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RESEARCH PROJECT MANAGEMENT: DEFINING ROLES AND RESPONSIBILITIES FROM PRACTICE/EXPERIENCE

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ABSTRACT

What is new?	There is a widespread lack of clarity and consensus regarding the role of Research Project Managers (RPMs) in collaborative research projects, which this paper aims to address. This is the most extensive attempt to define the role of a Research Project Manager (RPM) in collaborative research projects.
What was the approach?	The paper draws on the authors' combined experience managing collaborative research projects, synthesising

	insights from theoretical frameworks and practical implementations in diverse research environments.
What is the academic impact?	The paper provides a much-needed definition of the Research Project Manager's role, distinguishing it from related roles in the Research Management and Administration (RMA) field. It contributes to RMA and project management by offering a framework that clarifies the RPM's responsibilities, which have largely been underexplored in academic literature.
What is the wider impact?	For research and management practitioners, this paper highlights the critical role of RPMs in ensuring project success, from ideation to execution. It underscores the importance of well-defined project management practices in collaborative research to meet the expectations of funding agencies and ensure scientific outcomes.
Keywords	Research Project Manager; Collaborative research; Project management; Research administration; Project leadership

INTRODUCTION

There is a widespread lack of clarity and consensus regarding the role of Research Project Managers (RPMs) in collaborative research projects, which creates challenges and inconsistency across organisations. This paper addresses this gap by establishing a clear understanding of the role of the RPM within the context of collaborative research projects. It addresses the diverse responsibilities and key functions of an RPM and highlights the importance of their contributions in various research environments based on the authors' combined experience. Additionally, it defines the boundaries of their roles and responsibilities and distinguishes them from other project-related positions. The paper outlines the critical tasks performed by RPMs, the skills and qualifications required, and explores their impact on project success. It also provides insights into the roles of other key project personnel, creating a comprehensive overview of project management in research, something that is currently lacking in the available literature and causing most organisations to have their own interpretation of the role.

The field of project management is generally well-defined, with an established professional role embodied by the Project Manager (PM). Numerous courses, training programs, professional certifications (such as Project Management Professional (PMP), PRINCE2 (Projects in Controlled Environments), and Project Management Methodology (PM^2)), and certifying bodies (such as the Project Management Institute (PMI) and the International Project Management Association (IPMA)) exist within this field. It is widely acknowledged that formal and systematic project management practice originated in military and infrastructure projects, with the Manhattan Project often cited as the start of modern project management (Lenfle and Loch, 2009). Heavy industrial adoption has

further matured the adaptation of project management across diverse enterprises, from public administration and space exploration to software development. However, limited progress has been made in adapting these frameworks and roles for implementation in collaborative research projects.

While general project management has been extensively researched for over 40 years, with numerous publications annually, the sub-field of research project management has seen fewer publications. This is despite a notable increase in recent years, summarised in recent literature, e.g. by Santos, Varela, and Martínez-Galán (Santos et al., 2022).

The historic lack of research on research project management in collaborative research projects has resulted in the absence of a commonly accepted definition of what should or should not be included in the role of the Research Project Manager (RPM), as confirmed by our review of the international literature. This challenge is compounded by the complex landscape of collaborative research projects, which varies across countries, disciplines, organisations, and even departments within the same institution. The lack of standardisation in defining the role of an RPM can lead to confusion and hinder the development of this profession. This contrasts with the potential benefits of applying project management principles to such diverse and complex projects and the growing requirements of project funders (often public funding agencies) for applying these principles in the design and execution of collaborative research projects. Research project management has different prerequisites and demands than general project management and the PM role (Lloyd and Simpson, 2005; Santos, 2021). Thus, research project management should be considered a unique subtype of the general field of project management, with its requirements, conditions, and toolbox (such as the R&D canvas for RPM (Santos and Brandâo, 2022)).

The authors' view is that the existing literature specific to RPM is insufficient to build a base case for a common understanding of the RPM role. Our method, therefore, taking into account those valuable references made herein that do exist, is to develop new understanding based on the authors' shared experience, combined with knowledge of general project management.

Although RPMs are within the scope of the Research Managers and Administrators (RMA) spectrum of roles in collaborative research projects, it should not be assumed that all RMA activities related to such projects are research project management tasks, nor that all activities performed by an RPM are automatically research project management. The RPM role lies at the intersection of the fields of RMA and PM (Ernø-Kjølhede, 1999), as depicted in Figure 1.

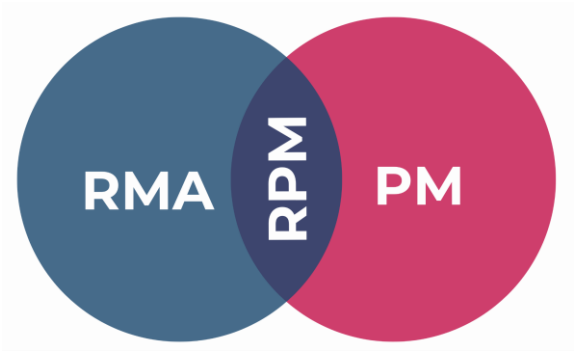

Figure 1. RPMs' position at the intersection of the roles of RMA and PM.

