





Chapter 2.6

The Establishment of a Research Project Management Office at a Medical School in University of São Paulo, FMRP-USP, Brazil

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Abstract

The objective of this chapter is to present the creation of the scientific research project management office at the Ribeirão Preto Medical School, University of São Paulo (FMRP-USP), Brazil. The case is about the adoption of Research Management and Administration (RMA) practices in the largest university in Brazil and presents data for the period of 10 years and relevant increase in the number of projects and budget volume managed (USD 2–21 mi) even with a small team (2–5 people). This is a successful case of a participant of The São Paulo Research Foundation (FAPESP) program and a relevant reference to encourage other Brazilian universities to implement the RMA structure. The implementation of RMA practices is not only possible but can be a game changer in a context with scarce resources and the proper policies can make a difference to the RMA professionalisation in the country.

Keywords: Project Management; Project Management Office; scientific research; implementation; RMA structure; case study; Brazil

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Research Ecosystem

The main sources of funding for scientific research in Brazil, as mentioned in more detail in Chapter 5.8 (Juk & Baisch, 2023), are the National Council for Scientific and Technological Development (CNPq¹), the Coordination for the Improvement of Higher Education Personnel (CAPES²) and State Research Support Foundations (FAPs³) are coordinated by The National Council of State Research Support Foundations (CONFAP⁴). The FAP with the highest volume of budget and projects is the Sao Paulo Research Foundation (FAPESP⁵). There are also The Funding Authority for Studies and Projects (FINEP⁶) and The National Bank for Economic and Social Development (BNDES⁷).

On top of all these funding bodies, there are tax incentive and innovation promotion laws are federal and state laws that aim to encourage the development of science, technology and innovation in the country. The most important of these laws (Law No. 11,196, of November 21, 2005, popularised as the Good Law⁸) grants tax incentives to companies focused on research and development.

To explain how the funding system works in Brazil, we see how the National Confederation of Industry (CNI⁹) released a survey carried out with 196 medium and large industrial and service companies at the 9th Brazilian Congress of Industry Innovation, on 9 and 10 March 2022: in this survey, only 10% of them used financing public lines to research and development throughout 2020. According to the data, 89% of the companies consulted financed the innovation activity with their own resources.

To complement this overview of funding mechanisms, we consider UNESCO's latest scientific report (2021)¹⁰ highlighted that while research spending increased in most regions between 2014 and 2018, 80% of countries still invest less than 1% of their gross domestic product (GDP) in research and development (in this period, Brazil GDP went from 1.27% to 1.26%). This is because, between 2015 and 2018, the research budget spent by Brazilian federal agencies decreased by 25%.

However, an exception in this scenario is the case of the state of São Paulo, which is responsible for a significant portion of public funding. It can be attributed to a combination of solid public universities (University of Sao Paulo (USP), State University of Campinas (UNICAMP), São Paulo State University (UNESP)) and research funds managed by FAPESP, which has an annual budget corresponding to 1% of the state's total tax revenue, in addition to operational autonomy.

USP has the 9th scientific research production in the world, according to the ranking prepared by the Center for Studies in Science and Technology of the University of Leiden, which evaluated scientific production from 2016 to 2019, considering 1,225 universities from 69 countries, released on 2 June 2021.¹¹ According to this ranking, USP remains the only Ibero-American institution to be among the 50 best in the world.

¹ <https://www.gov.br/cnpq/pt-br>

² <https://www.gov.br/capes/pt-br>

³ <https://confap.org.br/pt/faps>

⁴ <https://www.confap.org.br/>

⁵ <https://fapesp.br/>

⁶ <http://www.finep.gov.br/>

⁷ <https://www.bndes.gov.br/wps/portal/site/home>

⁸ https://www.planalto.gov.br/ccivil_03/_Ato2004-2006/2005/Lei/L11196.htm

⁹ <https://www.portaldaindustria.com.br/cni/>

¹⁰ https://unesdoc.unesco.org/ark:/48223/pf0000377250_por

¹¹ <https://jornal.usp.br/institucional/usp-e-a-nona-universidade-que-mais-produz-pesquisa-no-mundo-segundo-ranking-de-leiden/>

Other Brazilian institutions ranked were UNESP, in 139th place; UNICAMP, in 174th; and the Federal University of Rio Grande do Sul (UFRGS), in 183rd place.

