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# Transforming research at higher education institutions: overcoming challenges for research managers in Spain

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## ABSTRACT

Despite their critical role in research processes over the past two decades, research managers at Higher Education Institutions are still often seen as mere administrative staff. They are frequently involved in bureaucratic tasks, lack a defined role within research organizations, and face temporary contracts and limited career development opportunities. Recent legislative changes in Europe in 2022 and 2023 have started to address these issues by recognizing the importance of research managers in Science, Technology, and Innovation Systems. Research managers are essential for planning, coordinating, and executing research, and their role has become more complex due to the evolving public funding landscape. This complexity has led to a variety of research manager profiles, complicating the definition of their roles and contributing to their lack of recognition. This paper examines how the recognition of research managers is being addressed in Europe, focusing specifically on Spain. By analyzing various European surveys and the Spanish context, the paper explores whether research managers can achieve better recognition in Spain and identifies five key action areas for improving their professional status: Establishment of Standards, Certification and Accreditation, Recognition and Career Development, Networks and Collaborations, and Outreach and Communication.

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## SUBJECTS

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## 1. Introduction

Despite their increased role in the design and execution of research processes over the past 20 years (Denny, 2006), and a sincere appreciation by many researchers who value them as important contributors to their scientific achievements, research and innovation management personnel, who make up the professional group of Research Managers (RMs), still fit today the typical profile described in the literature for this collective at a global level (Agostinho et al., 2020; Green and Langley, 2009; Virágh et al., 2020; Williamson et al., 2020). In general terms, they are auxiliary staff, typically involved in the bureaucratic tasks of research projects and often without a clear place in the structure of Higher Education Institutions (HEIs), with temporary contracts and no associated career development. They are often referred to as ‘invisible workers’ (Shelley, 2010). The situation of this collective is very similar in all regions of the world, although small differences can be found in some countries depending on cultural aspects or the maturity of the research management function.

In the last 15 years, there has been a substantial increase in the number of research managers in research-intensive institutions, especially in the public sector. This has led to various professional associations around the world gaining strength in this field, such as NCURA (National Council of University Research Administrators) in the USA, ARMA (Association of Research Managers and Administrators) in the UK, CARA (Canadian Association of Research Administrators) in Canada, SARIMA (Southern African

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Research and Innovation Management Association) in South Africa, and EARMA (European Association of Research Managers and Administrators) in Europe. This has fostered the strengthening of research manager communities worldwide and highlighted the clear need to reinforce this profession for better performance of the Science, Technology, and Innovation system.

These associations have conducted various surveys to identify the RM collective, their typology, career paths, main challenges, etc. Additionally, they have promoted international conferences to shape the communities and developed a wide range of training actions to facilitate the necessary skills for both novice and experienced RMs.

The European Commission joined these efforts in 2022 when it decided that strengthening research management in public institutions was a priority for Europe, including it as one of the 20 Actions of its ERA Policy Agenda (2022–2024). Since then, each European country has taken its path regarding the recognition of RMs as part of the research and innovation system, although, generally speaking, the movement in this direction has been very slow in all countries.

In the case of Spain, this situation which could potentially change due to the visibility of RMs in the new reforms of the Organic Law of Universities, LOSU (Ministry of Science and Innovation, 2023), and the Law of Science, Technology, and Innovation, LCTI (Ministry of Science and Innovation, 2022), is still far from being reversed, especially in the realm of public universities, where the majority of RMs are concentrated.

While the surveys and studies conducted have provided a precise idea of the profile and situation of RMs worldwide, no specific work has been done on the Spanish case to seek solutions that could be used to improve the recognition and visibility of RMs in the university environment.

This article presents the context in which RMs are situated in Europe and Spain and aims to contribute to the identification of these solutions. For this purpose, an analysis of the available surveys was conducted, and key elements were compared among them, while examining the regulatory framework affecting the development of RMs in Spanish HEIs.

## 2. Research manager context and related work

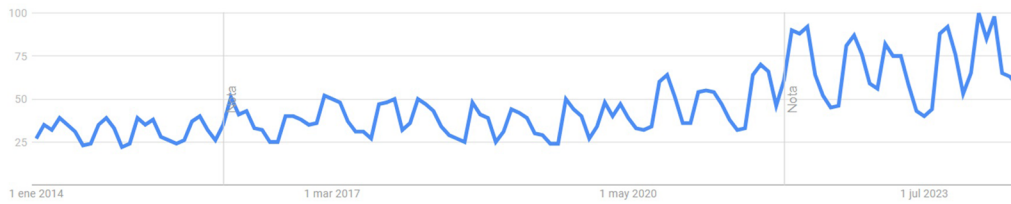
This section shows a review of the existing literature that contextualize the research topic, as well as related works in this area.

### 2.1. The context of RMs at the global level

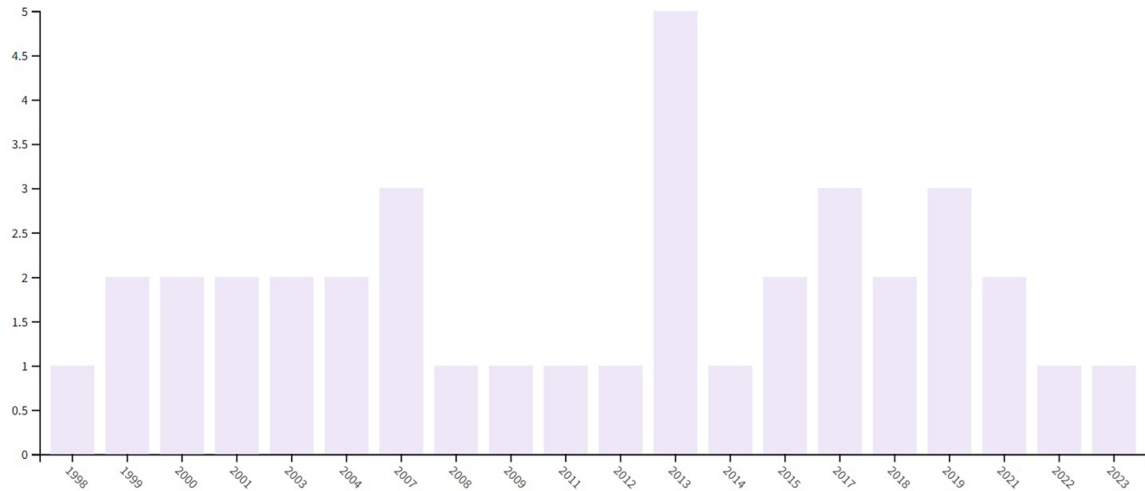
RMs play a crucial role in the planning, coordination, and execution of research and innovation (R&I) activities within both funding agencies and research-performing organizations (RPOs). Their origins date back to the post-World War II era, primarily within the Anglo-Saxon context (Kerridge & Scott, 2018a, 2018b; Monahan et al., 2023; Ritchie et al., 2023), where they were initially known as research administrators. In the United States, professional societies began to form in the 1950s and 1960s, culminating in the establishment of the National Council of University Research Administrators (NCURA) in 1959, the first professional society for RMs. Since then, the profession has become increasingly vital in other countries with substantial investments in science and technology, especially in universities. In Japan, for instance, the role was defined as University Research Administrators (URA), modeled after the U.S. system (Takahashi, 2023), and subsequently spread to other Asian countries (Liu, 2018; Williamson et al., 2020).