Project-wise, there are fundamental differences between the core settings of projects handled by an RPM compared to those managed by a general PM. While both have significant responsibilities, the RPM typically has little formal authority over project members/participants (Ernø-Kjølhede, 2000). Unlike general project management, where the PM usually leads and reports directly to the governing body or funder, the RPM often works alongside a Project Leader/Scientific Leader or Coordinating Principal Investigator (PI). This PI is generally the visionary who, prior to project initiation, built the project consortium consisting of the organisations collaborating in a given collaborative research project and secured funding, typically with the support of RMAs. Although the same person can occasionally perform the PI and RPM roles, they are distinct and interconnected, forming a leadership dynamic duo. The RPM focuses on management rules, regulations, and contract details, ensuring the project fulfils its obligations to the funder, while the PI provides scientific direction and decision-making. Both roles are essential for the project's success, and internal communication is crucial, with the RPM acting as a facilitator. Problems in communication are a key reason for project failure (Alexandra-Mihaela et al., 2013).

Implementing general project management into this unique subfield without significant adaptation has led to a "squeezing" of the research endeavour into a collaborative research project management structure. This often results in an imbalance between the RPM and project participants: the participants specialise in the research area and are better positioned for decision-making regarding project content, while the RPM focuses on project management aspects. This difference can be a source of annoyance and potential conflict, highlighting the importance of mutual understanding and insights between the RPM and the PI. The structuring imposed by project funders often conflicts with the need for academic freedom; most project participants prefer letting scientific progress guide them rather than adhering strictly to a highly structured project plan. This is often compounded by the academic imperative to publish, which, while an outcome of project work, is not always a necessary project goal for the funder.

Furthermore, “general” projects are usually conducted within one organisation, with other parties as subcontractors. In contrast, collaborative research projects involve a consortium of multiple organisations (“partners”) with shared project ownership, each running their interdependent projects while being mutually responsible for the overall project's achievements. These projects often have a "come as far as possible" approach

to a fixed or semi-fixed target, unlike "general" projects that aim for a fixed outcome within more flexible time and budget constraints. In collaborative research, it is generally impossible to speed up processes by adding more resources, as the same minds are needed to carry out a distinctive part of the project from start to finish.

Finally, RPMs and project participants working in Higher Education Institutions must balance their time and conflicting engagements with other tasks, for example, administration, other projects, teaching responsibilities, mandatory courses, and career progression in a typically insecure environment. Each project is unique in its composition and settings, meaning there is no one-size-fits-all solution for RPMs. They must select and adjust tools from their toolbox to fit each project's specific needs.

This paper aims to delve into the role of an RPM, offering a comprehensive definition of their responsibilities and contributions to collaborative research projects.

WHO IS A RESEARCH PROJECT MANAGER?

The role of the RMA is diverse and has been challenging to define in the past (Kerridge et al., 2023; Santos, 2021), and therefore, the role of the RPM as a subset is, in practice, multifaceted, particularly where the RPM has additional responsibilities across the RMA spectrum. For the purpose of this paper, we define an RPM as an individual operating in a Higher Education Institution or Research Performing Organisation, supporting one or more collaborative research projects. RPMs are an integrated but distinctive part of the Research Management and Administration (RMA) staff who, regardless of their actual job title:

- Have the responsibility to deliver or support the delivery of one or more projects that typically span more than one project phase;
- Have an active, durable affiliation to one or more distinctive projects with a regular proactive role in each of these; they not only react to arising issues or standard events or at the request of the PI but also take actions based on their expertise and drive the administrative progress throughout the project;
- Are typically not a member of the academic staff, or if they are, they practise these aspects separately from their academic duties;
- Have a role description that is primarily aligned with the widely accepted definitions of project management or recognised as RPM or equivalent in a formal way by, for example, a project funder or central office of the organisation;
- Have to balance the interests of several/different stakeholders, which on the one hand are the funding organisation and the institution in which they work, and on the other, the requests of the PI or the consortium and the objectives of the project, respecting rules, laws, and procedures;
- Take a holistic view of the project's management and do not specialise in a specific partner in a collaborative project or a particular subsection of management, such as only doing impact management, financial reporting, or risk management.

While it is worth noting the previous literature exploring project management as an organisational function in the research environment and the concept and manifestation of the "Project Management Office" (PMO) (Fernandes et al., 2021; Twohig et al., 2023; Widforss and Rosqvist, 2015), here we are primarily concerned with the nature and responsibilities of the individual RPM, wherever they appear in the organisational structure.

The question of who should manage a collaborative research project, the RPM or the PI, has been discussed in specialised literature (Cassanelli et al., 2017). As explored in Twohig et al. (2023), several distinct differences exist between projects established in a Higher Education Institution or Research Performing Organisation environment and a standard public or private/commercial enterprise environment. A key factor is the role of the academic PI in owning, leading, and having accountability for the project, mainly filling the role of a "Project Owner". These lead us to identify several modes of operation that RPMs acting in the research ecosystem typically occupy:

1. A dedicated RPM assigned to and funded by one or more distinct collaborative research projects with a duty to deliver those projects, working across functions and with a long-term interest in the project's success.
2. An RPM with the responsibility to support a group of projects or programs, typically funded through indirect costs or dedicated operations budgets within an extensive program.
3. An RPM in a non-academic part of the organisation, such as a Capital Projects Office, Information Technology function, or Library, provides project management expertise as part of the broader network within the organisational structure.

