Chapter 3.3

Understanding Organisational Structures in RMA – An Overview of Structures and Cases in a Global Context

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Abstract

The aim of this chapter is to describe a four-type model of organisational structures and to discuss two cases, Embrapa and the Brazilian Agricultural Research Corporation, as well as additional cases at SAM-Research and the centre for shared medical support services established at the University of Bologna.

These cases should help readers understand the importance of designing distinctive, tailored-made support services while keeping these structures flexible for further adaptation under unforeseen changes.

The chapter concludes by stressing the role of institutions to steadily invest in the design of these tailored support structures and in personalised training for their support staff.

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Introduction to Organisational Structures in Research Support

Research management and administration (RMA) offices or equivalent structures are workplaces designed to support research institutions to accumulate knowledge, build trust in their collaboration networks, and increase organisational learning (Linder et al., 2004). This definition shows how the organisational structure is one of the environmental factors very likely to affect the availability of resources and the way in which projects are, more or less successfully, conducted (PMI, 2013).

The organisational structures designed for RMA processes can be set up in several ways, for example, according to their size, structure, culture, and practices of the institution. However, experience shows (Hansen & Moreland, 2004; Squilla et al., 2017) that migration from one organisational model to another happens, due to a variety of reasons. This includes contextual or more strategic changes such as an increase in team size and/or the move to an upper level of maturity of the institution in RMA as depicted in Chapter 3.2. While other publications (Starbuck, 2014) describe how RMA built-in processes have been designed not only tailored to institutional needs but also to the skills of the existing workforce.

Additionally, as explored in Chapter 3.2, the knowledge regarding RMA primarily comes from Higher Education (HE) studies and so focusses on universities as the core institution; nevertheless, the issues investigated can be translated into a vast array of research-related institutions. As such, in this chapter, we refer both to universities as well as research organisations; in doing so, we gather cases of research institutions in general, for example, Embrapa in Brazil, as well universities such as the SAM-Research at Bologna University.

This chapter presents some theoretical concepts about organisational structures in universities. Thereafter, the chapter describes the most frequent models of organisational structures found in the literature so as to provide an overview of how these structures can look and work; this overview could also inspire new implementations or improvements of existing structures or may trigger a debate on how to organise more effective, people friendly, and (custom-) tailored RMA activities.

Regarding organisational structures in today's RMA, the literature has not identified an optimal model, thus, in this chapter, we refer to the following four types of organisational structure, based on the study performed by Oliveira (2020), and these are the following: (1) project management offices (PMOs), (2) research offices (ROs) and shared services centre (SSC), (3) distributed teams (DTs), and (4) third-party support.

Organisational Structures Conceptualised in Universities and Beyond

Organisational structures, particularly in universities, may be affected by the 'loose coupling theory' described by Weick (1976). The theory explains why different parts of an organisation may be designed to be loosely related to one another, while their staff are expected to play a crucial role in the overall performance of the institution even to the extent of overcoming any deficiency of organisational planning. This concept has seldom been used to study Higher Education Institutions (HEIs). Exception to this has been Becher & Kogan (1992) who recognised that some general characteristics, for example, loose coupling, can be attributed to any contemporary HE systems, more often with distinctions between these systems in different countries.

Studies on organisational structures have primarily centred around the analysis of HEIs and organisations where these structures, in research support or whatever central or peripheral function, can be found (Tight, 2003). These studies primarily refer to knowledge of the HE sector or simply to the discipline or field of HE studies with its array of issues and challenges (Altbach, 1998, 2013, 2016; Barnett, 1990, 1997; Clark, 1983, 1998, 2008; Enders, 2004; Gibbons, 1998; Marginson, 2007, 2022; Scott, 2010, 2011, 2019, 2022; Shattock, 2003, 2014; Watson, 2000, 2007a, 2007b, 2008). Tight (2020) also points out that HE studies are sometimes referred to as a discipline, though more often referred to as a field, sector, or area of study. This point should be more widely taken into account in relation to other disciplines intersecting with its domain, for example, RMA.