In Europe, the launch of the Framework Programmes for Research and Technological Development (FPs) in 1984 by the European Commission necessitated professionals to support researchers in managing EC-funded grants. These shifts in the research funding landscape led universities to enhance their investment in managing their research processes (Ritchie et al., 2023).

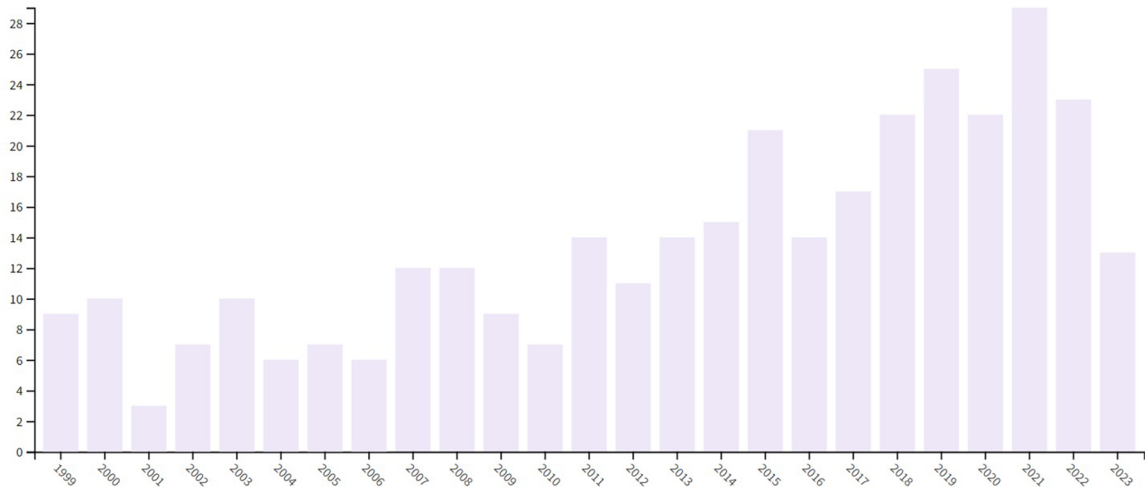
The term ‘research manager’ has gained significant interest and relevance over the past few decades. Figures 1, 2, and 3 illustrate this positive evolution. Figure 1 shows the increasing global public interest in research managers, particularly in the United States, one of the first countries to recognize their importance. Figure 2 highlights the consistent mention of research managers in scientific conferences and events over the last 25 years. Finally, Figure 3 indicates the growing scientific interest and relevance through the rise in scientific publications related to research managers over the past 25 years.



**Figure 1.** Global interest evolution of the term 'Research Managers'. Source: Google Trends.



**Figure 2.** Evolution of the appearance of the terms 'Research Managers' in conferences over the last 25 years. Source: Web of Science.



**Figure 3.** Evolution of the appearance of the terms 'Research Managers' in scientific articles over the last 25 years. Source: Web of Science.

At a more specific level, the increasing complexity in the public funding environment today—characterized by more collaboration, greater impact, numerous cross-cutting issues, enhanced governance, and increased transparency—requires researchers to undertake a range of complementary tasks alongside their research activities (Kerridge & Scott, 2018a, 2018b). This dedication is often unattainable if excellence in their scientific domain is to be maintained.

Moreover, RMs contribute to transforming the culture and organizational structure of universities (Shelley, 2010), making them more strategic and goal-oriented, thus enhancing their reputation and revenue (Kirkland and Stackhouse, 2011). Institutions have recognized that employing specialist professionals to manage research activities is the most effective approach.

The complexity of these tasks has led to the emergence of various RM profiles who participate in the research process alongside researchers at different stages. Numerous authors, including Whitchurch (2008), Green and Langley (2009), Tauginienė (2009), Shelley (2010), Bonnici and Cassar (2016, 2020), Virág et al. (2020), and Agostinho et al. (2020), Nembaware et al. (2022), and Andersen and Romano (2023) have investigated this. The diversity of professional profiles makes it challenging to define the activities performed by an RM or to delineate which functions within the research process should be attributed to RMs, researchers, or administrative staff.

Whitchurch (2008) describes the role of a research manager as that of a blended professional with mixed backgrounds and portfolios, encompassing elements of both professional and academic activity. She introduces the concept of the ‘third space,’ an emergent territory between academic and professional domains, mainly occupied by professionals with diverse training profiles, whom she calls ‘unbounded professionals.’ As Tauginienė (2009) and Berman and Pitman (2010) found, RMs must adapt to continuously changing circumstances and expectations.

Another significant factor influencing the RM context is the lack of a single entry point into the profession, which hinders its recognition (Green and Langley, 2009; Tauginienė, 2009). Green and Langley (2009) note that some individuals ‘fall into the career’, while others are recruited through ‘dedicated appointments that span both professional and academic domains’ (Whitchurch, 2008). In all cases, the literature agrees that RMs require a vast range of skills and knowledge (Green and Langley, 2009) necessary for high-quality research support. This situation exacerbates the lack of professional identity, which should be the foundation for establishing common standards and professional development (Agostinho and Trindade, 2014).

## **2.2. European context to support research management**

The European Research Area Policy Agenda outlines the European Commission’s policy priorities for the European Research Area (ERA). Launched in 2000, ERA aims to foster scientific cooperation and innovation among European Union countries, enhancing Europe’s global competitiveness in research, development, and innovation.

The current Agenda, covering 2022–2024 (European Commission, 2021), proposes 20 voluntary Actions that Member States must endorse to achieve ERA’s objectives. These actions are organized into four priority areas: defending the single market of knowledge, bringing science closer to citizens, strengthening the excellence of R&I in Europe, and advancing concerted investments among countries. Within the third area, which focuses on excellence, Action 17, ‘Enhance the strategic capacity of Europe’s public Research Performing Organizations,’ is highlighted. According to the European Commission (2008), effective research management is crucial for enabling excellent research and maximizing research output and impact. Action 17 underscores that the top-performing research organizations or ecosystems in Europe have strong communities of RMs. This assertion, supported by authors such as Lamouria and Harrell (1963), Beerkens (2013), Vidal et al. (2015), and Ito and Watanabe (2017), marks a significant recognition by a major organization.

The Commission does not define the exact profile of an RM but identifies them as personnel responsible for science management, including policy advisors, research managers, data experts, technology transfer experts, business developers, and innovation managers. The Commission advocates for improving the capacity of RMs and urges institutions to recognize their profession.

To achieve this goal, Action 17 (European Commission, 2022) outlines four areas of action: upskilling, improving training and skills, recognition and professionalization of RMs, networking and best practice exchange, and capacity building across the entire ERA.

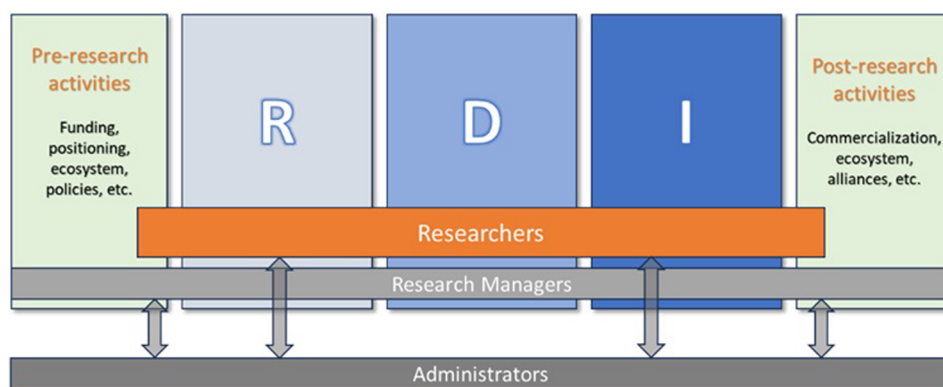
Furthermore, in 2022, the European Commission funded two projects under the Horizon Europe Widening program, CARDEA and RM Roadmap, to support the objectives of Action 17. Both projects have conducted surveys among RMs across Europe, providing a foundation for the study presented in this research.

