. J., Compo, D., & Shambrook, J. (2016, January). Starting small and growing: The profession of research administration and graduate higher education opportunities. *NCURA Magazine*, *48*(1), 20–22.

Roberts, T. J., & House, J. (2006). Profile of a research administrator. *Research Management Review*, *15*(1), 41–47.

Roberts, T. J., Sanders, G., & Sharp, W. (2008). *NCURA: The second twenty-five years*. National Council of University Research Administrators. http://www.ncura.edu/Portals/0/Docs/AboutUs/NCURA_history.pdf?ver=OGJ5MxlQHbD2jl-PF0fUw%3d%3d&timestamp=163302586786

Robson, I. (2002). *Real world research*. Blackwell.

Robson, C. (2011). *Real world research*. Wiley.

Rodrigues, M. L., & Heitor, M. (2015). *40 Anos de políticas de ciência e de ensino superior*. Almedina.

Romano, V. (2020). Il profilo professionale del Research Manager and Administrator: Prospettive per l'Italia. *APREMagazine*, *13*, 53–55. Retrieved October 27, 2022, from https://apre.it/wp-content/uploads/2021/01/APRE_Magazine_N13.pdf

Romano, V., & Albanesi, A. (2021). *The role of the research manager and administrator – RMA, in Italy: Professional framework and training needs 2020 activity report*. CODAU Research Working Group. Zenodo. https://doi.org/10.5281/zenodo.5513738

Romano, V., Albanesi, A., & Poli, S. (2019). *Are research managers regarded as servant leaders?* [Conference paper]. EARMA conference.

Romano, V., Del Bello, A., & Albanesi, A. (2023). Professional associations and professional development frameworks. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 355–372). Emerald Publishing.

Ronk, T. (1998). *The Baltic States. World Science report* (p. 119). UNESCO Publishing.

Rostan, M., Ceravelo, F. A., & Metcalfe, A. S. (2014). The internationalization of research. In F. Huang, M. Finkelstein, & M. Rostan (Eds.), *The internationalization of the academy, changes, realities and prospects* (Vol. 10). https://doi.org/10.1007/978-94-007-7278-6_7

Ryan, G. W., & Bernard, H. R. (2003). Techniques to identify themes. *Field Methods*, *15*(1), 85–109.

Ryttberg, M. (2020). Legitimacy dynamics of professional support staff at higher education institutions. *Higher Education Policy*, *35*, 218–233. https://doi.org/10.1057/s41307-020-00206-w

Ryttberg, M., & Geschwind, L. (2017). Professional support staff at higher education institutions in Sweden: Roles and success factors for the job. *Tertiary Education and Management*, *23*(4), 334–346. https://doi.org/10.1080/13583883.2017.1322631

Ryttberg, M., & Geschwind, L. (2019). Professional support staff in higher education: Networks and associations as sense givers. *Higher Education*, *78*(6), 1059–1074. https://doi.org/10.1007/s10734-019-00388-2

Rzempała, J. (Ed.). (2015). *Research project management*. University of Economics in Krakow (in Polish).

Saad, M., & Zawdie, G. (Eds.). (2011). *Theory and practice of the triple helix system in developing countries: Issues and challenges*. Routledge.

Sabinet. (n.d.). *Accredited journals.* Retrieved September 14, 2022, from https://journals.co.za/publications-accredited

Saito, C., & Sonobe, T. (2021). *Self-study on Kyoto University's academic activities in ASEAN – sustainable fieldwork with partners*. http://hdl.handle.net/2433/264731

Salazar, M., Barón, V., Bonilla, R., Cantor, N., Cárdenas, F., Chavarro, D., Daza, S., Durán, M. F., Fog, L., Galvis, M., González, R., Jaramillo, H., Lozano, M., Lucio, D., Montoya, J. S., Nupia, C. M., Orozco, L. A., Pallares, C. O., Pérez, P., … Villaveces, J. (2013). Colciencias cuarenta años. Entre la legitimidad, la normatividad y la práctica (M. Sálazar, M. Lozano, L. Fog, & F. Sagasti, Eds.). Observator.

Salazar-Clemeña, R. M., & Almonte-Acosta, S. A. (2007). Developing research culture in Philippine Higher Education Institutions: Perspectives of university faculty [Paper presentation]. The Regional Seminar "Competition, Cooperation, and Change in the Academic Profession: Shaping Higher Education's Contribution to Knowledge and Research". Hangzhou. http://unesdoc.unesco.org/images/0015/001578/157869e.pdf

Salles-filho, S., & Bonacelli, M. B. M. (2010). Science and Public Policy Trends in the organization of public research organizations: Lessons from the Brazilian case. *Science and Public Policy*, *37*(3), 193–204.

Sanches, T. (2015). From tradition to innovation: Exploring administration practices in four Portuguese University Libraries. *Journal of Library Administration*, *55*(5), 376–393. https://doi.org/10.1080/01930826.2015.1047273

Sandu, S. (2018). A century of scientific research and innovation in Romania. *Romanian Journal of Economics*, *47*(2), 82–105.

Santiago, R., & Carvalho, T. (2016). The "Dark side of the moon". The non-teaching structures in the Portuguese higher education institutions. In C. Sarrico, P. Teixeira, A. Magalhães, A. Veiga, M. J. Rosa, & T. Carvalho (Eds.), *Global challenges, national initiatives, and institutional responses: The transformation of higher education* (pp. 55–76). Sense Publishers.

Santos, J. M. R. C. A. (2021). Management of public–private R&D projects in higher education: Key trends and issues. *Perspectives: Policy and Practice in Higher Education*, *25*(3), 106–112. https://doi.org/10.1080/13603108.2021.1894616

Santos, J. M. R. C. A., Varela, C., & Kerridge, S. (2021a). Professionals at the interface of science: Is there more than meets the eye? *Perspectives: Policy and Practice in Higher Education*, *25*(3), 100–105. https://doi.org/10.1080/13603108.2021.1881842

Santos, J. M. R. C. A., Varela, C., & Kerridge, S. (2021b). *PIoS datasets*. figshare. https://doi.org/10.6084/m9.figshare.16912498

Santos, J. M. R. C. A., Varela, C., Kerridge, S., & Fischer, M. (2023). Where do RMAs work? In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 155–166). Emerald Publishing.