Overall, the studies of internal university organisations, as referred to by Clark (2008) in his account of an innovative organisation, show a great deal of diversity. These studies have covered a vast array of issues, including university as a global institution, management of successful universities, civic and community engagement in today's universities, modernising reforms in university governance, as well as global HE, globalisation, market competition, public goods, and the future of the university.

Among others, one of the leading themes in researching HE has been centred on changes within universities. For example, studies conducted on Becher and Kogan's (1992) four levels of structural changes likely to be found in any HE system (Musselin, 2005), they distinguished four levels of change as 'changes to the system as a whole', 'changes at the institutional level', 'changes affecting the basic unit', and 'Innovation and the individual'. Importantly, they argue that transformation at one level does not automatically imply transformation at another.

Furthermore, the literature has noted how these changes have led to the creation of entrepreneurial or hybrid units (Clark, 1998; Slaughter & Leslie, 1997; Sporn, 2010). Hybrid structures are those that earn a substantial quote of their incomes from the market (Mouwen, 2000). These structures cannot be confused with entrepreneurial universities, however, which actively seek to innovate on their own terms (Clark, 1998; Shattock, 2003, 2005).

Organisational Structures in Research Support Re-conceptualised in and beyond Universities

In this section, we set the stage for the basic distinctions useful to understand organisational structures. While Altbach (1998) refers to 'the University as Centre and Periphery', one of the core distinctions is the dualism of organisational 'Centre and Periphery'. This definition embraces the central administration with its divisions and varied offices on the one hand, and the local and decentralised departments and offices on the other. Furthermore, this dualism has been widely covered in HE studies in regard to distinctiveness and uniqueness in universities, silos effect and communication between the two sides, elements of effective, modern universities, and working cultures of academic and professional staff (Clark, 1983, 1998; Santos et al., 2021a; Shattock, 2003, 2014; Temple, 2012, 2014).

This dualism has been recently explored in the study of RMAs working in central and local offices (Allen-Collinson, 2006, 2009; Shelley, 2010), and specifically or broadly on what it means to find yourself in the Centre and in the Periphery of any research support structure (Crespi et al., 2019; Oliveira & Bonacelli, 2019; Poli, 2018b; Poli & Hancock, 2010; Poli et al., 2016; Salles-filho & Bonacelli, 2010; Siesling et al., 2017). This distinction is expected to shed light on differences in culture, attitude, and behaviour between professionals finding themselves in central research

support offices and those working locally in research support units in departments, centres, and campuses depending on the overall structure of their institution. This distinction between central and peripheral may help us better understand the workforce performing on one or on the other side of the organisational structure. This analytical framework may be beneficial not only in relation to tasks and who does what, but also to motivation, proximity to decisions, and clarity on the boundaries of any research support service.

The broad knowledge of where a unit or centre lies in the overall structure of any institution should be one of the core elements to take into account at times of designing their peculiar, distinctive research support structures. However, we are aware that this decision may not be easy to make and so cannot be unequivocally set in clear terms in any organisational structure.

A Four-type Model of Organisational Structure in Research Support

Research management is as complex as the research itself. It requires tailored RMA units that reflect and take into consideration the complexities of research projects and cross-cultural research partnerships. Organisational structures should therefore be considered when designing and structuring tailored RMA units or offices. There are some approaches predominantly found in literature and references consulted that, based on a study performed by Oliveira (2020), could be summarised in four types of organisational structure that are presented below.

1) Project Management Offices

The organisation model proposed by the Project Management Institute (https://www.pmi.org/) can be probably regarded as the most known because it has been adopted by several companies. The PMO is a department that defines and maintains best practices and standards for the process's governance related to the execution of projects with the objective of improving the performance of the managed projects (PMI, 2013). The PMO can also act as a control layer between the top and project management teams and so it could be a relevant knowledge broker in project-based organisations, if well established (Pemsel & Wiewiora, 2013).