Another ranking, released on 16 September 2021, by the *Times Higher Education*, ranked USP as the 84th best university in the world in the area of Health, followed by UNICAMP, UFRGS and Federal University of Sergipe (UFS), ranked 251–300.

Within this role, Elsevier published the work carried out by a team from Stanford University indicating researchers from Ribeirão Preto Medical School, University of São Paulo (FMRP-USP) are among the 100,000 most influential researchers in the world (Baas et al., 2021).

The scenario depicted above puts us in front of a challenge, that is, the management of funded research and how this looks in Brazil. In fact, Cunningham et al. (2012) report that scientists are encouraged by their institutions to request public funding for research development, but when they receive it, they do not have adequate institutional support. This study indicates that the most significant inhibiting factor in conducting publicly funded research was management: all respondents explained that their time is consumed doing management rather than carrying out research.

Looking specifically at research management and its structures in Brazil, we know that project management offices can have various roles and functions (Pellegrinelli & Garagna, 2009), sizes and structures (Souza & Evaristo, 2006). Ideally, these structures work throughout the life cycle of a project, from the search for funding to its preparation, financial management (bureaucratic part including accountability), as well as managing the execution of the project itself.

A study carried out by CONFIES¹² between November and December 2016 highlighted that a researcher spends, on average, 33% of their time-solving bureaucratic problems that affect, mainly, the purchase of materials, goods and inputs used in the laboratories of higher education and scientific and technological research institutions. The survey was based on interviews with 301 Brazilian researchers who coordinate research projects in 34 federal universities, distributed in 23 states and the Federal District. Considering these results, the former director of CONFIES, Fernando Pergrino, states that this situation is alarming for the country, since 75% of the projects are financed by the public sector, that is, they are guided by the rules of the government itself (Junqueira, 2017).

Given the context described above, however, in addition to academic and professional interest, the management of scientific research projects has attracted the attention of institutions and funders in Brazil. The case described in this chapter is a standard of the locus where the development of RMA is more evolved in Brazil: universities from São Paulo state, health faculties and health research institutions, where most of the funding research projects are concentrated in the country (Oliveira & Bonacelli, 2019). It is important to reinforce that the presented case cannot be generalised to the whole country that has a diversity of realities regarding funding, research structure and universities due to tax distribution and social economic situation of each region and federal state.

Although there is already an association of professionals in Brazil as mentioned in Chapter 5.8 (Juk & Baisch, 2023), due to the incipience of the RMA area in the country, the professionals working with RMA activities do not recognise themselves as part of this community. This situation makes it difficult to map the quantity and profile of these professionals in Brazil until the moment. Because of this, the implementation of

¹² <http://confies.org.br/institucional/burocracia-consome-mais-de-30-do-tempo-dos-cientistas-constata-pesquisa/>

professional structures inside universities and research institutions is one of the ways to value and recognise the RMA professionals and a starting point to their self-recognition.

About FMRP-USP

Created in 1934, USP is a public university, maintained by the State of São Paulo and linked to the Secretariat of Economic Development. USP has eight campuses with more than 40 faculties,¹³ 183 courses and more than 50,000 students.

The Ribeirão Preto Campus is formed by the eight units: Ribeirão Preto School of Physical Education and Sport (EEFE), Ribeirão Preto College of Nursing (EERP), Ribeirão Preto College of Pharmaceutical Sciences (FCFRP), Ribeirão Preto Law School (FDRP), School of Economics, Business Administration and Accounting at Ribeirão Preto (FEARP), Faculty of Philosophy, Sciences and Letters of Ribeirão Preto (FFCLRP), Ribeirão Preto Medical School (FMRP) and Ribeirão Preto Dental School (FORP).