The first of these options can either be employed locally with a collaborative research project PI as line manager(s) or centrally in a PMO and act as an internal consultant to the project, but without the collaborative research project PI as line manager. The second and third options usually do not have local employment but belong to central offices with central line managers. The first two of these roles can typically be RPMs, while the last, although providing tangential support and expertise, is generally not considered an RPM under our definition.

Not all RPMs are full-time in their commitment to the role. Instead, they may divide their time between research activities in the project(s) or other RMA roles such as Human Resources (HR) officer, Financial officer, Impact officer, etc. The critical point here is that even though the RPM may perform all these tasks, it does not translate to the fact that all this person does for the project is research project management. It is, therefore, essential to distinguish between the person employed as an RPM and the role of RPM in collaborative research projects.

Finally, more than one RPM may be involved in a single project. Sometimes, one or more partners have their RPM/PM assigned to their activities. Here, it is essential to distinguish between the role of RPM/PM for the project as a whole and having

individuals with the title of RPM/PM involved in the project, the latter not translating into this person being RPM/PM for the project but instead being a work-package manager/task manager or just local RPM/PM at the specific partner. This may also be the case for the project RPM, which has a role as a local RPM/PM for their organisation, without this translating back into RPM activities for the project.

The following are examples demonstrating the diversity possible within these definitions:

RPM Hiring Mode Example Real-life Cases

- The project "SUNPILOT" (Horizon 2020 Grant Agreement 760915) was coordinated by a university in Ireland with a team distributed across six other countries and twelve research-performing organisations, including public-funded institutes and commercial companies. The coordinator employed a single dedicated RPM reporting to the lead academic (i.e. the PI), who was responsible for the effective and efficient delivery of the project across all partners by the grant rules and project plan, complementing the academic leadership of the PI. The project also directly employed a dedicated impact officer and relied on many administrative staff employed indirectly by the various partners.
- The NeuroInsight MSCA Cofund (Horizon Europe Grant agreement ID: 101034252) includes funding to employ a single RPM to run a recruitment program to competitively award funding to at least 33 postdoctoral fellowships, to manage the implementation of the program as a whole, and to provide PM support to the fellowships individually – this RPM, therefore, has both research management duties alongside a more general project delivery role.
- The project HOLICARE (Horizon Europe Grant agreement ID: 101057596) is coordinated by The Royal Institute of Technology (KTH) in Stockholm, Sweden, with a consortium consisting of 14 partners. It recruited a PM at 0.2 Full Time Equivalent (FTE) for the full-length project from a central pool of RPM centrally employed at the university PMO via an internal contract and funded within the project budget.
- The ACDC (Horizon 2020 Grant Agreement 824060) project at the University of Trento operated with a hybrid RPM figure hired as a dedicated RPM during half of the project's life and who became centrally employed as part of the PMO during its other half.

Responsibilities of a Research Project Manager during Different Project Phases

The role of an RPM is multifaceted, requiring a unique blend of project management skills, a thorough understanding of the research process, and the ability to navigate the specific dynamics of research-focused teams and stakeholders. The responsibilities of

the RPM also evolve as the collaborative research project progresses from idea to proposal, to project execution, to the concluded project phase.