## **2.3. The work of RMs at Spanish universities**

Despite the lack of definitive approval on all activities that are (and consequently, are not) inherent to the research management profession, there is a consensus on the activities typically carried out by specialists

**Table 1.** Activities of RMs in universities. *Source:* own elaboration from Kerridge and Scott (2018b), Tauginiene (2009), Green and Langley (2009).

Activity	Description
1. Strategy, institutional representation and policy	They are responsible for contributing to the definition of the R&I promotion strategy within their universities, representing their institution to funding agencies, as well as in forums, networks, and legal entities, to ensure that their interests are aligned with the organizations' strategic objectives, enhancing its positioning and advocating for institutional interests. Additionally, they may undertake functions related to evaluating public policies supporting R&I, seeking the best ways to enhance the performance of the Science, Technology, and Innovation system.
2. R&I funding	They are experts in national or international funding frameworks, assisting researchers in positioning themselves in initiatives of their interest, facilitating participation in specific programs, contributing their knowledge to the planning and writing of proposals (often taking responsibility for the entire preparation process either from within the research team or from an external consultancy), etc., and even training researchers in these critical matters to enable them to navigate successfully in an increasingly competitive R&I funding environment.
3. Coordination of multi-disciplinar activities	Major R&I projects commonly entail multidisciplinary activities encompassing research itself and other aspects that must be assessed (or even carried out) for other personnel within and outside the institution. RMs play a key role in coordinating these teams, facilitating communication, and ensuring effective collaboration around the research work.
4. Ecosystems	They establish and maintain relationships with all relevant stakeholders in a scientific domain or business sector, including policy-makers, funding agencies, companies, other RPOs, external collaborators, and internal teams. Creating sustainable ecosystems around these areas, or their involvement in them, are also key factors in the impact of R&I actions.
5. Regulatory and ethical compliance	They contribute to ensuring that projects comply with applicable legal, ethical, and regulatory requirements (research integrity, open science, Do No Significant Harm principle, artificial intelligence, etc.). This includes the proper handling of confidential information from the proposal preparation phase to project completion, obtaining ethical approvals when necessary, and compliance with specific regulations.
6. Legal aspects	Participation in R&I projects increasingly requires precise analysis of the legal aspects surrounding them. Issues such as confidentiality, joint liability, ownership of results, governance of networks or legal entities participating in R&I policies (such as innovation alliances, clusters, etc.) shape a framework that requires legal knowledge and understanding of the program or initiative in which the activity is circumscribed.
7. Project management	RMs are a key component in project management tasks, along with researchers, contributing to the correct financial execution, activity justification, proper resource utilization, staff hiring, communication among participants, or obtaining audit certificates. Similarly, they are responsible for executing internal processes for proper project management at the institutional level.
8. Transfer of results	They facilitate the transfer of research results to the commercial sphere. This involves valorization, intellectual property protection, identifying commercialization opportunities, business development, startup generation, and collaboration with other entities involved in commercialization processes.
9. Scientific culture	They design and develop activities aimed at bringing research results closer to society. The ability to communicate effectively and engage citizens in the realm of science is essential for project success and achieving the expected impact.
10. Information management	Research cannot be understood today without leveraging information technologies for the creation of internal and external management systems for activities, analysis of large volumes of data, creation of science communication platforms, etc. We can talk either about RMs who are experts in these technologies, or IT experts who have taken on the role of RMs.

**Figure 4.** Integration of RMs in the R&D&I value chain. *Source:* own elaboration.

in RPOs. Based on the studies of Kerridge and Scott (2018b), Tauginiene (2009), and Green and Langley (2009), we can categorize the activities of RMs in Spanish universities into the following ten groups (Table 1):

From the authors' perspective, the involvement of RMs in the research and innovation value chain extends beyond the traditional research process. As Figure 4 shows, RMs engage in activities even before research begins, such as scouting for funding opportunities, and continue their involvement after research completion

by justifying associated funds. In many cases, their level of involvement can surpass that of the researchers themselves. These stages transcend the conventional pre-award and post-award phases, encompassing a broader spectrum of activities. Therefore, it is more appropriate to refer to these as pre-research and post-research stages to capture the full range of tasks RMs undertake before and after the researchers' work.

In conclusion, the role of RMs is essential to ensure that research is conducted efficiently, that the results are applicable, and that projects contribute significantly to the advancement of knowledge and innovation. Their comprehensive management of R&I processes maximizes the impact of research within the organization, enhances its culture (Anonymous, 2021), and stimulates the creative efforts of researchers (Lovelace, 1986). As Kerridge aptly stated (Byrne, 2023), RMs are 'the oil in the cogs' of the research machinery.

### 3. Materials and methods

This paper has a dual objective. First, it aims to highlight the importance of RMs in the context of R&I, as evidenced in the preceding section. Second, it seeks to outline the necessary actions to achieve recognition of RMs in Spanish universities. Whereas the information analyzed in the previous section helps us understand the context in which RMs operate, the following section details the materials and methods employed to accomplish the goal of overcoming challenges for research managers in Spain.

The methodology and materials used can be broken down into two levels:

- *The regulatory level:* in Section 3.1, we will analyze the regulatory framework that impacts the work of research managers in Spain.
- *The operational level:* in Section 3.2, we will analyze how research managers perceive the issues affecting their work based on the most significant surveys conducted at both European and international levels.

#### 3.1. Analysis of RMs in Spanish universities: the regulatory framework

Research management in Spanish universities is primarily regulated by two laws, one of a general nature applicable to all types of RPOs and another that regulates the operation of HEIs. Below, we outline how these two laws affect the context of RMs:

##### 3.1.1. Law of science, technology, and innovation (LCTI)

Law 17/2022 (Ministry of Science and Innovation, 2022), an update of Law 14/2011 on Science, Technology, and Innovation, is the principal legislation governing the Spanish System of Science, Technology, and Innovation. This law establishes fundamental principles, rights, and obligations for entities involved in R&I, with the goal of 'advancing science, technology, and innovation, and applying these advances for the economic, social, and cultural development of the country'.

To achieve this goal, the Law on Science, Technology, and Innovation (LCTI) introduces several measures, notably the enhancement of the professional profile of RMs, who are now integrated within research teams. Article 27, titled 'Research Personnel', defines the personnel of the Spanish System of Science, Technology, and Innovation to include researchers, technical staff, and management personnel. This article also stipulates that 'these personnel shall have the right to a professional career under this law, similar to the provisions for researchers in Article 25'.

This development provides a significant step towards recognizing and increasing the visibility of the numerous individuals working in public research organizations in Spain, aligning with the European Commission's Action 17 of the ERA Policy (European Commission, 2021).

Furthermore, the LCTI includes multiple references to technical and management personnel (i.e. RMs), granting them considerations and benefits akin to those of researchers. For instance, the preamble highlights two main innovations in the new law, one of which is the introduction of a new type of 'indefinite contract for scientific and technical activities'. This contract facilitates the hiring of not only researchers but also technical and management personnel for research activities, including R&I projects. Among the activities covered by this contract is the 'scientific and technical management of research lines or scientific and technical services'.