Within this organisational framework, Monteiro et al. (2016) identify 12 typologies of PMO models that have been applied to organisational structures in RMA since the early 1990s; They suggest between three and five models as the ones that should be established [with the decision on the most appropriate one] depending on the position of the office in the organisational hierarchy or on the degrees of authority and autonomy given to the project management practices. For instance, many typologies propose a Project Support Office (PSO), which provides administrative support, coupled or not with an enterprise PMO, which acts in a strategic position with project prioritisation and portfolio management. According to the authors, the motivation to implement PMOs is to improve project risk control and to monitor project performance.

In addition to the choice of the PMO model, Wedekind and Philbin (2018) analysed the implementation of a university-based PMO in the European context. They showed the importance of building up a dedicated project management team in some specific circumstances, for example, to handle the compelling, challenging needs of large-scale research consortium projects. In support of this resourceful team, they highlight the continuous improvement of best practices and knowledge with their direct impact on risk mitigation and on access to complementary resources.

There are several case studies of Brazilian universities and research institutions that implemented research project offices based on the PMO model (Carvalho et al., 2011; Junqueira et al., 2015; Lima et al., 2014; Telles et al., 2007).

However, the idea described here is to show how the Project Management methodology is only a small part of RMA, the PMO models proposed by such methodology serve all kinds of organisations and do not address research specificities.

PMOs are therefore the only type of organisation that a research institution could adopt with the required tailoring for research projects. However, this type of structure could be combined with other types to meet the demands of the RMA professionals in that institution.

2) Research Office and Shared Services Center

When we refer to universities, the most common organisational structure we find is the RO, sometimes also called Research Management Office, Research Support Office, Sponsored Research Services, or Grants Office. The scope of ROs is wider than PMOs (the RO may also incorporate a PMO) because it goes beyond the project management processes and usually includes a range of high education management (HEM) activities.

According to Green and Langley (2009), the ROs carry out several functions spanning from strategic to operational ones, such as strategic foresight, benchmarking, networking with funders, portfolio management and reporting, contract negotiation, project management of large contracts and bids, knowledge transfer and intellectual property, management information and reporting. Although the size and organisation of ROs are very diverse, most of the ROs surveyed have a large volume of resources to manage, are preferably organised in large team sizes, and follow the design of devolved or centralised structures. Authors found that the most highly centralised institutions tended to have research portfolios of a lower value and that devolved structures faced issues of lack of clarity over roles and responsibilities, risks of redundancies, and a sense of isolation by staff. Campbell (2010) has also identified in a large literature review two major types of Research Administrators: Central Research Administrators and Departmental Research Administrators, which reflect the existence of central and devolved structures.

The ROs, therefore, could be alternately structured according to a SSC model to provide research support services. SSC is the combination and concentration of a subset of business functions of the company in a central department, inspired by the outsourcing concept, but applied inside the corporation. The objective is to promote efficiency, value generation, cost savings, and improved services (Bergeron, 2003). Squilla et al. (2017), following an SSC implementation in an American university, identified many benefits in the SSC model applied to RMA, such as purchasing services integration, consistent and stable project support, more transparency, and improved accountability.

From the overview above, it emerges that ROs can centralise strategic and operational functions or be organised in smaller and specialised offices performing under the control of a central unit. Alternatively, they can be structured according to the SSC model. More often, the centralised offices may face unexpected challenges such as a physical distance of the academic staff's location, as well as norms and rules including institutional hierarchy and rigidity, which prevents timely adaptation to changing circumstances.

3) Distributed Teams

Furthermore, many small institutions relying more on individual capabilities than on structures may opt to physically place research support staff within faculties or departments (Starbuck, 2014), which we can call DTs.