Created in 1952, FMRP-USP currently has 299 professors distributed in 16 departments (Biochemistry and Immunology, Cellular and Molecular Biology and Pathogenic Bioagents, Health Sciences, Surgery and Anatomy, Internal Medicine, Pharmacology, Physiology, Genetics, Gynecology and Obstetrics, Medical, Hematology and Clinical Oncology, Social Medicine, Neurosciences and Behavioral Sciences, Ophthalmology, Otorhinolaryngology and Head and Neck Surgery, Orthopedics and Anesthesiology, Pathology and Legal Medicine and Child Care and Pediatrics); it also has 415 technical and administrative staff working in all its departments.

The project management office is not a structure that is part of the organisational chart of all units. In fact, this support to the researcher is offered according to the characteristics of the project, that is, the number and complexity of research funding have determined the implementation of this type of office.

Creation of the Scientific Research Project Management Office at FMRP-USP

The Research Pro-Rector (PRP-USP), in discussion with a group of six university units (including FMRP-USP) in meetings held between July and October 2010, proposed the implementation of pilot offices for the management of scientific research projects. Public funding was something that could not be neglected given its importance at the university.

However, as soon as the offices began to function, it became necessary to provide adequate training to managers, so that support for scientists is in line with the procedures required by the funding agencies. For FAPESP, the idea of creating a training program for the teams came in October 2010. Currently, this training is prioritised for institutions ‘that already have in their organisational structure a work close to what is offered in this program and demonstrate a firm interest in expanding its structure’ (FAPESP, 2022). In other words, the existence of institutional support for the researcher is becoming an important criterion in the evaluation of research projects.

From 18 to 21 October 2010, FMRP-USP participated in the first group of the FAPESP training program for teams of the so-called Office of Institutional Support

¹³The list of all research units and institutes can be found at <https://www5.usp.br/institucional/escolas-faculdades-e-institutos/>.

for Researchers (EAIP), and also in the 1st Workshop for Researcher Support Offices, presenting the case of the implementation of their office, both promoted by FAPESP.

In the case of scientific research management, the idea is to save the scientist the workload necessary to manage these increasingly complex, high-value projects with teams from different entities, so that he can dedicate himself to other activities aimed at science (increasingly organised and competitive) and student guidance (Junqueira & Passador, 2019).

Fortunately, more than 10 years since the start of the FAPESP program it continues despite on several occasions the fear of government support being cut for research funding and an overall lack of public policies to strengthen research in the country. Currently, the case study about FMRP-USP is one among many. Other research institutions have been participants in this pioneering programme, which were also mentioned in Chapters 3.2 and 3.3 due to its mark on the evolution of RMA in the country.

FMRP-USP began providing institutional support for researchers on 1 September 2010, with the implementation of the Project Management Center (CGP), recognised by Project Management Body of Knowledge (PMBok),¹⁴ to support them in the financial management of scientific research projects financed by FAPESP, CNPq, CAPES and others (Junqueira, 2017).

It is noteworthy that, at the time of its establishment, FMRP-USP did not have the staff allocated for this activity, it did not have experience in managing research projects, nor did it know tools capable of promptly meeting this demand. Therefore, at first, support for scientists was focused on financial management through the unit's existing structure, consisting of the following sections: Accounting, Agreements, Material, Treasury, Purchasing and Import Service and the CGP. The CGP could provide support for the funding request submission phase, requirements analysis and approval by the funding entity, as well as for financial management, which involved purchases and contracts, import and export of goods and services, payments to suppliers and accountability. Therefore, the FMRP-USP proposal for the office (maintained throughout its existence) was primarily focused on financial management, while the management of the execution of the project was in the researchers' hands.