Additional references in the LCTI underscore the role of RMs as integral to the R&I process, providing similar conditions for mobility, training, and entry into startups resulting from research.

The integration of researchers and RMs within research teams fosters a collaborative work environment that enhances efficiency and productivity throughout the research process. This collaboration builds trust between both roles (Leisyte & Sigl, 2018), blurring the boundaries between academic and managerial functions (Shelley, 2010).

In summary, technical and management personnel are now recognized as researchers in terms of their need for training, career development, and their role in strengthening the Spanish System of Science, Technology, and Innovation.

### **3.1.2. Organic law of the university system (LOSU)**

Organic Law 2/2023 of the University System (Ministry of Science and Innovation, 2023) replaces the previous Organic Law 6/2001 on Universities (LOU) and is highly significant for research in Spain due to the concentration of much research activity within universities. The LOSU's preamble emphasizes the importance of RMs by stating: 'This new law revalues the role of technical, management, and administrative personnel as crucial for the efficient and effective functioning of the university institution. Accordingly, it incorporates a horizontal professional career framework and performance evaluation mechanisms for these personnel. Similar to teaching and research staff, the law aims to reduce temporary positions and promote the training and mobility of these personnel'.

The law integrates technical and management personnel, along with administrative staff, under the new category PTGAS ('Personal Técnico, de Gestión, de Administración y Servicios', or 'Technical, Management, Administrative, and Service Staff' in English), replacing the traditional PAS ('Personal de Administración y Servicios', or 'Administrative and Service Staff' in English) category. While this change might initially appear to be a mere terminology update, it represents a significant shift in how university personnel are conceptualized and managed.

By including technical and management personnel, including RMs, within the research personnel category alongside researchers, the LCTI signals to RPOs that they must revise their structures to provide these personnel with positions and career development comparable to those of researchers. Consequently, universities must conduct a thorough assessment of the specific functions performed by research management staff and align their roles according to the new legal framework, positioning them closer to researchers.

Implementing this shift in university statutes, particularly in public universities with complex governance structures (Bonnici and Cassar, 2016, 2020; Shelley, 2010), will be challenging. It requires strategic vision and collective negotiation in an environment where technical and management personnel often experience tensions with academic staff (Reardon, 2021; Shelley, 2010).

## **3.2. Data analysed: the operational level**

To understand the opinions of RMs themselves regarding the most significant factors undermining the professionalization of their work, the results of the four most recent surveys distributed among RMs of RPOs worldwide have been analyzed. Table 2 details the surveys used for this work.

These surveys (collected from a secondary source) are the most representative and comprehensive in terms of respondent numbers, providing a highly accurate picture of the global situation of research managers. Additionally, because not all surveys address the same questions, they allow for an assessment of related aspects from multiple perspectives.

## **3.3. Definition of the framework for its implementation in HEIs**

The situation of RMs around the world varies slightly depending on the region, primarily based on the profession's history in that region or country (for example, the USA, where the activity of research management was professionalized earlier, is several years ahead in some aspects compared to other regions where this profession is more recent) and certain cultural aspects (for example, in Europe, more importance is given to highly academic education for performing an activity compared to other parts of the world). Nevertheless, common patterns are clearly observed in the responses of all the surveys analyzed.

**Table 2.** Data analysed for the work.

Survey	Description	Nº of respondents	Coun-tries involved	Source, size and accessibility
Research Administration as a Profession (RAAAP-2) – NCURA, 2019	The RAAAP longitudinal survey, initially funded by NCURA, asks questions about the experience of RMs, their most recent role, how they entered the field, their experience of research impact and engagement, and demographics.	4325	70	<a href="https://doi.org/10.6084/m9.figshare.18972935.v2">https://doi.org/10.6084/m9.figshare.18972935.v2</a> 43.21MB, CC by 4.0
Research Administration as a Profession (RAAAP-3). – NCURA, 2022	The third iteration RAAAP-3 of this survey focuses on ‘How I Became a Research Manager and Administrator’ (HIBARMA)	5076	66	<a href="https://doi.org/10.6084/m9.figshare.22747157.v1">https://doi.org/10.6084/m9.figshare.22747157.v1</a> 63.81MB, CC by 4.0
CARDEA project	The CARDEA project, funded by the European Commission through the Horizon Europe Programme, aims at enabling the Professionalisation of Research Management as a valued career choice within the European Research Area.	855	43	<a href="https://doi.org/10.5281/zenodo.7882908">https://doi.org/10.5281/zenodo.7882908</a> 7.4MB, CC by 4.0
RM Roadmap project	The RM Roadmap, funded by the European Commission through the Horizon Europe Programme, will create a roadmap for the future of research management in Europe and a community to support its delivery.	2,384 (until March 9 <sup>th</sup> 2024)	46	Preliminary results of the RM Roadmap survey. Internal working document at the Second Ambassadors meeting, Lisbon, 13 March 2024. CC by 4.0

If we consider the institutions where most RMs are concentrated, universities hold the highest percentage of these professionals. In the most recent and extensive iteration of the RAAAP-3 survey, the large majority of respondents (81.4%) reported working in a university context, mostly in Research Intensive Universities (47.6%), but also in Research Active Universities (23.4%), and Research Institutes (10.4%).

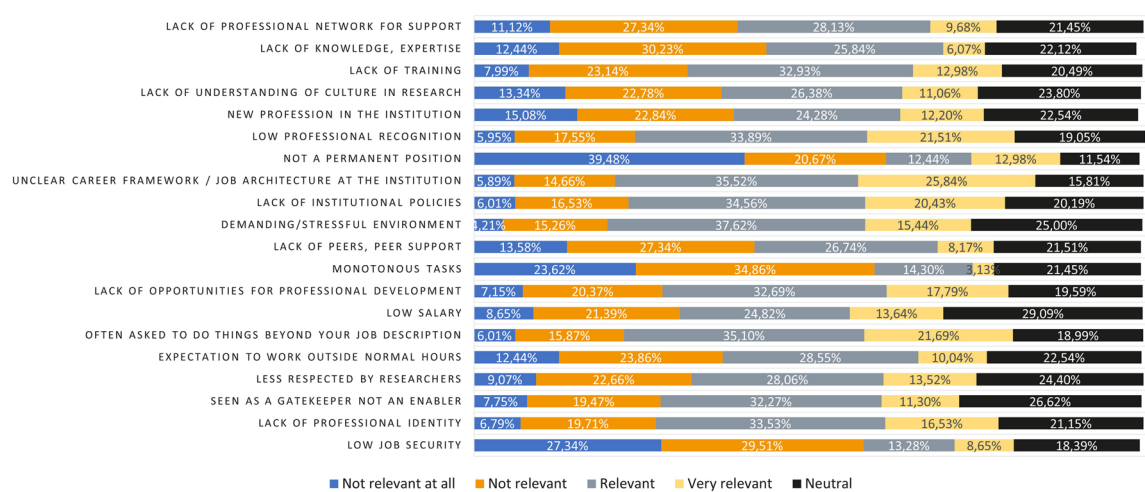
In the case of the RM Roadmap Project survey, 63.69% of the responses also come from the university sector. This indicates that while the issues faced by RMs can extend to all institutions that conduct intensive research and innovation, it is within universities that this becomes a critical aspect due to the impact it can have on the people engaged in this activity and the influence their work has on the performance of the science, technology, and innovation system.