Sapir, A. (2020). Brokering knowledge, monitoring compliance: Technology transfer professionals on the boundary between academy and industry. *Journal of Higher Education Policy and Management*, *0*(0), 1–16. https://doi.org/10.1080/1360080X.2020.1804657

Sarwar, R., & Hassan, S.-U. (2015). A bibliometric assessment of scientific productivity and international collaboration of the Islamic World in science and technology (S&T) areas. *Scientometrics*, *105*(2), 1059–1077. https://doi.org/10.1007/s11192-015-1718-z

Saudi Press Agency. (2010, December 26). *KAUST Joins ERASMUS Program*. https://www.thefreelibrary.com/KAUST±Joins±ERASMUS±Program.-a0245278097

Saudi Vision 2030. (n.d.). Saudi Vision 2030. Retrieved July 11, 2022, from https://www.vision2030.gov.sa/v2030/overview/

Schneijderberg, C. (2015). Work jurisdiction of new higher education professionals. In U. Teichler & W. K. Cummings (Eds.), *Forming, recruiting and managing the academic profession* (pp. 113–144). Springer International Publishing. http://link.springer.com/book/10.1007/978-3-319-16080-1

Schneijderberg, C., & Merkator, N. (2013). The new higher education professionals. In B. M. Kehm & U. Teichler (Eds.), *The academic profession in Europe: New tasks and new challenges* (pp. 53–92). Springer. https://doi.org/10.1007/978-94-007-4614-5_5

Schützenmeiser, F. (2010). *University research management: An exploratory literature review*. Institute of European Studies, University of California. Retrieved November 2022, from http://escholarship.org/uc/item/77p3j2hr

Schwab, K. (Ed.). (2019). *The global competitiveness report*. World Economic Forum. http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf

Science and Technology Policy Council. (n.d.). *Science and Technology Policy Council*. Retrieved March 1, 2022, from https://www.government.is/topics/science-research-and-innovation/-science-and-technology-policy-council/

Science for Africa Foundation. (forthcoming). *The evolution. Growth and impact of the research management function in research intensive universities. A case study of three African universities*. Report by GRAMS Consulting to inform the RemPRO Programme. Science for Africa Foundation.

Science New Zealand. (2021, September 7). *Value of Crown research institutes in Aotearoa New Zealand's science system today*. A report for Science New Zealand. Retrieved November 26, 2022, from https://issuu.com/sciencenewzealand.org/docs/value_of_cris_in_the_nz_science_system_08-09-21

Science, Technology and Innovation Strategy for Africa. (n.d.). *Science, technology and innovation strategy for Africa 2024*. https://au.int/sites/default/files/newsevents/workingdocuments/33178-wd-stisa-english_-_final.pdf

Science, Technology, and Innovation Basic Plan, Cabinet Office. (1996). Retrieved January 19, 2023, from https://www.mext.go.jp/b_menu/shingi/kagaku/kihonkei/honbun.htm

Science|Business. (2022). *Czech Republic scores 20% Horizon Europe success rate – But only a third of excellent proposals get funding*. Retrieved August 25, 2022, from https://sciencebusiness.net/news-byte/czech-republic-scores-20-horizon-europe-success-rate-only-third-excellent-proposals-get

Scott, P. (2010). Burton Clark's half century: Selected writings 1956–2006. *London Review of Education*, *8*(3), 273–280.

Scott, P. (2011). The university as a global institution. In R. King, S. Marginson, & R. Naidoo (Eds.), *Handbook on globalization and higher education*. Edward Elgar Publishing.

Scott, D. (2012). Research design: Frameworks, strategies, methods and technologies. In A. R. J. Briggs, M. Coleman, & M. Morrison (Eds.), *Research methods in educational leadership and management* (pp. 106–121). Sage.

Scott, P. (2019). Martin Trow's elite-mass-universal triptych: Conceptualising higher education development. *Higher Education Quarterly*, *73*(4), 496–506.

Scott, P. (2022). Sagas of contemporary higher education: Foreground and hinterland.

SCST. (2005). *Regulations on the Lead Executing Organization of the State (Regional, Branch) STPs, approved by the Resolution of the State Committee on Science and Technology of Belarus of 30 November 2005 No 17*. https://mshp.gov.by/documents/nts/c82c34ea8c9f9704.html

SCST and NASB. (2021). *Analytical Report "On the State and Prospects of Science Development in the Republic of Belarus upon the Results of the Year of 2020"*. http://belisa.org.by/pdf/2021/Analytical_report_2020.pdf

Sebalj, D., Holbrook, A., & Bourke, S. (2012). The rise of 'professional staff' and demise of the 'non-academic': A study of university staffing nomenclature preferences. *Journal of Higher Education Policy and Management*, *34*(5), 463–472. https://doi.org/10.1080/1360080X.2012.715994

Sewell, L., & Barnett, A. G. (2019). The impact of caring for children on women's research output: A retrospective cohort study. *PLOS One*, *14*(3), e0214047. https://doi.org/10.1371/journal.pone.0214047

Shaklee, T. (2023). Research administration in the United States. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 473–481). Emerald Publishing.

Shambrook, J. (2010). *Health behavior, occupational stress, and stress resiliency in research administrators working in the academic environment* [Doctoral dissertation]. Waldon University (Dissertation Abstract International, AAT 3412291).

Shambrook, J. (2012). Comparison of stress-related factors in the 2007 and 2010 Research Administrator Stress Perception Surveys (RASPerS). *Journal of Research Administration*, *43*(2), 107–118.

Shambrook, J. (2020a, August). Taking a look under your hood: The importance of preventive screenings in self-care. *NCURA Magazine*, *52*(4), 14–15.

Shambrook, J. (2020b, October/November). Sickness presenteeism in research administrators. *NCURA Magazine*, *52*(5), 24–25.

Shambrook, J. (2020c, December). Stress in research administration: Looking back to set a better path going forward. *NCURA Magazine*, *52*(6), 18–19.

Shambrook, J. (2022, July Supplement). Stress in research administration: Raising awareness, strengthening resilience. In M. Schiffman (Ed.), *Sponsored research administration: A guide to effective strategies and recommended practices* (pp 120:147–120:159). NCURA.

Shambrook, J. (2023). RASPerS: Prevalence of occupational stress and associated factors in RMA professionals. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 373–383). Emerald Publishing.

Shambrook, J., & Brawman-Mintzer, O. (2007). Results from the 2007 RASPerS. *Research Management Review*, *15*(2), 41–52.

Shambrook, J., Lasrado, V., Roberts, T. J., & O'Neal, T. (2015). *2015 Profile of a research administrator* [Poster presentation]. Society for Research Administrators International symposium, Las Vegas, NV. https://srainternational.org/sites/default/files/documents/Shambrook,%20Jennifer.pdf

Shambrook, J., & Mintzer, O. (2007). Results from the 2007 Research Administrator Stress Perception Survey (RASPerS). *Research Management Review*, *15*(2), 41–52.

Shambrook, J., & Roberts, T. (2011). 2010 Profile of a research administrator. *Research Management Review*, *18*(1), 19–30. https://files.eric.ed.gov/fulltext/EJ980454.pdf

Shambrook, J., Roberts, T. J., & Triscari, R. (2011). Research administrator salary: Association with education, experience, credentials and gender. *Journal of Research Administration*, *42*(2), 87–99.

Sharpe, N., & Sigurðsson, S. Ó. (Eds.). (2017). *Quality enhancement handbook for Icelandic higher education* (2nd ed.). Retrieved March 3, 2022, from https://qef.is/assets/QEF2-Handbook-for-website.pdf

Shattock, M. (2003). *Managing successful universities* (pp. 67–108). Open University Press.

Shattock, M. (2005). European universities for entrepreneurship: Their role in the Europe of knowledge the theoretical context. *Higher Education Management and Policy*, *17*(3), 13.

Shattock, M. (2014). The context of 'modernising' reforms in university governance. In M. Shattock (Ed.), *International trends in university governance* (pp. 15–28). Routledge.