The Research Administration as a Profession (RAAAP) Survey executed in 2016 found that 24.4% of the RMA professionals are part-time of 2,647 respondents and the recent round of this survey found 19.7% of 4,146 respondents in 2022 (Kerridge, Dutta, et al., 2022; Kerridge & Scott, 2018a); this means that in the regions where the profession is not recognised or in small institutions, it is very common for research or administrative staff to sit in their functional department and perform RMA tasks as part of their duties with a part-time type of contract. Downsides of this model are reported to staff isolation, limited possibilities of job progression, difficulties in finding relevant training opportunities, restricted access to central budget and resources, and lack of governance (Starbuck, 2014).

The case of Embrapa described in the next section shows the adoption of part-time professionals previously allocated to administrative departments of the institution, that are trained to start to support research projects in RMA tasks. Usually, this happens at the beginning of the organisation of RMA processes inside the institutions. In some cases, when the volume of projects and the budget to be managed are significant and start to fill almost 100% of the timesheet of the professional(s), the institution starts realising the relevance of RMA tasks and may decide to formalise the structure and the group of employees with the implementation of a dedicated department.

4) Third-party Support

In small institutions or regions where the RMA is less known, they might not have professionals with the required skills to perform RMA tasks. In other cases, institutions may have projects requiring high administrative support so that they need to hire more RMA professionals. In these situations, solutions may be to hire a Third-Party consultant that provides professional RMA services. The disadvantage of this kind of structure is that outsourcing hampers the establishment of relations between researchers and RMA professionals within the institution and can make it difficult to understand research project demands. The downside of this type of structure may be the lack of any interpersonal relationship between RMAs and clients. This should be taken into account by institutions.

More Models to Consider

Furthermore, there may be more options for research support structures available in today's institutions, when referring to shared services between institutions, for example, those developed by The Guild of European Research-Intensive Universities. They foster collaboration, share best practices and enable mutual learning between research support offices, and organise workshops on topics defined by the members. They may also work on building the capacity of members in relation to European funding programs such as Horizon 2020 and Horizon Europe.[1]

Moving from Theory to Practice

After discussing forms of knowledge in RMA in Chapter 3.2, we move on to mix and match these forms with some examples arising from a globalised context; we aim at pointing out the importance of using the gained knowledge to design tailored

[1]https://www.the-guild.eu/activities/research-support-offices.html

structures, to build up more resourceful teams, and to maintain a certain level of flexibility. These aspects will be indispensable to revising organisational structures according to structural changes or unexpected circumstances.

Overall, organisational structures are expected to vary across regions. Below we will consider the broad picture of organisational research support in a Brazilian institution, Embrapa. Afterwards, we will look at a highly specialised research support division in an Italian multicampus university.

On the one hand, most of Brazil's HEIs and public bodies have not established research support offices yet. The same is likely to happen in the majority of public research institutions, which may have a Research & Development department, but this department will not necessarily provide formal administrative staff to support researchers due to a lack of resources in most cases, except in projects with a large amount of budget. Then researchers in public research institutions are often expected not only to design but also manage their projects more often without administrative support. Sometimes administrative offices support researchers on demand, even if it is neither their mission nor one of their daily tasks; often researchers cannot proactively perform administrative activities because they are dedicated to research projects on a full-time basis. Outstanding researchers and/or laboratories may hire support staff, such as secretaries or RMAs, paying their salaries from the project budget. This lack of dedicated support results from several causes. Perhaps, without considering the lack of financial resources, the main one is an overall shortage of skilled professionals able to work in research support. This lack becomes apparent when the institutional strategy is not sufficiently focussed on research resources/purchasing and research projects demand to devote resources to its development or improvement. However, in Brazil, there is a movement to institutionalise the RMA domain. Some universities and public research institutions have established a physical department and teams dedicated to supporting the management of funded research projects. This organisational structure represents an exception, and the majority of Brazilian institutions still miss this kind of dedicated, specialised department (Oliveira & Bonacelli, 2019; Oliveira, 2020).