#### 4. Results and discussion

Recognition of RMs is a complex task that has been initiated by various public administrations, including the European Commission. There is no one-size-fits-all solution applicable across all countries and professional environments. Each country or region’s specific elements must be adapted to achieve this ambitious yet essential goal.

In this section, we examine the most critical issues for RMs to identify key areas for action within the context of Spanish HEIs. While the previously presented surveys offer valuable insights into the global situation of RMs—including their working conditions, primary demands, and the diverse pathways through which individuals become RMs (Poli et al., 2023, Dutta et al., 2023)—we propose conducting a cross-sectional quantitative analysis of survey responses. This approach aims to translate the global data into a qualitative understanding of the Spanish university context, thereby pinpointing critical action points.

The goal is to provide decision-makers at various levels with the necessary insights to address the existing challenges faced by the RM professional group. The path required to achieve this goal is unknown, as no in-depth analysis has yet been conducted on the actions that should be undertaken within the context of Spanish HEIs to reach it. This is where the present work aims to contribute by addressing this gap and supporting the process.



**Figure 5.** Top challenges and problems RMs face in the current job? RM Roadmap survey.

The initial step involves identifying the most pressing challenges for RMs, beginning with the latest survey from the RM Roadmap project. Here, we can see how the question ‘*What are the top challenges and problems you face in your current RM job?*’ reveals the main issues currently faced (Virág, 2024) (see Figure 5).

If we consider the factors that exceed 50% of ‘relevant’ or ‘very relevant responses’, we find the following 10 problems:

- lack of knowledge, expertise,
- lack of training,
- lack of understanding of culture in research,
- low professional recognition,
- unclear career framework at the institution,
- lack of institutional policies,
- demanding/stressful environment,
- lack of opportunities for professional development,
- often asked to do things beyond your job description,
- lack of professional identity.

In turn, these 10 problems can be grouped into 5 closely related aspects, as shown below:

1. Lack of a definition for the RM role:
  - lack of institutional policies,
  - demanding/stressful environment,
  - often asked to do things beyond your job description.
2. Lack of training associated to the profession:
  - lack of knowledge, expertise,
  - lack of training.
3. Lack of recognition and development:
  - low professional recognition,
  - lack of opportunities for professional development.
4. Lack of identity with the RM community:
  - lack of professional identity.
5. Lack of understanding of the RM role:
  - lack of understanding of culture in research,
  - unclear career framework at the institution.

To double-check if the selection of these five challenges are the most important areas to address within the RMs field, we have referred to the RAAAP (Oliveira et al., 2023) and CARDEA (O’Regan et al., 2023) surveys to see how these issues are being addressed.

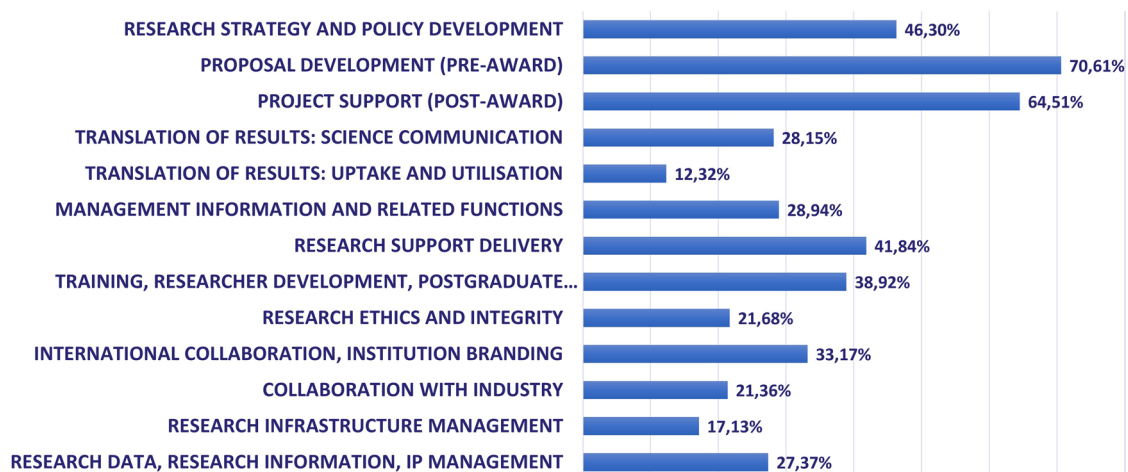


Figure 6. Areas of work – RM field.

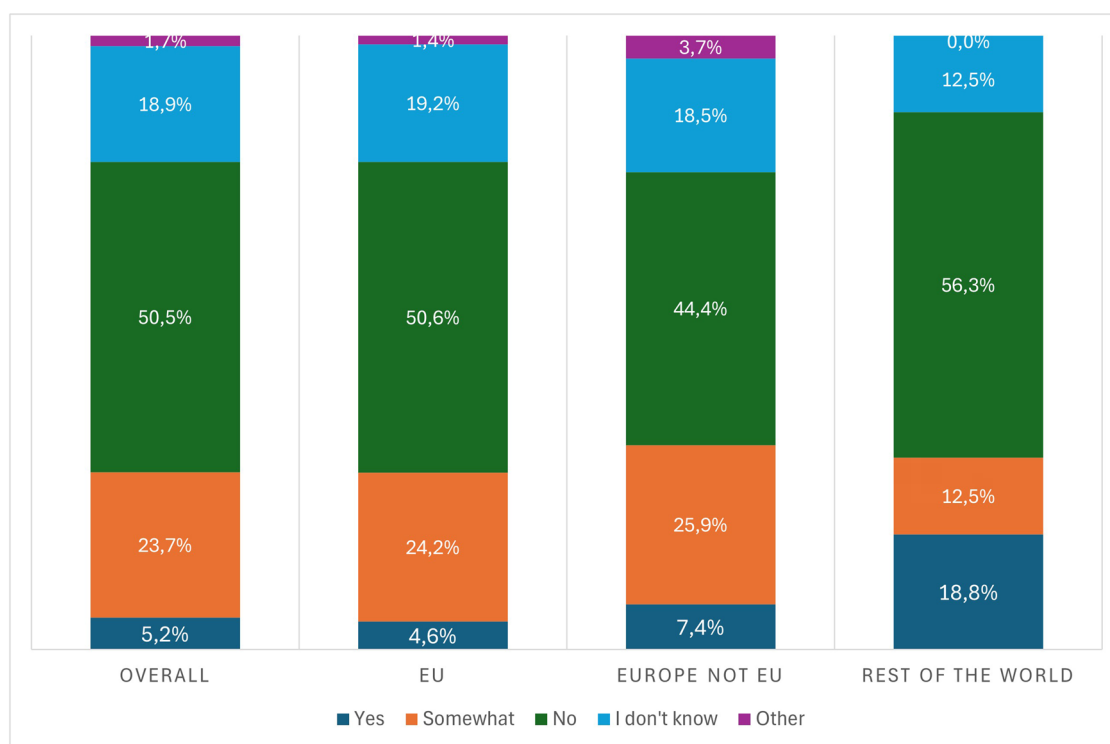


Figure 7. Research management is recognised as a profession (CARDEA project).

Regarding the first challenge, 'Lack of a definition for the RM role', the significant diversity of tasks related to research management is evident, making it very difficult to define the role of an RM. The RM Roadmap survey highlights this issue, showing a wide variety of areas covered by the 1,845 RMs who responded to the question about their responsibilities (Figure 6).

In addition, it should be noted that the survey did not cover some emerging areas in research management, such as impact management, sustainability management, data management & open science, administrative management & direction, and institutional strategy and partnerships management.