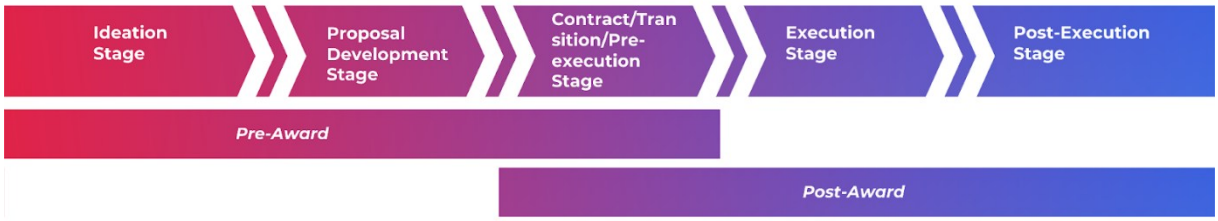

Figure 2. Project phases and the grading of phases into Pre-Award and Post-Award

The role of an RPM is often divided based on whether they focus on Pre-Award or Post-Award activities (see Figure 2) – meaning whether they are involved in the processes leading up to securing funding or in the management and execution of the project after the funding has been awarded. In this section, the responsibilities of an RPM are presented by project stage, showing that the RPM has a role to play in all phases and that dividing responsibilities between Pre- and Post-Award stages, without proper communication and feedback mechanisms, may hinder both the effectiveness of the RPM and the support provided to the project. Apart from these core responsibilities outlined below, RPMs may engage in other transversal tasks to enhance internal management procedures and contribute to their institution's scientific strategy. However, throughout all activities, the project management role is foremost a communication and coordination role. It should also be noted that, particularly in the pre-award phase, a number of activities may appear similar when performed by RPMs or other RMA staff, but these roles approach such tasks from clearly distinctive perspectives and with different aims. These responsibilities are not in competition, but are complementary. It can generally be stated that the RPM role is focusing on the project as such, from design to execution, preferably treating their own organisation as just one of the project partners. On the other hand, the other RMA roles supporting a project at any of the phases usually have a partner-centric view. A practical rule is that if a task is performed multiple times in parallel by each or several partners, it generally falls under the remit of RMAs' roles, whereas if it is done once for the project as a whole – even if repeated at intervals during the project lifetime – it is typically an RPM responsibility.

IDEATION

The ideation stage of a project refers to the inceptive stage of a collaborative research project, which is mainly focused on brainstorming new ideas and concepts that could lead to a collaborative research project proposal. This phase may take a long time and go through several informal and formal cycles, false starts, and changing groups of people involved as the ideas take shape.

Although the initiation stage of a research proposal may not always involve an RPM, several tasks and actions (see Table 1) fall within the field of action of project management and can therefore impact the proposal's success. In this stage, an RPM

functions as a facilitator, enabling brainstorming discussions and potential internal synergies/collaborations while assessing the feasibility of the proposed ideas, building on the previous experience of former/completed projects. The end of this stage can be relatively diffuse and overlap with activities belonging to the next phase, but usually formally ends with the launch of concrete proposal preparation. The main activities and responsibilities of the RPM during the ideation stage are summarised in Table 1.

Table 1: RPM Role – Ideation Stage

Activity	Description
Enable internal synergies	Create an environment where various internal stakeholders (eventually from complementary or different areas) can collaborate effectively, leveraging their collective expertise and knowledge.
Arrange meetings and facilitate brainstorming and discussions	Schedule meetings with relevant team members to trigger innovative thinking and generate ideas that can be shaped into a research proposal.
Assess the feasibility of ideas.	Evaluate the feasibility and viability of the project ideas generated in the previous tasks.

Proposal Development

The proposal development stage of a collaborative research project is a critical phase in a project's lifecycle: it is essential on its own (as a means to secure funding) and in relation to how it impacts the following project steps (as a means to ensure proper implementation). A well-run proposal planning and preparation stage not only congregates the efforts of managers and researchers alike in the preparation of a detailed proposal to secure approval for execution but also sets the foundations for proper implementation of the project (should it receive funding) by preparing all the necessary documentation and ensuring that what is being planned is possible to be executed, thus avoiding severe future implementation risks.

Securing funding for a collaborative research project proposal usually entails the submission of a detailed project proposal (including the first formal iteration of the project timeline and budget) to a project funder. In this stage, the RPM plays a pivotal role: in collaboration with the research team, they should coordinate the development and submission of the proposal, including a detailed provision of resources and adequate scheduling, ensuring that it meets the call requirements (see Table 2). This stage ends with formally submitting the proposal to the project funder.

Table 2: RPM Role – Proposal Development Stage

Activity	Description
Proposal timeline planning	Onboard all project partners on planning the proposal development, dividing tasks and load to ensure an even balance from time to submission.
Competency matrix analysis	Analyse with the project PI and match needed and available competencies to identify gaps or redundancies.
Consortium and Project structuring	Advise the project participants and assist with project structure.
Definition of resource allocation (budget definition)	Facilitate the budgetary resources planning needed for the implementation of the project and coordinate the budgeting with each consortium partner, identifying significant issues and weaknesses.
Ensuring the project's "non-scientific" feasibility on aspects other than science production	Monitor and review the non-scientific feasibility of the project to ensure, for example, that it is not overloaded with reports or overselling on other administrative issues.
Prepare funding application	Contribute to the proposal preparation and collection of required information in funding platforms and tools.
Ensure funding criteria are met.	Ensure that the proposal addresses all the pre-defined funding criteria and that required parts of the proposal are not missed.

The role of an RPM is distinct from that of, for example, a grant advisor or grant writer during the proposal development stage (see Table 7 in Appendix 1 for a summary of additional roles and functions connected to collaborative research projects). While both the RPM and the grant advisor or grant writer may be involved in similar topics, such as preparing the application and ensuring that all criteria are met, their primary aims differ. An RPM may assist with structuring the proposal and verifying eligibility, but their main focus is not on contributing to the scientific content (e.g. state-of-the-art or impact sections). Instead, the RPM concentrates on ensuring the feasibility of the project's execution and its capacity to produce a set of measurable outcomes, should the proposal be funded. Importantly, while grant advisors and grant writers focus on maximising the proposal's chances of winning funding, the RPM's distinct role is to make sure the project is set up for success and is truly deliverable once the grant is awarded. It is also important to note that there is a balance of influence at this stage between the RPM, RMA (such as grant writer, grant advisor), the local PI, and the

consortium partners; all are mutually dependent on each other, and effective collaboration among them is essential to ensure a smooth and successful proposal submission.