Shattock, M. (2017). The 'world class' university and international ranking systems: What are the policy implications for governments and institutions? *Policy Reviews in Higher Education*, *1*(1), 4–21. https://doi.org/10.1080/23322969.2016.1236669

Shehatta, I., & Mahmood, K. (2016). Research Collaboration in Saudi Arabia 1980–2014: Bibliometric patterns and National Policy to Foster Research Quantity and Quality. *Libri*, *66*(1), 13–29. https://doi.org/10.1515/libri-2015-0095

Shelley, L. (2010). Research managers uncovered: Changing roles and 'shifting arenas' in the academy. *Higher Education Quarterly*, *64*(1), 41–64. https://doi.org/10.1111/j.1468-2273.2009.00429.x

Siesling, M., Kurt-Dickson, A., & Poli, S. (2017, April 24–26). *The blended professional in Academia – Bringing them further* [Conference presentation]. European Association of Research Managers and Administrators EARMA conference, Malta.

Silva, N. E., & Nedberg, H. (2023). The profession of research management and administration in Norway. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 723–733). Emerald Publishing.

Simone, M. G. (2017). Il management didattico. Tra rischi involutivi e nuove prospettive di sviluppo. In N. Paparella (a cura di), *Il management didattico. Una responsabilità da condividere* (pp. 199–218). Giapeto. ISBN: 978-88-9326-097-8

Simpson, L. R. (2004). Anticolonial strategies for the recovery and maintenance of Indigenous knowledge. *American Indian Quarterly*, *28*(3–4), 373–384.

Simpson, A., & Fitzgerald, T. (2014). Organisational and occupational boundaries in Australian universities: The hierarchical positioning of female professional staff. *Studies in Higher Education*, *39*(10), 1929–1941.

Sip, J. (2023). The profession of research management and administration in Czechia. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 603–610). Emerald Publishing.

Slaughter, S., & Leslie, L. L. (1997). *Academic capitalism: Politics, policies, and the entrepreneurial university*. The Johns Hopkins University Press.

Smith, A. (2000). The scale of perceived occupational stress. *Occupational Medicine*, *50*(5), 294–298.

Smith, L., & Abouammoh, A. (2013). Challenges and opportunities for higher education in Saudi Arabia: An exploratory focus group. In L. Smith & A. Abouammoh (Eds.), *Higher education in Saudi Arabia: Achievements, challenges and opportunities* (pp. 167–179). Springer.

Smith, A., Brice, C., Collins, A., Matthews, V., & McNamara, R. (2000). *The scale of occupational stress: A further analysis of the impact of demographic factors and type of job*. Health and Safety Executive Contract Report.

Smith, J. A., & Shambrook, J. (2015, December). Future trends: The growing diversity of research administration observed in a Master of Research program. *NCURA Magazine*, *47*(6), 42–43.

Smith, J. A., & Torres, L. (2011). The process of establishing a new master of research administration program. *Research Management Review*, *18*(1), 1–19.

Society of Research Administrators International. (2022). *Who we are*. https://www.srainternational.org/about/who-we-are

Society of Research Administrators. (1992). *Society of Research Administrators a quarter century of service in research management*. Society of Research Administrators.

Soete, L., Schwaag Serge, S., Stiern, J., & Hollanders, H. (2021). *European Union. UNESCO Science report: The race against time for smarter development* (p. 284). UNESCO Publishing.

Sohail, M., & Rehman, C. A. (2015). Stress and health at the workplace – A review of the literature. *Journal of Business Studies Quarterly*, *6*(3), 94–121.

Sonday, A. (2021). Shaping professional identity: A descriptive qualitative study on health and rehabilitation final year students in higher education. *South African Journal of Occupational Therapy*, *51*(2). https://doi.org/10.17159/2310-3833/2021/vol51n2a7

Sonobe, T., & Saito, C. (2021a). *Progress report on new initiatives for an online platform to boost human resource capacity of science, technology, and innovation coordinators in Japan and ASEAN toward grand challenges*. Compendium of Analytical Views for the Ascc Blueprint 2025, 49–55.

Sonobe, T., & Saito, C. (2021b). *Science, Technology and Innovation (STI) Coordinators in Japan and ASEAN towards grand challenges (2020 – 2021): Summary report*. http://hdl.handle.net/2433/263214

Sonobe, T., & Saito, C. (2023). Empirical and empathetic approaches taken by science, technology and innovation coordinators in Southeast Asia. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 265–279). Emerald Publishing.

Soto, D. (2009). *Los doctorados en Colombia. Un Camino hacia la transformación universitaria*. Historia de La Educación Latinoamericana. *Salim Chalela Naffah and Andrea Navas Calixo*

South African Government. (2001). *Health research policy in South Africa.* Retrieved September 14, 2022, from https://www.gov.za/sites/default/files/gcis_document/201409/healthresearch0.pdf

South African Government. (2012). *National Development Plan 2030: Our future – Make it work.* Retrieved September 14, 2022, from https://www.gov.za/issues/national-development-plan-2030

Southern African Research and Innovation Management Association (SARIMA). (n.d.). *Professionalisation.* Retrieved September 14, 2022, from https://www.sarima.co.za/professionalisation/

Southern African Research and Innovation Management Association (SARIMA). (2022a). *Celebration report 2013–2022* (88 pp.). https://www.sarima.co.za/wp-content/uploads/2022/08/SARIMA-20-YEAR-CELEBRATION-REPORT-WEB-FINAL.pdf

Southern African Research and Innovation Management Association (SARIMA). (2022b, October 26). *A handbook for Southern African research management offices*. https://www.sarima.co.za/wp-content/uploads/2019/04/Research-Management-Manual.pdf

Souza, K. C., & Evaristo, R. (2006). Project management offices: A case of knowledge-based archetypes. *International Journal of Information Management*, *26*(5), 414–423.

Spencer, T., & Scott, J. (2017). Research administrative burden: A qualitative study of local variations and relational effects. *Research Management Review*, *22*(1), 42–70. https://files.eric.ed.gov/fulltext/EJ1161542.pdf

Sporn, B. (2010). *Management of and in higher education institutions*. International Encyclopedia of Education.

Sprague, M. M. (1994). Information-seeking patterns of university administrators and nonfaculty professional staff members. *The Journal of Academic Librarianship*, *19*(6), 378–383. https://doi.org/10.1016/0099-1333(94)90030-2

Squilla, B., Lee, J., & Steil, A. (2017). Research shared services: A case study in implementation. *Journal of Research Administration, Thomas Jefferson University; Huron Consulting Group; Thomas Jefferson University*, *48*(1), 86–99.

Stackhouse, J. (2008). Profiling the profession. *Research Global*, *19*, 8–9, 22.

Stackhouse, J., & Day, R. (2005). Global and regional practices in university research management: Emerging trends. *International Journal of Technology Management & Sustainable Development*, *4*(3), 189–205. https://doi.org/10.1386/ijtm.4.3.189/1

Stackhouse, J., Sultan, J., & Kirkland, J. (2001). *ACU Research Management Programme* [Discussion Paper No.1]. Research Management in African Universities. Report of a Benchmarking Seminar Held in Durban, South Africa, 1–3 April 2001. https://web.archive.org/web/20031012135333/http://www.acu.ac.uk/resman/pdf/DurbanReport.pdf

Stage, A. K., & Aagaard, K. (2019). Danish universities under transformation: Developments in staff categories as indicator of organizational change. *Higher Education*. https://doi.org/10.1007/s10734-019-00362-y

Starbuck, S. (2014). Yes, I am a research manager, but I don't cost bids [Conference presentation]. *The ARMA 2014 conference proceedings: Learning from the past; Preparing for the Future 2014*. ARMA.