This diversity of functions makes it more challenging to develop institutional policies and create an appropriate working environment for these professionals. In this line, it can be observed from the CARDEA project survey that the majority of RMs feel their profession is not recognized within their institution (note that most of these are HEIs) (O'Regan et al., 2023), which supports this perspective (see Figure 7).

It is worth noting that the research management profession is highly academically qualified, with two-thirds of RAAAP respondents (Kerridge and Scott, 2018b) holding a master's degree or higher. Moreover, RM leaders are more likely to possess a doctorate compared to other RMAs. Notably, even at the operational level, over a quarter of RMs hold doctoral degrees, reflecting a strong connection to the research profession. In fact, 21.2% of respondents reported transitioning from a research role into research management.

Regarding the 'lack of training associated to the profession', the results from the RAAAP-3 survey (Kerridge et al., 2023) concerning the question of whether there is certification associated with the profession can be found, as represented in Figure 8.

As we can see, even in the country with the highest percentage of RMs with certification, the USA, at 41.4% (of n=1,092), it does not reach even half of the professionals in this field. In the European context, the situation is even lower, with only 12.4% in the UK (of n=476) and 16.7% in Europe (excluding the UK) (of n=1,007). This indicates that very few RMs have accreditation in their profession. Therefore, the question arises: is having accreditation important? UPM (2024) has worked on that over the last 18 years. The RAAAP-3 survey also addresses this, as shown in Figure 9.

For most issues, RMs feel that accreditation would improve their standing within the institution and in relation to the researchers they work with, which aligns closely with the previously identified challenge.

Now, looking at the challenge of 'Lack of recognition and development', the CARDEA survey reveals striking results. The data from Figure 10 show that career development is undoubtedly one of the challenges that needs to be addressed.

In other words, three-quarters of RMs acknowledge that there is no career progression for them (Figure 10). Over half (50.3%) have never been promoted, while the remaining have been promoted either formally (34.9%) or informally (14.8%). Considering that experts suggest professionals should aim for a promotion every three years and that most RMs have at least six years of experience, this represents a significant issue. Furthermore, only 16% report the existence of a personal development plan at the institutional level, leaving RMs themselves to take the initiative to improve their own career development (Figure 11).

The fourth identified challenge, 'Lack of identity with the RM community', is closely related to networking. Therefore, it is essential to question whether RMs find it genuinely beneficial for their profession

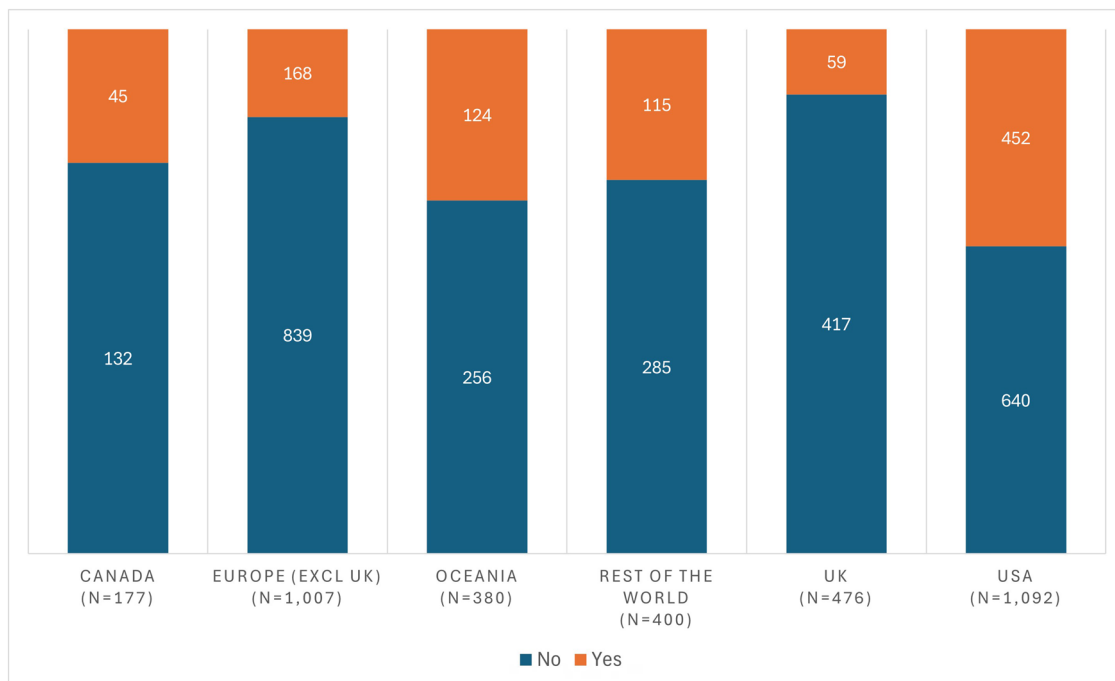


Figure 8. Do you have an accreditation in research management? (RAAAP-3).

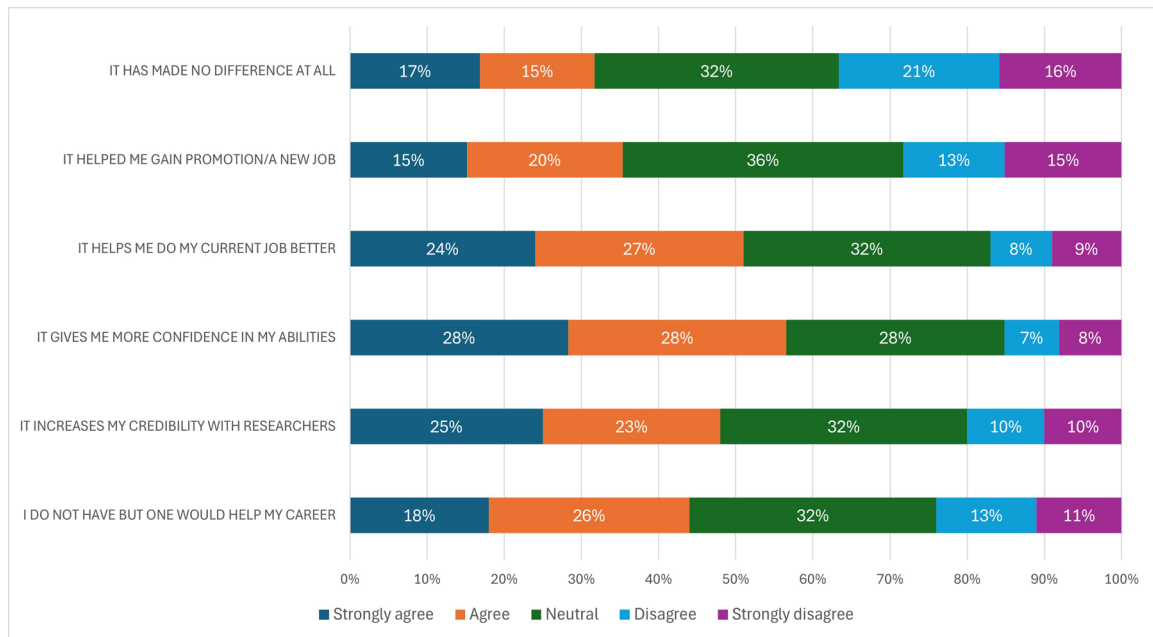


Figure 9. Level of agreement with these statements about professional accreditation in RMA (RAAAP-3).