Transformation from Proposal to Project and Contracting

This transformative stage begins once a project proposal is accepted by the project funder. It is a critical period that demands precise implementation to avoid potential issues and ensure a smooth project launch. Leveraging the expertise of an RPM during this phase is essential, as it requires proficiency across all aspects of implementation to translate the initial conceptual proposal into a functional, binding contract that reflects the actual capacities of all parties involved and aligns with the funder's expectations (see Table 3).

The acceptance of the proposal typically takes place at least six months after the proposal was submitted for funding. During this time, various factors may have changed, which must be addressed to safeguard the project's successful implementation, e.g. partners or people may leave, and with them, key competencies that might need to be replaced, leading to bringing in new partners. Even the actual costs and budgetary needs may have changed in the interim due to consortium or scope updates; however, the budget is typically rigidly set in the approved proposal and now has a hard upper limit, only allowing for smaller internal redistributions. All of this now needs to be balanced together with any requested changes from the project funder as well, and the RPM needs to do a thorough review on their own, ensuring that the execution of the project will be as smooth as possible.

From these reviews and any consortium changes, the RPM needs to generate an acceptable agreement with the project funder, changing as little as possible but still implementing the necessary changes.

The exigencies of the project funder and the "present" capabilities of the project meet in these processes, such that when correctly performed, they contribute to the solidity of the legal binding between the contracted parties, ensuring that obligations meet the reality of the agents realising the research. The detailed project management plan, as generated in the planning processes, consists of the implementation of measures and procedures necessary to ensure that the project will be operative; for example, establishing the communication and dissemination platforms of the project, anticipating procurement accounting for depreciation costs, and delineating the project impact canvas.

Table 3: RPM Role – Transformation from Proposal to Project and Contracting

Activity	Description
Revision of Budget	Revise and adjust the allocation of resources and corresponding financial figures to better match the implementation requirements.

Activity	Description
Review and confirmation of roles of actors	Ensure all actors can perform the roles stated in the proposal stage/implement the change of roles and actors when necessary.
Revision of coherence of effort and timeline	Review that timeline and effort of activities reflect the state of the art of the discipline, and that costs remain coherent; modify budget and effort within different categories when necessary.
Stating and corroborating Intellectual Property (IP) obligations.	Check that IP obligations are assumable considering the current partners' IP obligations.
Preparation of specific further legal documents (e.g. consortium agreements)	Coordinate and manage the creation/negotiation of additional required legal documents, such as consortium agreements between project partners and non-disclosure agreements with external project bodies such as advisory boards, ethical advisors, internal reviewers, etc.
Implementing the necessary processes and items to ensure an actual start of the project	Prepare the project and all participants for the start, including planning possible kick-off meetings, internal communication tools, project management tools, etc.
Adjusting the proposal to the grant/funding agreement template	Lead the process of adjusting the approved proposal to any project funder agreement template and incorporating feedback and required changes from the funding organisation.

EXECUTION

The collaborative research project execution stage represents the main phase in the lifecycle of any collaborative research project, demanding precision strategic planning and effective execution, where the RPM plays a key role. What makes this role even more important is the RPM's experience: past experiences play a big part in how well they can manage complexities and handle different aspects of the project. The RPM indeed wears many hats and has responsibilities ranging from coordinating research activities to managing resources, ensuring adherence to timelines and objectives, motivating people, and creating an effective working environment (Anantatmula, 2010).

In this phase, the RPM has to balance the interests of the different stakeholders, which on the one hand are the funding organisation and the institution in which they work, and on the other, the requests of the PI or the consortium and the objectives of the project, respecting the specific call rules, national/international laws, and internal procedures (see Figure 3).

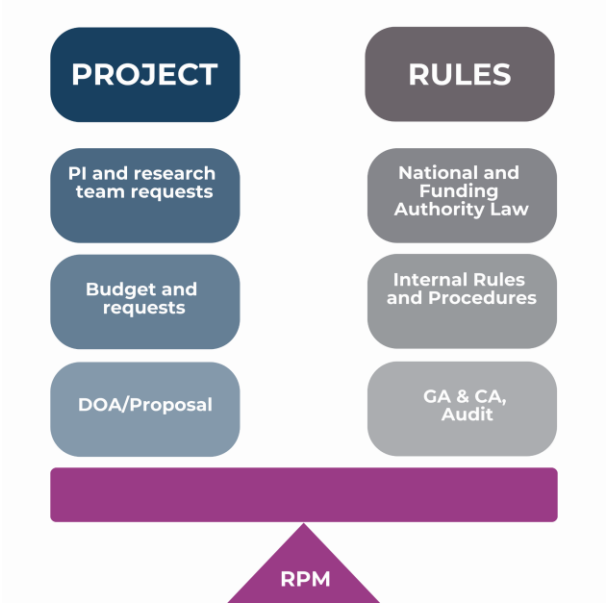

Figure 3. Illustration of the issues the RPM faces in the execution phase, balancing the project progress and successful execution with restrictions and limitations.