Among the units with resources granted by FAPESP, it is worth mentioning the experience run at Research, Innovation and Dissemination Centers (RIDC).¹⁵ This department has an administrative manager who monitors the daily routine with the coordinator and has been one of the interlocutors between the coordinator and the financial team.

Faced with the challenge of supporting scientists, it became necessary to quickly identify a formal and minimally organised set of resources for managing research projects. Therefore, FMRP-USP focused on three aspects:

- *People*: the key point for the implementation of the CGP was the review of the processes of the financial area, so that the entire team could offer its competence and integrate it to help scientists in the management of their research projects. The objective was to join efforts to optimise resources in the execution of these projects. In addition, at this time it was not possible to hire people and the solution adopted was the appointment of a manager, integrated into all activities.

¹⁴ www.pmi.org

¹⁵ <https://cepid.fapesp.br/>

- *Processes*: as the focus was financial, the proposed activities were related to purchases and contracts, import and export of goods and services, payments to suppliers and accountability.
- *Tools*: to assist in management, it started with software already adopted by the financial area, the Management Information System (SIG), which was continuously improved to meet the new need. In 2015, USP developed the Project Information Management (GIP) system, to meet the project management of the entire university. Through an agreement with FAPESP, the GIP is integrated into FAPESP's information systems and as of 1 January 2022, it became mandatory for the presentation of accountability for all grants on behalf of USP (the other institutions in the state of São Paulo use the Foundation's own systems). In this way, the management of research projects can be monitored by all users of the information system (financier, university, researchers and other users), under the responsibility of the project team.

Table 2.6.1 shows the number and value of projects under CGP management in the first year of operation while Table 2.6.2 shows the same data for 2022. In 10 years the number of funded projects increased from 20 to 107, representing a relevant increase in the number of managed projects and a significant financial increase from R\$ 12,335,720 to R\$ 110,011,194 (about USD 2–21 mi). During this period, the team continued performing just financial management activities and jumped from two people to five only, keeping up a lean and efficient operation despite the huge increase in the funded budget to be managed.

While Fig. 2.6.1 represents the number of projects finished in the period from 2010 to 2022 under the management of the CGP, totalling 462 projects managed.

It is worth noting that the CGP currently has five dedicated people on the team plus two interns, and now it can count on the experience and closer support of the Treasury and the Materials Section.

Table 2.6.1. CGP – Grants in Progress September 2011.

Funding Agency	Qty in 2011	%	Funding Agency	Value in 2011 (R\$)	%
CAPES	0	0.0	CAPES	–	0.0
CNPq	2	10.0	CNPq	517,920	4.2
FAPESP	18	90.0	FAPESP	11,817,800	95.8
	20	100.0		12,335,720	100.0

Table 2.6.2. CGP – Grants in Progress September 2022.

Funding Agency	Qty in 2022	%	Funding Agency	Value in 2022 (R\$)	%
CAPES	2	1.9	CAPES	200,000	0.2
CNPq	14	13.1	CNPq	7,360,287	6.7
FAPESP	91	85.0	FAPESP	102,450,908	93.1
	107	100.0		110,011,194	100.0

Source: Authors.

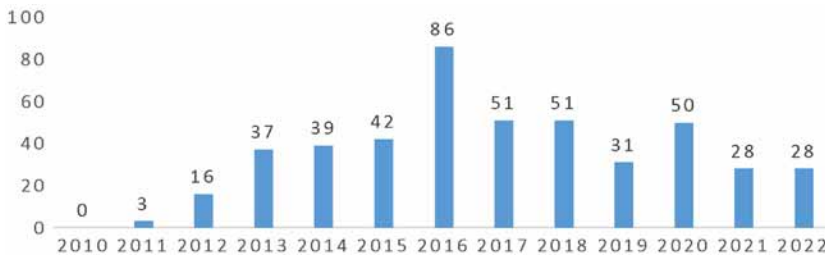


Fig. 2.6.1. Research Project Management – Finished 2010–2022.