Statista. (2023). *Share of population who hold a bachelor level degree or above in Australia from 1989 to 2022.* https://www.statista.com/statistics/612854/australian-population-with-university-degree

Statistic Centre Abu Dhabi. (2019). *Statistical Yearbook – Labour Force Structure*. https://www.scad.gov.ae/Release%20Documents/Statistical%20Yearbook%20%20Labour%20Force%20Structure_2019_Annual_Yearly_en.pdf

Statistical Office of Republic of Slovenia. (2022). *Home page.* www.stat.si

Statistics Poland. (2021a). *Research and experimental development in Poland in 2020*.

Statistics Poland. (2021b). *Statistical yearbook of the Republic of Poland*.

Stats NZ. (n.d.). *Research and Development Survey*. Stats NZ jointly with the Ministry of Business, Innovation and Employment (MBIE). Retrieved November 26, 2022, from https://datainfoplus.stats.govt.nz/Item/nz.govt.stats/4394653f-7947-487b-b0c7-dd48edb45822?_%20/nz.govt.stats/

Stolle, D. (1998). Bowling together, bowling alone: The development of Generalized Trust in Voluntary Associations. *Political Psychology*, *19*(3), 497–525. http://www.jstor.org/stable/3792175

Strategy&. (2018). *Beyond bricks: Building a high-impact research ecosystem in the GCC*. Ideation Center. https://www.strategyand.pwc.com/m1/en/reports/moving-beyond-bricks.pdf

Streete, T., Henry, M., Ivey, P., & Oliver, G. (2013). *Critical case study on the current state of research management in the Caribbean* [Paper presentation]. Thematic paper prepared within the framework of the European Union co-funded project "Improvement of Research and Innovation Management Capacity in Africa and the Caribbean for the Successful Stimulation and Dissemination of Research Results – RIMI4AC". http://www.rimi4ac.net/en

Streitwieser, B., & Ogden, A. C. (Eds.). (2016, March). *International higher education's scholar-practitioners: Bridging research and practice*. Symposium Books Ltd.

Striebing, C., Müller, J., & Schrauder, M. (Eds.). (2022). *Diversity and discrimination in research organizations*. Emerald Publishing Ltd.

Stroebel, A., & van Eldik, P. (2010). INORMS 2010 Managing the impact: New approaches to research and innovation management. *Research Global*, *25*, 12–13.

Stromboni, C. (2016). *Université: la fracture se creuse entre administratifs titulaires et contractuels*. L'Etudiant. https://www.letudiant.fr/educpros/enquetes/universite-l-emergence-de-differentes-categories-chez-les-personnels-administratifs.html

StudyMalaysia.com. (2022). *The Malaysian higher education system – An overview*. StudyMalaysia.com. Retrieved May 5, 2022, from https://www.studymalaysia.com/international/the-national-education-system/the-malaysian-higher-education-system-an-overview

Styger, A., Van Vuuren, G. W., & Heymans, A. (2015). Government funding framework for South African higher education institutions. *South African Journal of Higher Education*, *29*(2), 260–278.

Su, G. (2020). International collaboration as a catalyst for change: The case of Nanyang Technological University, Singapore 2003–2017. In *Successful global collaborations in higher education institutions* (pp. 43–50). Springer International Publishing. https://doi.org/10.1007/978-3-030-25525-1_5

Summit, P. (1972). Statement. *Bulletin of the European Communities*, *10*, 14–26.

Sun, W., Nasraoui, O., & Shafto, P. (2020). Evolution and impact of bias in human and machine learning algorithm interaction. *PLOS One*, *15*(8), e0235502.

Sunindijo, R. Y. (2015). Project manager skills for improving project performance. *International Journal of Business Performance Management*, *16*(1), 67–83.

Svarc, J., Laznjak, J., & Juraj, P. (2014). Obstacles to co-operation in the framework programme. In I. Marinkovic & E. Dall (Eds.), *R&D and innovations in the Western Balkans. Moving towards 2020* (pp. 167–173). WBC-INCO.NET c/o Centre for Social Innovation.

Swiss Academies of Arts and Sciences. (2022, June). *td-net network for transdisciplinary research* http://www.transdisciplinarity.ch/en/td-net/Transdisziplinarit-t/Definitionen.html

Szekeres, J. (2004). The invisible workers. *Journal of Higher Education Policy and Management*, *26*(1), 7–22. https://doi.org/10.1080/1360080042000182500

Szekeres, J. (2006). General staff experiences in the Corporate University. *Journal of Higher Education Policy and Management*, *28*(2), 133–145. https://doi.org/10.1080/13600800600750962

Szekeres, J. (2011). Professional staff carve out a new space. *Journal of Higher Education Policy and Management*, *33*(6), 679–691. https://doi.org/10.1080/1360080X.2011.621193

Szymczak, J. E., Smathers, S., Hoegg, C., Klieger, S., Coffin, S. E., & Sammons, J. S. (2015). Reasons why physicians and advanced practice clinicians work while sick: A mixed methods analysis. *JAMA Pediatrics*, *169*(9), 815–821. https://doi.org/10.1001/jamapediatrics.2015.0684

Tabakakis, K., Sloan, K., Besch, J., & Quyen, G. (2020). Burnout and its correlates in research administrators. *Research Management Review*, *24*(1), 1–21.

Takagi, K. (2015). Blurring boundaries and changing university staff: The case of the University of Hong Kong. *Frontiers of Education in China*, *10*(4), 578–607. https://doi.org/10.1007/BF03397089

Takahashi, M. (2023). Research managers and administrators in Asia: History and future expectations. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 37–45). Emerald Publishing.

Takahashi, M., & Ito, S. (2023). The profession of research management and administration in Japan. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 517–524). Emerald Publishing.

Takahashi, M., & Yoshioka-Kobayashi, T. (2016). Understanding URAs in Japan: A conceptual framework for unified comprehension to diversified roles of URAs. *The Journal of Science Policy and Research Management*, *31*(2), 223–235.

Tan, H. W. (2019). Establishment of the Malaysia Association of Research Managers and Administrators (MyRMA). *Milestone@UM Newsletter*, Vol. 7.

Tan, H. W. (2020). The development of professionals for research management in Malaysia. *Journal of Research Management & Governance*, *3*(1), 36–41.

Tang, Y., & Wang, C. (2019). Analysis on the current situation of scientific research management in universities and suggestions for improvement. *Technology and Innovation Management*, *40*(1). https://doi.org/10.14090/j.cnki.jscx.2019.0107

Task Force on Higher Education and Society. (2000). *Higher education in developing countries: Peril and promise (English)*. World Bank Group. http://documents.worldbank.org/curated/en/345111467989458740/Higher-education-in-developing-countries-peril-and-promise

Tauginienė, L. (2009). The roles of a research administrator at a university. *Public Policy and Administration*, *30*(1), 45–56.

Taylor, J. (2001). *The RISE of RAGnet: The first ten years*. https://arma.ac.uk/wp-content/uploads/2022/10/The-Rise-of-RAGnet-the-First-Ten-Years.pdf

Telecommunications and Digital Government Regulation Authority (TRDA). (2020). *Population and demographic mix*. The Official Portal of the UAE Government. https://u.ae/en/information-and-services/social-affairs/preserving-the-emirati-national-identity/population-and-demographic-mix

Telecommunications and Digital Government Regulation Authority (TDRA). (2022). *About the UAE: Year of the 50th*. The Official Portal of the UAE Government. https://u.ae/en/about-the-uae/the-uae-government/year-of-the-50th

Telles, M. H. D. C., Costa, S. R. R. D., & Santos, J. A. N. D. (2007). Modelo de escritório de projetos de pesquisa financiados por órgãos de fomento.