To do this effectively, the RPM needs to understand how research projects progress, and this is where their previous experiences become evident and serve as a toolkit, helping them tackle the unique challenges of each project. An RPM who has previously faced similar challenges comes with a wealth of knowledge, insights, and strategies (lessons learned) and can, therefore, smoothly mitigate issues that might become blocking issues for other projects. However, as each project is unique, the RPM cannot use a single standardised approach, but must assemble, adapt and flexibly apply the tools and skills in their arsenal.

Moreover, specific tasks are crucial in managing large consortia and have a higher impact than others in ensuring the smooth execution of collaborative research projects (core tasks, as shown in Table 4). Peripheral tasks are those the RPM can delegate to experts in the field or know to whom to address specific requests. However, these tasks still play a significant role and neglecting them or not being aware of them could lead to potentially serious consequences.

Table 4: RPM Role – Execution (core tasks)

Activity	Description
Project Phase Planning	Involvement in recurring planning of upcoming phases of collaborative research projects. Breaking down the overview planning previously done at the proposal stage into actionable items.
Funding entity knowledge	Understanding the specific preferences of funding organisations is an added benefit apart from knowing the grant regulations.

Activity	Description
Contract Management	Oversee the implementation of the research agreement or contract into the project execution, including ensuring that adequate governance principles and bodies are appointed and that the decision-making process complies with the agreements.
Consortium Management	Coordinate and lead work package leaders, ensuring cross-part communication and adherence to project goals.
Budget Management	Monitor the status of resource use and verify deviations that could impact the project in terms of timing or scope.
Risk Management	Monitor and regularly evaluate/re-evaluate the risks identified during the proposal phase, identifying new risks and implementing risk mitigation measures.
Progress Tracking	Monitor project progress, milestones, and adherence to timelines.
Reporting	Timely and complete submission of reports to funding agencies and other interested parties.
Quality Management	Oversee quality control (non-technical) processes of project outputs.
Evaluation and Assessment	Participate in the evaluation of project outcomes and impact (key performance indicators).
Change Management	Lead necessary adjustments to adapt to emerging methodologies and/or face arising issues.
Impact assessment	Monitor how the project's impact measures work concerning the set key performance indicators.
Management Communication within the project	Facilitate communication within the institution, the project, and with external stakeholders.

In addition to the main tasks listed above, several peripheral tasks can be performed by the RPM or delegated to experts in the field (see Table 5).

Table 5: RPM Role – Execution (peripheral tasks)

Activity	Description
Data Management	Know the general structure and how data should be collected and stored, and assist in preparing project outputs.

Activity	Description
Compliance and Ethics	Verify that research activities are coherent with ethical guidelines and regulatory requirements as defined in the project or by other regulations.
IP Management and Exploitation	Oversee the exploitation of research outputs, patents, publications, and public disclosures.
Communication & Dissemination	Ensure that project communication and dissemination activities fulfil the requirements of the funded entity and liaise with external stakeholders.
Stakeholder Management	Manage stakeholder expectations, engage and foster new collaborations.
Procurement Management	Ensure the effective implementation of research agreements.
Resource Management	Support HR in recruiting and manage the project team in compliance with the funding organisation's rules.
Gender dimension	Monitor the gender dimension of the project in terms of science and recruitment objectives.

Based on the authors' experience, the full-time equivalent (FTE) dedication required to manage a collaborative research project typically ranges from 5% to 20%. In comparison, the FTE for project management in coordinated efforts can range from 15% to 30% or even higher, depending on the project's size, scope, and complexity, even up to 100% or multiple RPMs collaborating in the biggest projects.

POST-EXECUTION

In the post-execution stage, many funders require the submission of a final report (financial and technical) as well as evaluations and reviews, often within a short period of months. For a limited period, these post-completion activities might still be considered eligible costs, allowing the RPM's efforts to be covered by remaining project funds. However, even after that, the obligations of the partners and project participants can usually be significant, and result in a wide range of tasks (see Table 6).

Table 6: RPM Role – Post-Execution Stage

Activity	Description
Final reporting	Administer and coordinate the generation of the final reporting to project funders and project owners, including follow-up requirements.

Activity	Description
Final evaluation/review by the funding organisation	Administer and coordinate the planning and execution of any evaluation/review by the funding organisation, including participating and presenting project management aspects.
Benefits realisation management	Ensure that project outcomes and lessons learned are properly captured and used within the consortium or organisation(s); for example, supporting further internal collaborations, facilitating the uptake or implementation of project findings, or continued team development – even if not required by the funder.
Closing the project team	Actively ensure proper closure of the project team, for example, by formally acknowledging contributions, celebrating outcomes, communicating project completion to all members, and avoiding a "silent ending" to the collaboration.
Internal (project and organisation) evaluation	Organise and participate in additional internal project evaluations.
Continued collection and reporting of Communication, Dissemination, and Exploitation	Monitor any remaining obligations from the funding organisation related to communication, dissemination or exploitation.
Archiving and long-term storage of data, results, and documents	Ensure that all data and other information the project required to be archived and saved are collected and stored correctly with future protection.
Transition into a new ideation phase	Assist project participants and partners in transitioning back to the ideation phase and bringing in the lessons learned.
Post-project audits	Assist financial officers in post-project audits.