Source: Authors.

Given the overview recalled above, it is possible to identify some qualitative findings of the management of scientific research projects: (a) the office has more availability to participate in research project calls launched by funding agencies therefore scientists have more time to dedicate themselves to research; (b) support from FAPESP in the execution of each project, with quick answers to questions that could influence the use of resources, without prejudice to the progress of research. Project management offices have an exclusive channel in ‘Talk to the FAPESP’, for direct contact with the team that provides the training; (c) FMRP-USP’s agility in supporting the infrastructure demands for research projects, since the unit where the research is carried out receives an additional funding from FAPESP exclusive to support infrastructure demands; (d) optimisation of the time and resources involved, both at the institution and at the funding agency; and (e) access by funding agencies to scientists’ suggestions for improving standards and adapting procedures to the reality of research administration.

Additionally, another study conducted between 2009 and 2015 on research projects from FMRP-USP evaluated quantitatively time, cost and quality variables and concluded that CGP helped projects meet the expected deadline, helped also the projects have their accountability approved according to the expected requirements and quality without rework (Junqueira & Passador, 2019).

Future Directions

This chapter presented the case of the FMRP-USP scientific research project management office as an example of an organisational structure created to support scientists in financial management that even with a small team allocated and a national context of scarce funding for research had proved their relevance. This case also has merit for contemplating data about RMA activities over a long period since it is still difficult to find organised evidence of RMA impact in Brazilian organisations due to RMA still largely being unrecognised as a profession.

This type of initiative is in line with the structure suggested for the institutional research support office (EAIP) by FAPESP, the main source of funding for the state of São Paulo.¹⁶

The objective of these offices is to assist the researcher in the administrative part of the projects developed with FAPESP resources, from the contracting, through the purchase of the granted items, through the release of resources, preparation of documents for importation, incorporation of the permanent material acquired until the

¹⁶Retrieved September 24, 2022, from <https://fapesp.br/13634/sobre-os-escritorios-de-institucional-support-to-researcher-eaip>

finalisation with the presentation of the accountability to FAPESP in the required manner. The CGP has a delimited scope that includes processes that have particularities regarding the regulations of the funding agency. This is a good starting point but if the team were to be expanded then additional processes could be performed.

This type of initiative is also in line with the practices of foreign universities, where support for scientists has already become a routine part of institutional support, and shall be expanded to other faculties at USP. Thus, in order for this type of initiative to become viable for units that do not yet have an office, it is suggested the implementation of a shared project management centre on the USP Campus in Ribeirão Preto. This challenge is supported by the argument that this centre could bring together managers to serve researchers from all units, assuming that the norm is the same for all types of projects, regardless of the research area. This structure even meets the lack of human resources, optimising the dispersed structures that may exist today.

Qualitative results with this type of management were identified and demonstrated the feasibility of institutional management of scientific research projects, with obvious benefits for the scientists served and relevant impact on the number of grants and financial volume approved in the funding agency. It should be noted that the CGP was structured without a significant increase in staff, at the same time it incorporated a significant volume of managerial activities, which were added to the tasks previously developed in the area. This horizontal organisational configuration optimised the results obtained without significantly impacting the human resources involved in the project.

The accomplishments of the FAPESP program training research institutions to implement research support offices are relevant as a national case of public policy but its coverage is restricted to Sao Paulo state institutions. Even in Sao Paulo state, until 2017, there were only 43 trained institutions of a total of more than 1,500 research institutions eligible to participate in the FAPESP program training (Oliveira & Bonacelli, 2019). About the national context, Oliveira et al. (2017) conducted a mapping that identified 20 project management offices in only 14 of the 63 Federal Universities. Brazil is much broader and needs to create government incentives to promote the development of RMA in other regions considering the diversity in culture and research budget of each state.

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