On the other hand, we acknowledge that the situation in Italy is quite different. HEIs have established their research support offices, also those of small size, and have appointed dedicated staff to work in these offices. Training of staff is primarily provided at the institutional level. More recently, we have observed some training opportunities arising at the national level primarily run through the informal network of RMAs (see Chapter 4.4) or through other public or private bodies. Therefore, Italian universities can often count on dedicated staff and services for research support. Italian researchers can rely on these services at the pre- and post-award phases of their projects depending on the size and capacity of their institution.

The following two case studies make evident some of the concepts and forms of knowledge in RMA discussed in Chapter 3.2.

Case Study in Italy

SAM the Medical Shared Support Services at the University of Bologna (Unibo)

Within a national and university context in permanent transition (see Chapter 4.3, Poli & Taccone), a new division called Medical Shared Support Services (SAM) was established in July 2018. In the first phase, only the educational support services

were shared among the three medical departments (there are no other medical departments at Unibo with the exception of veterinary medicine which already functions with shared services).

This innovative structure was conceived to share support services in the areas of education, research, and in further related financial management of the three medical departments. Furthermore, the common support services should manage the relationship between the university and local and national health systems. SAM may therefore be regarded as an innovative structure that gathers three medical departments under the same overarching structure acting as the coordinator unit of these shared support services.

Centric Versus Peripheral Organisational Models

Regarding its positioning at the Centre or the Periphery of the university, from the description above SAM, cannot unequivocally be classified into any of the two categories.

On the one hand, SAM can be regarded as one of the central divisions within the central administration of the university; moreover, it could be associated with any of the university campuses because of its connection with the medical branches recently established in those campuses (in Ravenna and Forlì, but also in Rimini and Cesena).

On the other hand, SAM is located in the middle – between the campuses and the central administration – and can be regarded as a hybrid structure to help understand how the university may function if all managerial services were shared even across disciplinary groups. Regarding SAM as a hybrid structure, the model reflects what was earlier envisaged by Mouwen (2000). Overall, however, SAM looks more like a central division when considering its high level of disciplinary and professional specialisation. After all, we may ask where should we position SAM, in the centre or in the periphery of its multi-campus university?

Since its conception, SAM was expected to share support services with its medical community, whilst the different university divisions in the central administration of the university – from HR to education, from research to estate management – were expected to deliver specialised support services to SAM. Following the purpose of sharing support services, SAM was conceived as a highly specialised structure able to offer a global, decentralised support service to medical departments. This innovative structure is centred on the core values of subsidiarity and these are regarded as the fundamental ones to keep the pace of a university in permanent transition with a never-ending, growing complexity of the landscape within a multicampus, global university. The only reference that describes SAM can be found in the university boards' deliberations that date back to the time of its establishment (2018).

One more core feature of SAM is to serve as a point of contact with the regional and national health sectors. As such it reinforces the need to work on the implementation of a flexible, adaptable support structure expected to be highly specialised also if placed in a context of limited resources, in particular human resources.

Form of Knowledge Leading to SAM Development

The conception of the original plan, with its source of highly specialised knowledge in the field of HE management (HEM), can be dated back to 2014. At that time three leading professionals in the medical area came together to attend a master's in HEM in Milan. Their final, joint project (Chiusoli et al., 2014) was the overall design of what SAM was expected to be. The strategy included an analysis of the feasibility of the whole structure with a good number of examples of how activities could have been designed and with what expected results, and how to share processes of procurement and building up good practices.

Looking at the original planning, it turned out somewhat differently from how the current organisation is structured. It was primarily designed to provide support services to its three departments. In addition, some of the support services originally envisaged have not been designed nor provided, for example, a bespoke information management system.

The balance between the provision of highly specialised services to its departments as a decentralised structure and the necessity of proximity to the central divisions was fixed so as to keep the structure flexible enough to allow further implementation whenever needed. SAM has fully implemented some of its leading features (for example, professional personnel, shared services for procurements, research support, budgeting and reporting, and training), whilst some of its goals, for example, the integration into the SAM workforce of technical personnel supporting research in laboratories, has not yet been achieved.