DISCUSSION

When examining the RPM's roles, duties, and responsibilities, it may appear that RPMs are expected to possess all the knowledge and capabilities required for project success. However, while significant training and dedication are crucial, it is neither realistic nor desirable to expect a single RPM to be an expert in every aspect of project management and research support. The RPM is not the only support a project needs; rather, RPMs ideally work in an environment where they are part of a group or network

of RMAs. A virtuous relationship is established among the RMAs in an RPM role, and the rest of the RMAs work in collaborative research project support, performing specific tasks under varied profiles. Many of the problems the RPM will face will require contextualised answers and expertise beyond what the RPM can realistically be expected to know or do; at the same time, the RPM contributes to implementing new practices and widening the knowledge of the RMAs they collaborate with. The RPM and RMAs often collaborate to develop strategies and solutions for problems that do not fit into any specific category. The RPM occasionally combines the role of RPM for one project with the role of RMA for other projects, contributing to an enriching dialogue from diverse perspectives. As the African proverb goes, "It takes a village". Successfully coordinating a collaborative research project requires a proficient RPM, a dedicated, enthusiastic and responsive PI, a group of partners and constant dialogue among the professionals who support the project's life cycle.

Ensuring the long-term stability of an RPM is critical to the successful management of a collaborative research project. The situation where an RPM's contract's length equals the project's life will quickly become one where the project or the person pays the price of the realistic needs of life, with the RPM legitimately leaving the project at a moment when their involvement is critical. Substituting an RPM is a complicated process due to the professional requirements, and the new RPM will not be fully effective until they have acquired sufficient familiarity with the project's context and operations.

As discussed earlier, the effectiveness of the RPM role does not depend on whether it is situated within a central PMO or directly within a research team. However, based on our experience and as previously discussed, there are notable benefits when RPMs operate within a PMO structure, benefiting both the RPM and the broader organisation. While being embedded within a research team can foster close, direct interactions with project members, etc., the advantages of a PMO in providing stability and continuity are significant. For RPMs, a PMO offers a supportive framework where they can benefit from structured processes, shared resources, and collaborative opportunities with other RPMs, leading to enhanced efficiency and the development of best practices. The ability to work collectively on templates, routines, and standardised processes also allows RPMs to tackle common challenges more effectively. This collaborative environment, supported by the PMO, not only enhances the RPM's ability to deliver on project goals but also provides professional growth through exposure to a broader range of projects and methodologies. For the organisation, organising RPMs within a PMO aids in preserving institutional knowledge. As projects near their completion, RPMs supported by a PMO are less likely to leave due to the availability of subsequent projects or ongoing responsibilities within the PMO. This approach minimises turnover, ensuring that expertise and project-specific knowledge are retained within the organisation. In the long term, a PMO can foster an environment of continuity and reliability, allowing the institution to maintain an experienced, knowledgeable team of RPMs who can contribute to future projects and uphold consistent standards across the organisation.

Future research should focus on further identifying the professional criteria that distinguish an RPM from an RMA or PM. Can all RMAs assume the role of an RPM if required? Is there a specific category within the RMA profession that is more suited to this role than others? Can a researcher without PM training successfully assume the position of an RPM? Can an RMA without prior experience in the role successfully perform the duties of an RPM? Can a "general" PM fulfil the RPM role without significant adaptation, and can their PM experience be applied in the role of RPM? Does an RPM benefit from experience in a research position?

CONCLUSION

This paper shows that the RPM has a vital role in all phases of the collaborative research project, from ideation through transformation and execution to post-execution and project closure. We argue here that the role of the RPM is a distinctive subsection of RMA, at the intersection with general project management, and should be recognised as a specialised and mainly independent profession. Standardising the understanding of RPMs, with the possibility of establishing an RPM certification, would lead to increased professionalism and better project outcomes in the diverse world of scientific research.

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APPENDIX 1: ADDITIONAL ROLES AND FUNCTIONS COMMONLY CONNECTED TO A PROJECT

In Table 7, we have summarised a non-exclusive list of additional roles and functions commonly connected to collaborative research projects.

Table 7: Additional roles commonly connected to collaborative research projects.

Project Owner	The primary Principal Investigator is responsible for scientific and technical leadership.
Project Coordinator	The organisation responsible for the project is usually the employer of the Project Owner and Manager.
Sub-Project Manager, work package leader, and task leaders	Responsible for executing and coordinating project subparts.

Financial Officer/Manager	Responsible for financial bookkeeping and statements, usually one Financial Officer/Manager per partner, focusing mainly on their organisation.
HR Officer	Responsible for recruitment and other HR issues, usually one HR Officer per partner, focusing on their organisation.
Communication Officer/Manager	In charge of project communication and outreach.
Legal Officer	Responsible for legal negotiations and agreements. Commonly, each partner has its legal officer interacting with a project.
Training Manager	Manages training activities and compliance.
Project Members	Execute project activities, prepare reports, and contribute to project content.
Grant Writer/proposal developer	Coordinate and actively co-create all sections of a funding proposal, including writing most sections.