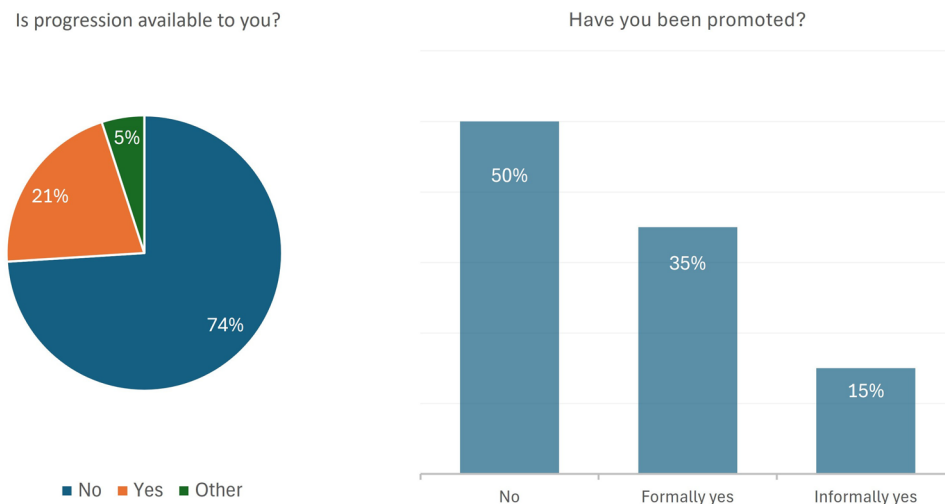


Figure 10. Progression in your organization (CARDEA).

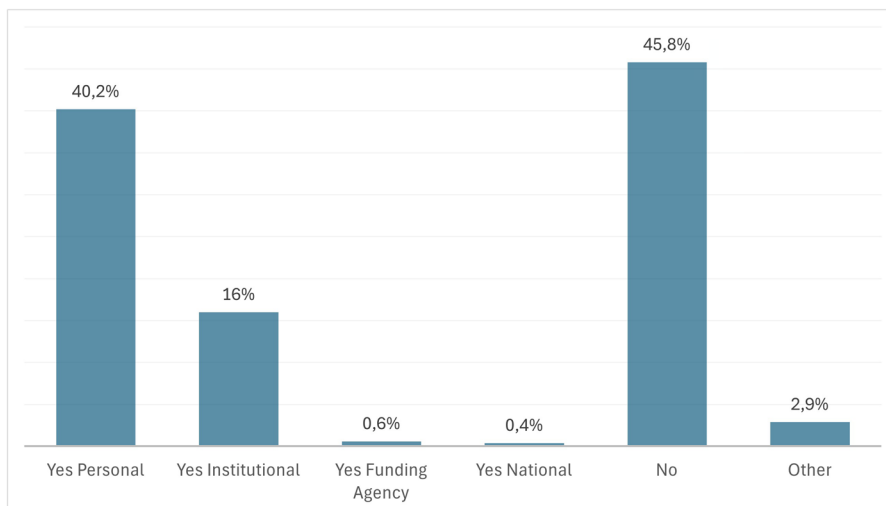


Figure 11. Personal development plan? (CARDEA).

to share their work within networks. The response provided by CARDEA in Figures 12 and 13 leaves no doubt about the importance of this issue.

As seen, most RMs report the need to establish informal connections with peers to exchange questions and concerns related to their work. The best example in Spanish HEIs is represented by the well-established networks of research managers, such as RedOTC (for knowledge transfer), RedOE (for European offices), RedUGI (for general research management), Red Divulga (for communication and outreach with society), and REBUIN (for libraries, data, and science management).

Regarding the fifth identified challenge, 'Lack of understanding of the RM role', it is important to highlight that RMs feel their work is necessary and fits perfectly within the institution they work for. However, this perspective is not shared by their institutions. CARDEA also demonstrates this discrepancy with the data shown in Figure 14.

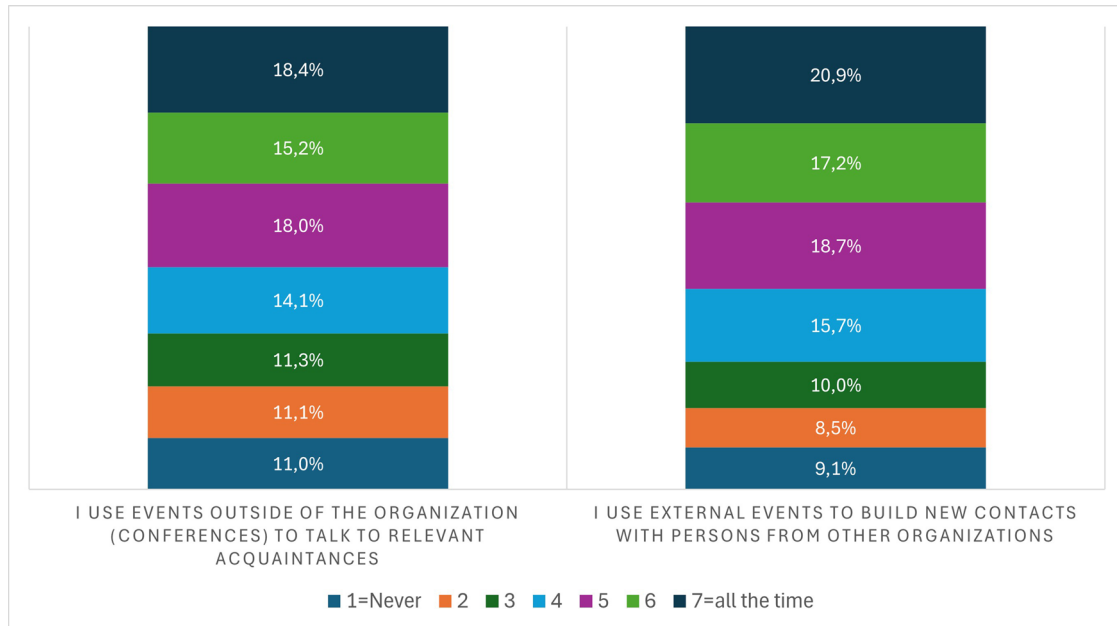


Figure 12. The importance of connecting with other peers, part a (CARDEA).