Temple, P. (2012). Effective universities: Some considerations of funding, governance and management. In M. Kwiek & A. Kurkiewicz (Eds.), *The modernisation of European universities Cross-national academic perspectives.* Higher Education Research and Policy Series (pp. 199–214). Peter Lang.

Temple, P. (2014). Handbook on the entrepreneurial university. *London Review of Education*, *12*(2), 239–240. https//doi.org./10.18546/LRE.12.2.10

The Advanced Sciences Office, Ministry of Cabinet Affairs. (2019). *A decade of science, the state of research in the United Arab Emirates*. https://science.gboov.ae/en/download-glance-pdf

The Association of Commonwealth Universities. (2015). *Managing research-related information in African Universities*. https://www.acu.ac.uk/publication/download?id=541

The Atlantic Philanthropies. (n.d.). *Republic of Ireland – The Atlantic Philanthropies*. The Atlantic Philanthropies. Retrieved November 8, 2022, from https://www.atlanticphilanthropies.org/regions/republic-of-ireland

The Board of the Infrastructure Fund, The Icelandic Center for Research and the Ministry of Education, Science and Culture. (2021, June). *Icelandic roadmap for research infrastructures 2021*. Ministry of Education, Science and Culture. Retrieved March 3, 2022, from https://www.rannis.is/media/innvidasjodur/Roadmap-to-Icelandic-infrastructure_August_2021.pdf

The Decadal Plan Charts the Way Forward | Universities South Africa. (n.d.). Retrieved September 14, 2022, from https://www.usaf.ac.za/the-decadal-plan-charts-the-way-forward/

The Global Fund. (2022). *Emergency funding to Pakistan flood relief initiative*. https://www.theglobalfund.org/en/news/2022/2022-09-20-global-fund-approves-emergency-funding-to-maintain-essential-health-services-in-pakistan/

The National. (2021, November 13). *UAE ministries launch guide to measuring research and development spending*. https://www.thenationalnews.com/uae/government/2021/11/13/uae-ministries-launch-guide-to-measuring-research-and-development-spending/

The National Agreement for the Knowledge Society (PN@SC). (n.d.). http://empresa.gencat.cat/web/.content/actualitat/pacte-nacional-societat-coneixement/documents/document_final_multiidioma/catalan_agreement_on_the_knowledge_society_accessible.pdf

The Research Council of Norway. (2019). *What we do*. https://www.forskningsradet.no/en/about--theresearch-council/what-we-do/

The Research Council of Norway. (2021). *Science & Technology Indicators for Norway 2021*. www.forskningsradet.no/indikatorrapporten. ISBN: 978-82-12-03904-9.

The Research Council of Norway. (2022). *NRC portfolios*. https://www.forskningsradet.no/en/about-the-research-council/Portfolios/

The University of Tokyo. (2014). *Research administration skill standards* (Japanese). Retrieved January 19, 2023, from https://www.mext.go.jp/a_menu/jinzai/ura/detail/1349663.htm

The World Bank. (2022). *Grants and other revenue (% of revenue) Pakistan*. https://data.worldbank.org/indicator/GC.REV.GOTR.ZS?locations=PK

Thomson, C. J., Tambiah, T., & Hochman, M. B. M. (2023). The emergence of the research management profession in Australia. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 559–564). Emerald Publishing.

Tickell, A. (2016). *Open access to research publications*. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/499455/ind-16-3-open-access-report.pdf

Tight, M. (2003). *Researching higher education*. The Society for Research into Higher Education.

Tight, M. (2020). Higher education: Discipline or field of study? *Tertiary Education and Management*, *26*(4), 415–428.

Tijssen, R., & Kraemer-Mbula, E. (2017). Research excellence in Africa: Policies, perceptions and performance. *Science and Public Policy*, *45*(3), 392–403. https://doi.org/10.1093/scipol/scx074

Times Higher Education (THE). (2023). *Young University Rankings 2023*. https://www.timeshighereducation.com/world-university-rankings/2023/young-university-rankings

Tinggaard, G. (2020, April 1). Researcher: Denmark's world-record level of trust is helping us in the fight against corona. *ScienceNordic*. https://sciencenordic.com/denmark-politics-society-and-culture/researcher-denmarks-world-record-level-of-trust-is-helping-us-in-the-fight-against-corona/1662939

TRANSFERA. (2022). *Home page*. Retrieved September 30, 2022, from https://www.transfera.cz/

Trindade, M., & Agostinho, M. (2014). Research management in Portugal: A quest for professional identity. *Research Management Review*, *20*(1), n1.

Tuckman, B. (1965). Developmental sequence in small groups. *Psychological Bulletin*, *63*, 384–399.

Tweede Kamer der Staten-Generaal. (1987). *19 704 Beleidsoverzicht Technologie 1986–1987*. https://repository.overheid.nl/frbr/sgd/19861987/0000111074/1/pdf/SGD_19861987_0005023.pdf

UAE Government. (2015, November). *Science, Technology & Innovation Policy in the United Arab Emirates*. https://u.ae/-/media/About-UAE/Science-and-Technology/En-science-technology-and-innovation-policy.ashx?la=en&hash=7A3C137C3E0327B622EA1EE92F5BD2B9

UAE Ministry of Education (MOE). (2020). *Achievement of the Ministry of Education in the United Arab Emirates (2015–2020)*. https://www.moe.gov.ae/en/AboutTheMinistry/Documents/MOE%20BOOK.pdf

Ueyama, T. (2010). *Beyond Academic Capitalism = Akademikku Kyapitarizumu O Koete: Amerika No Daigaku To Kagaku Kenkyu¯ No Genzai* (in Japanese) [Beyond academic capitalism]. NTT Shuppan.

UFM. (2018). *RESEARCH2025 – Promising future research areas*. Danish Agency for Science and Higher Education. Retrieved July 11, 2022, from https://ufm.dk/en/publications/2018/filer/forsk25_katalog_eng_enkelt.pdf. ISBN 978-87-93468-65-8 (ebook).