APPENDIX 2: ABBREVIATIONS

Abbreviation	Full Form
FTE	Full-Time Equivalent
HR	Human Resources
IP	Intellectual Property
PI	Principal Investigator
PM	Project Manager
PMO	Project Management Office
RMA	Research Management and Administration
RPM	Research Project Manager

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BIOGRAPHIES

The authors of this paper have a combined experience of more than 100 years as RPMs, managing more than 90 projects as coordinator RPM and an additional 130+ projects

as PM with a total budget exceeding 350M€ and with approximately 900 hours of formal project management training.

Cláudia Barbosa (PhD in Multimedia in Education, University of Aveiro) is Research Manager at Instituto de Telecomunicações and a research collaborator at DigiMedia. With over 17 years' experience in European Commission-funded collaborative research, she has served as coordinating manager for two NATO-SPS, four FP7, four Horizon 2020, and four Horizon Europe projects, and has participated in more than 80 projects overall. She has also led network training as a work package leader in multiple initiatives. Her research interests include research management, technology in language teaching and learning, and media multitasking in higher education. Cláudia is an active member of the Association for Learning Technology, PIC, ARMA, and EARMA; she is also on the coordination teams of BESTPRAC and the forthcoming Portuguese Association for Research Management and is a core group member of EARMA PAPM.

Lorena Cebolla Sanahuja is a Senior Research Project Manager at the University of Trento, Italy. She holds a PhD in Political Philosophy from the University of Valencia and has more than 7 years of experience in research project management and administration. At UNITN, Lorena works at the Research Management Division and acts both as RPM and RMA. As a Research Project Manager, she coordinates complex, international innovation projects, primarily in the field of biotechnologies.

Mirella Collini is the Head of the Research Management Division at the University of Trento (Italy). With a degree in Economics and Commerce and a II Level University Master in 'Expert in European Affairs for Local Government', she is a seasoned administrative and financial professional, specialised in comprehensive post-award project management, overseeing the entire project lifecycle. Her expertise includes risk and resource management, personnel selection, financial reporting, audit, and coordinating international meetings, all while building strong stakeholder relationships. Drawing on her background in private sector consultancy, she is adept at operating in multidisciplinary environments and managing resources. She is also actively involved in the professional community, serving as Vice Coordinator of the Italian Network of Research Manager Administrators, a core group member of the EARMA PAPM, and a member of the EARMA Finance and Governance Committee.

Riccarda Moser is a Senior Research Project Manager at EURAC Research – Institute of Renewable Energy, based in Bolzano, Italy. She holds a PhD in Economics and Management and brings over 14 years of experience in managing European collaborative research projects, including Horizon Europe, Horizon 2020, LIFE, and INTERREG. Her recent work focuses on coordinating large-scale EU research initiatives, with particular expertise in implementation, reporting, auditing, risk management and stakeholder engagement. She is committed to streamlining project management procedures to facilitate researchers throughout the project lifecycle, improving internal workflows and ensuring compliance with funding requirements. She also serves as an EC Expert Evaluator. She is actively engaged in the professional research management community: she is a thematic Ambassador for the Post-Award area in the RM-

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José Santos is a researcher at the Polytechnic University of Bragança (PhD, Chemical Engineering). He has also completed postgraduate studies in Professional Project Management and Environmental Technology. With over 27 years' solid experience in research and science management, he has participated in dozens of national and international R&D projects, having coordinated 10 of them. He is the author of more than 37 indexed publications. His research interests cover innovation and project management, the study of science interface professionals, and circular bioeconomy. His professional goal is to promote the understanding and implementation of effective R&D project management practices, fostering innovation and sustainable development in academic and research environments

Richard Twohig is an independent practitioner of Research Project Management. His past experience has included diverse roles as project manager for large-scale Horizon Research and Innovation Actions, COFUND Marie Skłodowska-Curie Actions, and Irish industry-academic programmes, working both in universities and private companies. He has been a PMI-certified Project Management Professional since 2010, coming from a background in industrial energy engineering prior to entering the research environment. His professional interest in theory and practice of Research Project Management led to his role as a founding member of the EARMA PAPM in 2023.

Daniel Vare is a Senior Research Project Manager at KTH Royal Institute of Technology, Stockholm. He holds a PhD in Molecular Genetics from Stockholm University and has over 12 years of experience in research project management and administration. Daniel has managed and coordinated numerous complex, multidisciplinary research projects at both national and international levels, primarily within large-scale European collaborative initiatives. He specialises in supporting researchers throughout the entire project lifecycle, with expertise in consortium setup, funding applications, project execution, reporting, budgeting, risk management, and stakeholder relations. Since 2023, he has served as one of the Chairs of the EARMA Post-Award Project Management Thematic Group. Daniel is dedicated to advancing the understanding and recognition of Research Project Management as a specialised role within Research Management and Administration (RMA), and as a distinct variant of project management. He is actively engaged in efforts to establish certification frameworks and educational initiatives for RPMs, and works to clarify the RPM role and promote professional standards and capacity building within the European research management community.

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