SAM-Research

Since the original planning has not been fully implemented, adaptability and flexibility have become core values at SAM. In its relationship with other central divisions and particularly with the central research division, a closer collaboration has developed between SAM and ARIC divisions to avoid oversight in supervision and to cope with the surge of activities. SAM-Research is the first example of a decentralised, independent division deeply interconnected to its internal functions with central divisions, with the entire university and its campuses on board.

SAM-Research was expected to design and implement a specialised service to offer researchers in the medical field support in all the phases of projects not led by Unibo (pre-award and post-award). At the same time, SAM was expected to rely on ARIC for the pre-award work on European competitive projects where Unibo is acting as the leading partner and for further highly specialised activities. Thus, SAM-Research manages its services and provides support to academics and researchers and specialised physicians, with a deep knowledge of mechanisms and specificities of the medical area.

SAM-Research is currently divided into four offices: third mission, medical trials for profit, as well as non-profit/institutional projects, and donations. A fourth office manages the competitive projects. In 2022, between 100 and 150 proposals were submitted and more than 50 projects were funded accounting for an additional funding of up to €4.5M. Overall SAM has an active portfolio consisting of approximately 170 funded grants and approximately 20 staff members. Only the HE professionals and a legal advisor are members of this staff but no technicians or other staff working in medical laboratories.

Even in SAM-Research, the dichotomy between the Centre and Periphery within a multi-campus university cannot be neglected. SAM could be regarded as a medical school RO as part of a larger administrative structure or a discipline-based central administration in itself (like the University Medical Centre in Groningen or the University Medical Centre in Utrecht, both in The Netherlands). SAM certainly covers educational, research, staff, and more support services.

Regarding the forms of knowledge more likely to be used, for Unibo-led and non-led projects, we may distinguish between these forms along the project life cycle. For example, on issues of accounting, ARIC as the central research division of the university can only provide more general advice and be focussed on PM and RMA specifics forms of knowledge since its professionals are not familiar with the particular accounts and the set of requirements of the medical field as much as the staff at SAM.

whilst SAM-Research is expected to rely on HEM and RMA specifics altogether. The latter aspect also stresses the importance for staff at SAM-Research to be equipped with general as well as specific bodies of knowledge.

In the current configuration, SAM-Research may ensure the provision of a wide set of services to researchers. However, its support has limitations, and SAM cannot cover all tasks throughout the research project lifecycle for its community. And we know that this problem could not be solved simply by increasing the number of personnel since this is only one of the several issues at stake; in fact, the variety of funding schemes handled in the medical area may make the recruitment of new, specialised staff very difficult, whilst the necessity to assure training for this new staff may be a burden for SAM not easy to overcome.

The Professionalisation of the Workforce

Regarding staff at SAM-Research, the awareness of the professional profile is a topic to be explained and discussed further.

One more essential aspect refers to the high variability within its staff. While on the one hand, SAM-Research can count on its highly specialised workforce, on the other hand, part of this workforce works for and within the three medical departments, for example as coordinators in their respective laboratories to facilitate the use of these premises and their equipment …. This latter workforce is still controlled by the department heads and, unlike administrative and accounting support, and is faced with uncodified and often unclear mechanisms of coordination.

Another aspect is that these technical assistants working in its laboratories struggle to find unambiguous professional recognition nationally and they hardly find their place or community in professional associations, for example in those gathering RMAs. These points should be further investigated regarding the professional workforce at SAM-Research.

In conclusion, SAM-Research is a hybrid support structure connected with its centre that depends on it for the provision of resources, including personnel, training, and professional development. At the same time, they work with other RMAs in different university departments.