UK Research and Innovation. (n.d.). *101 Jobs that change the world*. UKRI. https://www.ukri.org/news-and-events/101-jobs-that-change-the-world/

UKRI. (2020). *Concordat to support the career development of researchers – UKRI Funder Action Plan*. https://www.ukri.org/wp-content/uploads/2020/10/UKRI-071020-ConcordatToSupportTheCareerDevelopmentOfResearchersFunderActionPlan.pdf

Ul Haq, I., Ur Rehman, S., Al-Kadri, H. M., & Farooq, R. K. (2020). Research productivity in the health sciences in Saudi Arabia: 2008–2017. *Annals of Saudi Medicine*, *40*(2), 147–154. https://doi.org/10.5144/0256-4947.2020.147

UNDP. (1998, January). *In a systems and strategic management context* [Technical Advisory Paper No. 3]. Management Development and Governance Division, Bureau for Development Policy. https://www.cbd.int/doc/pa/tools/Capacity%20assessment%20and%20development.pdf

UNESCO Institute for Statistics (UIS). (2018). *Science, technology and innovation: Human resources in Research and Development (R&D), Other Supporting Staff*. http://data.uis.unesco.org/Index.aspx?DataSetCode=SCN_DS&lang=en#

UNESCO Institute for Statistics (UIS). (2020). *Science, technology and innovation: Gross Domestic Expenditure on R&D (GERD), GERD per capita and GERD per researcher* [Dataset]. UNESCO Institute for Statistics. http://data.uis.unesco.org/index.aspx?queryid=74#

UNESCO Institute for Statistics (UIS). (2022). *Science, technology, and innovation: Research and experimental development (full dataset)*. http://data.uis.unesco.org/Index.aspx?DataSetCode=SCN_DS#

UNESCO Science Report. (2021). https://www.unesco.org/reports/science/2021/en/download-report

United Nations Economic Commission for Europe. (2021). *Sub-regional Innovation Policy Outlook 2020: Eastern Europe and South Caucasus* (pp. 172 & 178). https://unece.org/sites/default/files/2021-06/UNECE_Sub-regional_IPO_2020_Publication.pdf

Universities UK. (2019). *The concordat to support research integrity*. https://www.universitiesuk.ac.uk/sites/default/files/field/downloads/2021-08/Updated%20FINAL-the-concordat-to-support-research-integrity.pdf. ISBN: 978-1-84036-436-1.

University Grants Commission. (2022). *Guidelines for establishment of research & development cell in higher education institutions*. https://www.ugc.ac.in/pdfnews/6347789_RDC-Guideline.pdf

University of Central Florida. (2023). *Masters in Research Administration*. https://www.ucf.edu/online/research-administration/

University of Iceland Research Liaison Office, Ingþórsson, Á. H., & Árnason, G. R. (1998). University of Iceland Research Liaison Office annual report 1997 (Icelandic: Ársskýrsla Rannsóknaþjónustu Háskólans 1997) (No. 1). University of Iceland Research Liaison Office.

University of Tartu. (n.d.). *International research collaboration partnerships*. https://ut.ee/en/node/113889#:~:text=The%20University%20of%20Tartu%20participated,successful%20research%20institution%20in%20Estonia

University of Tokyo. (2014). *Research administration skill standards.* (Japanese). Retrieved January 19, 2023, from https://www.mext.go.jp/a_menu/jinzai/ura/detail/1349663.htm.

Van der Marwe, C. (2021, April 29). Soft Skills could help Kenyans win more fundings. *Research Professional News*. https://www.researchprofessionalnews.com/rr-news-africa-east-2021-4-soft-skills-could-help-kenyans-win-more-funding/

Van Dijk, H., Meyer, B., van Engen, M., & Loyd, D. (2017). Microdynamics in diverse teams: A review and integration of the diversity and stereotyping literatures. *Academy of Management Annals*, *11*(1), 517–557.

Van Dijk, H., & van Engen, M. (2013). A status perspective on the consequences of work group diversity. *Journal of Occupational and Organizational Psychology*, *86*(2), 223–241.

Van Knippenberg, D., & Schippers, M. C. (2007). Work group diversity. *Annual Review of Psychology*, *58*, 515–541.

Vanderford, N. L., Taylor, J., & Zink, H. L. (2019). From the editor's desk. *Journal of Research Administration*, *50*(Special Edition). https://www.srainternational.org/resources/journal/-journal-archives

Vasilache, S., Temesi, J., & Dima, A. M. (2012). Higher education reforms in Eastern Europe. A Hungarian–Romanian case study. *Management & Marketing Challenges for the Knowledge Society*, *7*(2), 295–322.

Vedavyzkum.cz. (2022). *Interviews*. Retrieved September 30, 2022, from https://vedavyzkum.cz/rozhovory/rozhovory

Veles, N. (2022). *Optimising the third space in higher education: Case studies of intercultural and cross-boundary collaboration*. Taylor and Francis.

Veles, N., & Carter, M.-A. (2016). Imagining a future: Changing the landscape for third space professionals in Australian higher education institutions. *Journal of Higher Education Policy and Management*, *38*(5), 519–533. https://doi.org/10.1080/1360080X.2016.1196938

Veles, N., Carter, M., & Boon, H. (2019). Complex collaboration champions: University third space professionals working together across borders. *Perspectives: Policy and Practice in Higher Education*, *23*(2), 73–85.

Vidal, J., & Ferreira, C. (2020). Universities under pressure: The impact of international university rankings. *Journal of New Approaches in Educational Research*, *9*(2), 181–193.

Vidal, S., Laureano, R., & Trindade, M. (2015). Assessing the impact of grant managers on the success of grant applications. *Perspectives: Policy and Practice in Higher Education*, *19*(3), 84–91. https://doi.org/10.1080/13603108.2015.1019948

Vilpišauskas, R. (2021). *Science for policy ecosystems in Lithuania*. Discussion papers commissioned by the European Commission's Joint Research Centre (JRC). https://knowledge4policy.ec.europa.eu/sites/default/files/Science%20for%20policy%20ecosystems%20in%20Lithuania_JRC_Discussion%20Paper_2021.pdf

Virágh, E., Zsar, V., & Balázs, Z. (2019). *Research management and administration: A profession still to be formalized*. HÉTFA Research Institute and Center for Economic and Social Analysis. https://doi.org/10.13140/RG.2.2.23699.09765

Virágh, E., Zsar, V., & Balázs, Z. (2020). *Research management and administration: The relevance of specific education and training programmes*. HÉTFA Research Institute and Center for Economic and Social Analysis. https://doi.org/10.13140/RG.2.2.29780.83847

Warner, D., & Palfreyman, D. (1996). *Higher education management: The key elements*. McGraw-Hill Education (UK).

Warren, V. (2018). *Professional and support staff in higher education* (C. Bossu & N. Brown, Eds.). Springer.

Watson, D. (2000). Managing in higher education: The 'wicked issues'. *Higher Education Quarterly*, *54*(1), 5–21.

Watson, D. (2007a). *Managing civic and community engagement*. McGraw-Hill Education (UK).

Watson, D. (2007b). Does higher education need a hippocratic oath? *Higher Education Quarterly*, *61*(3), 362–374.

Watson, D. (2008). The university in the modern world: Ten lessons of civic and community engagement. *Education, Citizenship and Social Justice*, *3*(1), 43–55.

Watson, D. (2009). *EBOOK: The question of morale: Managing happiness and unhappiness in university life*. McGraw-Hill Education.

Watson, D., & Maddison, E. (2005). *Managing institutional self study*. McGraw-Hill Education (UK).

Watsuji Tetsuro ºÍì辻ÕÜÀÉ. (1934). Jinkan no Gaku to shiteno Rinrigaku ÈË間¤ÌÑ§¤È¤·¤Æ¤Î倫ÀíÑ§, Iwanami.

Wedekind, G. K., & Philbin, S. P. (2018). Research and grant management: The role of the Project Management Office (PMO) in a European Research Consortium Context. *Journal of Research Administration*, *49*(1), 43–62.

Weick, K. E. (1976). Educational organizations as loosely coupled systems. *Administrative Science Quarterly*, *21*(1), 1–19.

Welch, L., & Brantmeier, N. K. (2021). Examining employee retention and motivation trends in research administration. *The Journal of Research Administration*, *52*(2), 70–86.