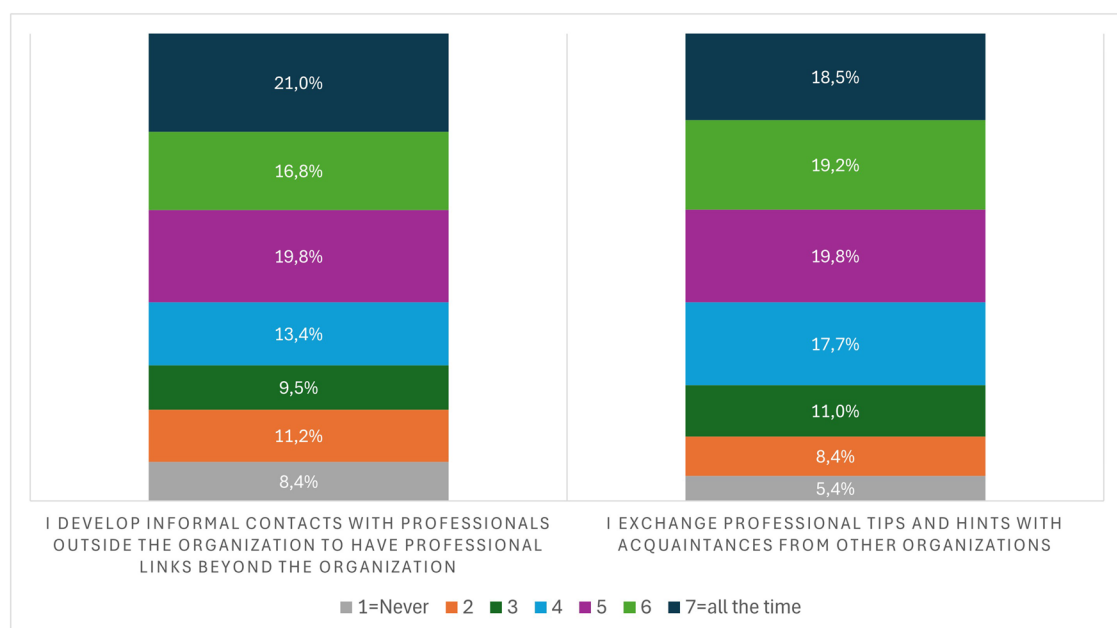
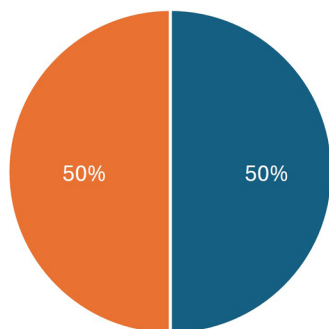


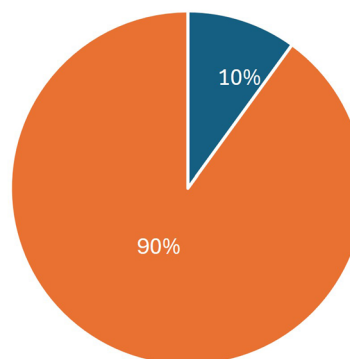
Figure 13. The importance of connecting with other peers, part b (CARDEA).

Do you feel your organization values and recognises your contribution to research management appropriately?



■ No ■ Yes

Do you understand how your role fits in your organization?



■ No ■ Yes

**Figure 14.** Feeling of RMs about the role in the organization (CARDEA).

**Table 3.** Critical action areas for the recognition of RMs in Spanish HEIs. *Source:* own elaboration.

<b>1. Establishment of Standards</b>	
Justification	The wide variety of functions performed by RMs constitutes a barrier to the acknowledgement of the profession, which is characterized as an 'ill-defined profession'.
Measures	Addressing the need to establish clear standards for the RM function by policymakers, to clearly identify the new professional group of 'technical and management personnel' in the Spanish universities. Highlighting the importance of defining responsibilities and a competency framework as 'research personnel'. Promoting studies from other countries that have successfully implemented similar standards.
<b>2. Certification and Accreditation</b>	
Justification	Becoming a RM is not often planned, and usually it is rather a coincidence. This means that RPOs face significant challenges when it comes to recruiting staff with the necessary knowledge and skills, having to invest a lot of time and resources in training newcomers.
Measures	Exploring the possibility of implementing certification programs for Research Managers. Promoting postgraduate training for RMs, without pursuing the one-size-fits-all method but stimulating the implementation of training programs to fit specific activities, micro-credentials, and other alternatives to rigid schemes not suitable for many professionals. Considering the involvement of academic and professional organizations in the design of these programs.
<b>3. Recognition and career Development</b>	
Justification	Without recognition, there is no possible career development, which is the cornerstone upon which the rest of the actions must pivot.
Measures	Adopting some of the career development frameworks identified by previous projects and initiatives promoted by the European Commission. Examining the possibility of establishing specific awards and recognitions for RMs. Analyzing how these incentives can motivate professionals and elevate their status in the scientific community.
<b>4. Networks and Collaborations</b>	
Justification	Enable further networking and peer learning opportunities for RMs is crucial to increase their professionalism and to create awareness in their organizations.
Measures	Emphasizing the importance of creating strong networks for RMs at National level. Encouraging collaborations among different research institutions, as well as companies, funding organizations, policy-makers, and other relevant stakeholders in the R&I value chain. Promoting the connection of these National networks with other counterparts at the international level.
<b>5. Outreach and Communication</b>	
Justification	In many cases, RMs are considered as 'invisible workers', and being part of the administrative, non-academic, or support staff represents a certain kind of degradation of their profession and their expertise.
Measures	Addressing the lack of visibility and recognition through outreach strategies, inside and outside the Spanish HEIs. Suggesting the creation of awareness campaigns about the crucial role of RMs in achieving an efficient and effective performance of the R&I system. Considering the use of online platforms and specialized events to highlight their achievements.

This issue is also connected to the first challenge identified, 'Lack of a definition for the RM role', as the difficulty in precisely contextualizing the work of RMs contributes to the lack of understanding of these professionals' roles.

The analysis confirms that the five challenges studied represent the most critical areas requiring attention within the RM field. By integrating this insight with the regulatory framework outlined in [Section 2](#), which clarifies the context of RMs in Spanish HEIs, a series of targeted measures for the recognition of RMs in these institutions can be established. These measures are summarized in [Table 3](#).

## 5. Conclusions and future lines of work

The aforementioned facts establish a foundation for recognizing and enhancing the visibility of the thousands of professionals working in Spanish HEIs. However, these institutions have not yet fully embraced the spirit of the two relevant laws and continue to neglect this challenge.

To address this, universities should take two key actions. First, they need to restructure their organization to integrate RMs—or ‘technical and management personnel’ as defined by the LCTI—into a framework alongside researchers and administrative staff. This would involve distinguishing between ‘technical and management personnel’ and ‘administrative staff’, with the former potentially being recognized similarly to researchers in some contexts and as administrative staff in others. Such differentiation would align with the LCTI while supporting the LOSU.

Second, universities should leverage the provisions of Article 23 bis of the LCTI to stabilize RM positions. Instead of treating RMs as temporary hires for specific projects, universities should offer them permanent contracts tied to stable research lines rather than solely project-based funding.

The five proposed actions could form part of a strategic roadmap aimed at integrating RMs as a stable component of research personnel within HEIs. This roadmap might originate with the Ministry of Science, Innovation, and Universities and subsequently be implemented at the institutional level.

Given the complex governance structures of Spanish universities, such changes will require a strategic vision and collective negotiation among various stakeholders. Organizational management theories, such as human resource development and organizational change, could provide a robust framework to address the challenges proposed in this paper. These theories emphasize the importance of defining roles, enhancing competencies, establishing professional standards, and creating clear career pathways, all of them key elements for their recognition. Additionally, adapting to a changing legislative landscape requires strategic organizational changes, including change in leadership and collaboration across networks and institutions. Integrating research managers into the strategic mission of institutions would fully leverage their contribution to the science, technology, and innovation system.

Future research should focus on evaluating these actions and considering additional factors that could affect RMs’ situations, depending on the Spanish region, type of HEI (e.g. research-intensive versus less research-focused institutions), organizational structure, or institutional governance.

Addressing these key issues would not only mitigate the invisibility of RMs but also enhance research productivity and strengthen the position of Spanish universities within the European research landscape.

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## Authors’ contributions

Roberto Martínez: Conceptualization, Methodology, Investigation, Resources, Writing – Original Draft, Writing – Review & Editing, Visualization.

Alberto Tejero: Conceptualization, Methodology, Investigation, Resources, Writing – Review & Editing, Visualization, Supervision.

All authors have approved the final manuscript.

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## Data availability statement

The data that support the findings of this study are available from the corresponding author, RM, upon reasonable request.

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