Case Study in Brazil

The Brazilian Agricultural Research Corporation (Embrapa)

Brazilian Agricultural Research Corporation (Embrapa) is one of the largest public research institutions in Brazil. It was established in 1973 by the Brazilian Ministry of Agriculture, Livestock and Food Supply (MAPA) to develop technologies, products, and services for tropical agriculture and animal farming. The main goals of the institution are to achieve food security and a leading position in the international market for food, fibre and energy.[2] This section presents some relevant achievements of Embrapa during its capacity-building journey to engage professionals and implement processes and structures related to RMA. Embrapa has participated in a pioneering training program provided by a state public funding agency to help set up research support offices in RMA. This program was important to drive the start of the implementation

[2]https://www.embrapa.br/en/sobre-a-embrapa

of RMA offices in some units of Embrapa located in São Paulo state, and also other research institutions and universities in the region.

The São Paulo Research Foundation (FAPESP[3]) is one of the main public funding agencies in Brazil and, in 2020, it provided R$978.3 million (approx US$188.3 million) for 21,233 research projects and related scholarships (FAPESP, 2020). FAPESP supports only research institutions located in São Paulo state with tax resources collected and distributed within the state. In order to increase the efficiency in the management of project submission, accountability and other pre-award and post-award processes, FAPESP created the 'Training Program for Implementation of an Institutional Support Office for Researchers (EAIP)' (FAPESP, 2022).

The Professionalisation of the Workforce

This training program was created in 2010, with 27 hours of duration in four days with about six participants in each class to learn and implement processes or adjust them in their institutions according to the best practices learned in the course. After about one year, FAPESP visits each trained institution to get feedback and provide additional support (FAPESP, 2022; Oliveira, 2020). From 2010 to 2017, FAPESP trained 538 fellows allocated in 160 departments of 43 research institutions. An average of 67 people were trained per year and a total of 89 classes and 2,403 hours of training were provided. According to Oliveira and Bonacelli (2019, p. 75),

> the content of the EAIP program course consists of institutional information about the organisation structure and main processes of the funding agency; detailed information about the types of grants, agency standards and regulations; detailed information about administrative, finance, audit and importation processes; detailed information about scientific management and research projects evaluation process; and main procedures related to the information systems used to submit proposals and monitor expenses and accountability. These subjects are directly related to operational pre- and post-award processes.

In 2017, more than 1,500 institutions were eligible and still not trained, thus there is potential for expansion within the state and space to create similar initiatives in other Brazilian states. In 2023, the program is still active and there are about 155 offices implemented by training participants.[4]

One of the institutions that participated in the EAIP training is Embrapa. It has about 8,000 employees (approx 2,000 researchers) allocated in 43 research and services units distributed among several states of the country (Embrapa, 2022). Each decentralised unit has a dedicated local Research and Development (R&D) department, a Technology Transfer (TT) department, an Administrative department, and an Organisational Development (OD) department. Embrapa has organised its R&D projects in programs and portfolios (34 portfolios in 2019) that are managed according to a group of defined and institutionalised processes and rules denominated 'Embrapa Management System'. Embrapa launches periodic calls to select and fund the most impacting project proposals in line with the strategic themes proposed according to national demands (Crespi et al., 2019).

[3]https://fapesp.br/en

[4]http://fapesp.br/relacao-das-instituicoes-que-ja-receberam-o-treinamento

Embrapa presents an intriguing case for RMA practices. The insitution is well-known in the country and has units of different sizes in several regions and states reflecting a high level of diversity of organisational profiles. In 2019, Oliveira (2020) surveyed all decentralised units with the purpose of performing an internal benchmarking to identify the most frequent RMA practices and organisational structures existing in the institution (Ajelabi & Tang, 2010). The survey was sent to 42 units. Among 24 respondents, Oliveira identified units with formalised RMA offices (nine units) running some of the main RMA pre-award or post-award processes in small teams (one to six people allocated) and eight units with non-formal RMA structures with (approx one to ten people allocated), which means that they had adopted the organisational model of DTs. The last seven units that participated in the survey informed that they do not have professionals allocated or organisational structure implemented to support researchers in RMA activities, which means that RMA activities are primarily performed by researchers or delegated to non-trained administrative staff at their request.