Wendt, A. (1999). *Social theory of international politics*. Cambridge University Press.

Wenger, E. (2009). Communities of practice: The key to knowledge strategy. In E. L. Lesser, M. A. Fontaine, & J. A. Slusher (Eds.), *Knowledge and communities* (pp. 3–20). Routledge.

Wenger, E. C., & Snyder, W. M. (2000). Communities of practice. The organizational frontier. *Harvard Business Review*, *Jan–Feb*, 39–45.

Westensee, J., Vad, A., Svenningsen, O., & Andersen, J. (2023). The profession of research management and administration in Denmark. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 655–662). Emerald Publishing.

Whitchurch, C. (2004). Administrative managers – A critical link. *Higher Education Quarterly*, *58*(4), 280–298. https://doi.org/10.1111/j.1468-2273.2004.00274.x

Whitchurch, C. (2006). Who do they think they are? The changing identities of professional administrators and managers in UK higher education. *Journal of Higher Education Policy and Management*, *28*(2), 159–171. https://doi.org/10.1080/13600800600751002

Whitchurch, C. (2007a). Beyond administration and management: Changing professional identities in UK higher education. *Journal of Higher Education Policy & Management*, *30*(4), 375–386.

Whitchurch, C. (2007b). The changing roles and identities of professional managers in UK higher education. *Perspectives: Policy and Practice in Higher Education*, *11*(2), 53–60. https://doi.org/10.1080/13603100701259022

Whitchurch, C. (2008a). Shifting identities and blurring boundaries: The emergence of third space professionals in UK Higher Education. *Higher Education Quarterly*, *62*(4), 377–396. https://doi.org/10.1111/j.1468-2273.2008.00387.x

Whitchurch, C. (2008b). *Professional managers in UK higher education: Preparing for complex futures: Final report*. Leadership Foundation for Higher Education. www.lfhe.ac.uk/publications/research.html

Whitchurch, C. (2008c). Beyond administration and management: Reconstructing the identities of professional staff in UK higher education. *Journal of Higher Education Policy and Management*, *30*(4), 375–386. https://doi.org/10.1080/13600800802383042

Whitchurch, C. (2008d). Beyond administration and management. Changing professional identities in UK higher education. In R. Barnett & R. Di Napoli (Eds.), *Changing identities in higher education*. Bedford Way Press.

Whitchurch, C. (2009). The rise of the blended professional in higher education: A comparison between the United Kingdom, Australia and the United States. *Higher Education*, *58*(3), 407–418. https://doi.org/10.1007/s10734-009-9202-4

Whitchurch, C. (2010a). Convergence and divergence in professional identities. In G. Gordon & C. Whitchurch (Eds.), *Academic and professional identities in higher education: The challenges of a diversifying workforce* (pp. 167–183). Routledge.

Whitchurch, C. (2010b). The challenges of a diversifying workforce. In G. Gordon & C. Whitchurch (Eds.), *Academic and professional identities in higher education: The challenges of a diversifying workforce* (pp. 245–255). Routledge.

Whitchurch, C. (2010c). Some implications of 'public/private' space for professional identities in higher education. *Higher Education*, *60*(6), 627–640. https://doi.org/10.1007/s10734-010-9320-z

Whitchurch, C. (2012). *Reconstructing identities in higher education: The rise of 'Third Space' professionals*. Routledge. https://doi.org/10.4324/9780203098301

Whitchurch, C. (2015). The rise of Third Space Professionals: Paradoxes and dilemmas. In U. Teichler & W. K. Cummings (Eds.), *Forming, recruiting and managing the academic profession* (pp. 79–99). Springer International Publishing. http://link.springer.com/book/10.1007/978-3-319-16080-1

Whitchurch, C. (2017). Professional staff identities in higher education. In *Encyclopaedia of International Higher Education Systems and Institutions*. Springer.

Whitchurch, C. (2018). Being a higher education professional today: Working in a third space. In C. Bossu & N. Brown (Eds.), *Professional and support staff in higher education* (pp. 11–22). Springer.

Whitchurch, C. (2019). From a diversifying workforce to the rise of the itinerant academic. *Higher Education*, *77*(4), 679–694.

Whitchurch, C. (2020). Professional staff identities in higher education. In P. N. Teixeira & J. C. Shin (Eds.), *The international encyclopedia of higher education systems and institutions* (pp. 2338–2341). Springer. http://link.springer.com/book/10.1007/978-94-017-9553-1

Whitchurch, C. (2023). Rehabilitating third space professionals in contemporary higher education institutions. *Workplace: A Journal for Academic Labor*, *33*, 24–35. https://ices.library.ubc.ca/index.php/workplace/index

Whitchurch, C., & Gordon, G. (2009). *Academic and professional identities in higher education: The challenges of a diversifying workforce*. Taylor & Francis Group. http://ebookcentral.proquest.com/lib/uvtilburg-ebooks/detail.action?docID=465356

Whitchurch, C., Locke, W., & Marini, G. (2021). Challenging career models in higher education: The influence of internal career scripts and the rise of the "concertina" career. *Higher Education*, *82*, 635–650. https://doi.org/10.1007/s10734-021-00724-5

White House Office of Science and Technology Policy. (2022). *OSTP*. https://www.whitehouse.gov/OSTP.

White House President's Council of Advisors on Science and Technology. (2022). *PCAST*. https://www.whitehouse.gov/PCAST

White Paper on Science and Technology 2020 (Provisional Translation) Chronology of the Ministry of Education, Culture, Sports, Science and Technology (MEXT). Retrieved January 19, 2023, from https://www.mext.go.jp/en/publication/whitepaper/title03/detail03/mext_00024.html

White-Jones, A. (2022). Value in the international space: Examining the challenges and barriers on research administration international research teams. *Journal of Research Administration, 53*(1), 12–29.

Whitmer, A., Ogden, L., Lawton, J., Sturner, P., Groffman, P.M., Schneider, L., Hart, D., Halpern, B., Schlesinger, W., Raciti, S., Bettez, M., Ortega, S., Rustad, L., Pickett, S. T. A., & Killelea, M. (2010).

The engaged university: Providing a platform for research that transforms society. *Frontiers in Ecology and the Environment*, *8*(6), 314–321.

Widforss, G., & Rosqvist, M. (2015). The project office as project management support in complex environments. *Procedia Computer Science*, *64*, 764–770.

Wikipedia Contributors. (2019, March 13). *Opinber stuðningur við vísindarannsóknir á Íslandi*. Wikipedia, frjálsa alfræðiritið. Retrieved March 1, 2022, from https://is.wikipedia.org/wiki/Opinber_stu%C3%B0ningur_vi%C3%B0_v%C3%ADsindaranns%C3%B3knir_%C3%A1_%C3%8Dslandi

Wile, H. (1983). *Twenty-five years: A history of the national council of university research administrators*. National Council of University Research.