Results from the survey suggested that the main bottleneck to implementing RMA offices is the availability of human resources, certainly exacerbated by the restrictions and rigid rules imposed upon public institutions in hiring their personnel. Results also show that the RMA as a profession is hardly known by most of the units. Only one respondent was a member of a RMA association and only two ever attended EAIP training. Although Embrapa has a very mature and strategic Management System which monitors and control portfolios and research projects, it does not include RMA processes nor the way how knowledge is shared among RMAs. Each unit has a department called Internal Technical Committee that ensures that project submissions and monitoring are compliant with the Management System. Each unit, however, is autonomous to decide the kind of support they provide (or not provide) for researchers to the elaboration of proposals and the execution of projects at the operational level (Oliveira, 2020).

Model of Organisational Structure

Another study run with the Embrapa Agricultural Informatics (Oliveira, 2020) focussed on a decentralised unit located in São Paulo state. This unit participated in the benchmarking survey and also in the EAIP training program from FAPESP in 2016. It implemented a Research PSO in 2017 based on PMBoK practices and its PMO model (PMI, 2013) consisting of a DT with two part-time employees and two interns supporting pilot projects. In 2019, the organisational structure of this unit was formalised with one full-time employee managing a DT with several responsibilities, such as external fundraising, assistance to principal investigators in financial management, purchasing and relationship with funding agencies, sponsors and supporting foundations, management of external resources, and preparation of monitoring reports to decision making and accountability. In 2018, this unit was instrumental in increasing external funding by 54%. This result led to the establishment of a dedicated RMA structure.

The above-described case presents discrepancies in the implementation of RMA practices within a large public research institution and illustrates the stage of the institutionalisation of RMA in Brazil. Although there are some initiatives such as the EAIP program, these activities are very nascent, and the path to gaining recognition for the RMA profession in the country is going to be an extended journey.

The Embrapa case is a practical example of the loose coupling theory (Weick, 1976). Each devolved unit follows the official management system and, at the same time, has the autonomy to organise its operation and research activities according to its profile and culture. Looking at Embrapa we can reflect on the dichotomy between centre and periphery in its operation, because knowledge generation is, or used to be, its core business. Lately, however, the scarce public resources are pressuring for external funding raising, alternative sources of revenue and more efficiency. Thus, some of the devolved units (Periphery) are trying to reorganise their RMA processes, and this can only be done under the managerial control of the headquarters.

Conclusion

This chapter highlighted the distinctiveness of today's organisational structures in research support, which represents one of the most impactful factors in any institution. They also point to the importance of tailoring a research support structure to the local needs so it will continue adapt in this emerging changes as shown in the example of SAM-Research.

Thus, this chapter reminds us how these structures should be kept flexible for the staff as well as for the overall effectiveness of their profession so it can embrace challenges in further institutional self-studies, as suggested by Watson and Maddison (2005).

One more conclusion highlights the importance of acknowledging the role of centre and periphery in organisational context. For decentralised units, the range and variety of support services matter as for SAM-Research, for example that heavily depends on central resources. Often, there is some ambiguity surrounding what the centre does or is expected to do for or with its periphery, and this can undermine the overall performance not only of the unit but of the whole institution. The dichotomy between centre and periphery also reminds us of the added value of subsidiarity in relation to research support services, as shown for SAM-Research in a multicampus university. While the discussion on the organisational centre and its periphery strengthens the interdependence between different sets of knowledge structures could be used to raise awareness towards the professional development within a structure.

Training that embeds the most appropriate forms of knowledge as well as the adequate level of professionalism of staff in research support are evident both at Embrapa and at SAM-Research. They may be aimed at lifting the institution's capacity to scale up and elevate the level of maturity in the long run, but this is not necessarily guaranteed.

Overall, we suggest that investing in staff professionalism could promote institution's RMA maturity; by doing so, institutions can showcase how much they care about people in today's organisations and how important they are, or should be, in the whole process as the field of RMA grows as a profession around the globe.

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