Wile, H. (2008). The first twenty-five years: A history of the National Council of University Research Administrators. In T. J. Roberts, G. Sanders, & W. Sharp (Eds.), *The second twenty-five years* (pp. 13–25). National Council of University Research Administrators. https://www.ncura.edu/Portals/0/pdf/NCURA_History.pdf

Wilkins, S. (2010). *Higher education in the United Arab Emirates: An analysis of the outcomes of significant increases in supply*. https://www.academia.edu/1123649/Higher_education_in_the_United_Arab_Emirates_an_analysis_of_the_outcomes_of_significant_increases_in_supply_and_competition

Wilkins, J. L. H., & Leckie, G. J. (1997). University professional and managerial staff: Information needs and seeking. *College & Research Libraries*, *58*(6), 561–574. https://doi.org/10.5860/crl.58.6.561

Williamson, C., & Dyason, K. (2023). Knowing, doing and being: Transferable competencies for the research management profession. *Journal of Research Administration*, *54*(1), 14–36.

Williamson, C., Dyason K., & Jackson, J. (2020). Scaling up professionalisation of research management in Southern Africa. *Journal of the Society of Research Administrators. Society of Research Administrators*, *51*(1), 46–72.

Winkler, P., Krüger, J.-P., & Steinack, K. (2023). The profession of research management and administration in Germany. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 679–685). Emerald Publishing.

Wissenschaftsrat (Hrsg.). (2023). *Strukturen der Forschungsfinanzierung an deutschen Hochschulen* [Positionspapier. Drs. 1012-12]. https://doi.org/10.57674/pms3-pr05

Wohlmuther, S. (2008). 'Sleeping with the enemy': How far are you prepared to go to make a difference? A look at the divide between academic and allied staff. *Journal of Higher Education Policy and Management*, *30*(4), 325–337. https://doi.org/10.1080/13600800802155192

Wong, P. K., Ho, Y. P., & Singh, A. (2007). Towards an "entrepreneurial university" model to support knowledge-based economic development: The case of the National University of Singapore. *World Development*, *35*(6), 941–958.

Woodiwiss, A. J. (2012). Publication subsidies: Challenges and dilemmas facing South African researchers. *Cardiovascular Journal of Africa*, *23*(8), 421–427.

World Bank Data. (2022). *Pakistan*. https://data.worldbank.org/country/pakistan

World Bank. (2022). *School Enrollment, Tertiary (% gross) – Vietnam*. https://data.worldbank.org/indicator/SE.TER.ENRR?end=2019&locations=VN&name_desc=false&start=1976&view=chart

World Intellectual Property Organization. (2021, November). *World intellectual property indicators report*, *2021*.

WorldBank Data. (2020a). *Research and development expenditure (% of GDP) – European Union*. Retrieved February 3, 2023, from https://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS?locations=EU

WorldBank Data. (2020b). *Research and development expenditure (% of GDP) – Portugal*. Retrieved February 3, 2023, from https://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS?locations=PT

Wu, Y. (2020). On the career development strategy of scientific research managers. *Science, Technology and Innovation*, *6*, 98–99. https://doi.org/10.15913/j.cnki.kjycx.2020.06.03

Xu, Y. (2002). *A review of the evolution of science and technology policy of The People's Republic of China*. Tianjin University. https://doi.org/10.7666/d.y539320

Yamano, M. (2016). 大学のリサーチーアドミニストレーターの導入と変遷に関する日米比較, 大学経営政策研究, 第6号(2016年3 月発行), 67–68.

Yang-Yoshihara, M. (2019). Research administrators in Switzerland: Highly-skilled talents in the science and technology hub. In M. Fujimoto, M. Yamauchi, & A. Noda (Eds.), *Education and employment systems and youth career development in Europe: A guide to transnational mobility and internationalisation of human resources* (pp. 257–293). Hakuto Publications.

Yang-Yoshihara, M., Kerridge, S., & Poli, S. (2023). Emerging trends and insights in research management and administration. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. xx–xx). Emerald Publishing.

Yang-Yoshihara, M., & Poli, S. (2023). Introduction to Part 1. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 7–13). Emerald Publishing.

Yang-Yoshihara, M., Poli, S., & Kerridge, S. (2023). Evolution of professional identity in research management and administration. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 807–814). Emerald Publishing.

Yasuyuki, K., Badenoch, N., & Lopez, M. I. (2019). *Bridging the disciplinary divide: 50 years of Research at the Center for Southeast Asian Studies* [Working Paper Series, No. 8]. Japan-ASEAN Transdisciplinary Studies.

Yunkaporta, T. (2019). *Sand talk: How Indigenous thinking can save the world*. The Text Publishing Company.

Zakon o sistemu plač v javnem sektorju. (2009). *Newsletter Official Gazette of the Republic of Slovenia.* https://www.uradni-list.si/glasilo-uradni-list-rs/vsebina/2009-01-4891?sop=2009-01-4891

Zakon o znastvenoraziskovalni in razvojni dejavnosti (ZZrID). (2021). *Newsletter Official Gazette of the Republic of Slovenia.* https://www.uradni-list.si/glasilo-uradni-list-rs/vsebina/2021-01-3695?sop=2021-01-3695

Zgaga, P., Klemencic, M., Komljenovic, J., Miklavic, K., Repac, I., & Jakacic, V. (2012). *Higher education in the Western Balkans: Reforms, developments, trends. Key findings from field research*. Centre for Educational Policy Studies, Faculty of Education, University of Ljubljana.

Zornes, D. (2012). *The business of the university: Research, its place in the 'business', and the role of the university in society* [PhD dissertation]. University of Victoria, British Columbia, Canada. University of Victoria Libraries. https://dspace.library.uvic.ca/bitstream/handle/1828/4249/Zornes_Deborah_PhD_2012.pdf

Zornes, D. (2019, February). *Research administration as a profession: RAAAP project* [Webinar presentation]. Canadian Association of Research Administrators.

Zornes, D. (2023). The profession of research management and administration in Canada. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 455–462). Emerald Publishing.

Zsár, V. (2012). *Analysis on Central Europe and the Danube Strategy: Is Central Europe restorable under the Framework of the EU Strategy for the Danube Region?* [Master's Thesis]. Corvinus University of Budapest. http://publikaciok.lib.uni-corvinus.hu/publikus/szd/Zsar_Virag.pdf

Zsár, V. (2022a). *DOs and DON'Ts of successful consortium building: How can RMAs provide the best support in setting up consortia?* [Meeting]. Third BESTPRAC-EARMA virtual meeting. https://bestprac.eu/fileadmin/mediapool-bestprac/documents/EARMA-virtual-202201/DOs_and_DON_Ts_of_successful_consortium_building_Zs%C3%A1r.pdf

Zsár, V. (2022b). *The influence of RMA associations* [XLS dataset]. https://figshare.com/projects/The_influence_of_RMA_associations/151935

Zsár, V. (2023a). History of RMA in Central and Eastern Europe. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 55–68). Emerald Publishing.

Zsár, V. (2023b). The influence of RMA associations on identity and policymaking internationally. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 281–295). Emerald Publishing.

Zsár, V., & Angyal, Z. (2023). Professionalisation of research support in Hungary through the lens of the non-research specific requirements of Horizon Europe. In S. Kerridge, S. Poli, & M. Yang-Yoshihara (Eds.), *The Emerald handbook of research management and administration around the world* (pp. 323–339). Emerald Publishing.

Zsár, V., Skublicsné Balázs, Zs., & Angyal, Zs. (2022). *Guide and impact assessment for educating and training RMAs at HEIs backed by policy recommendations*. Intellectual output developed within the project 'Innovative and smart module for potential Research Managers and Administrators in higher education – foRMAtion'. ISBN: 978-615-81153-4-6.

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