

# Project Management in Higher Education Institutions

## Pro-Administration Case

Giovane Costa, Emerson A. Maccari, Cibele B. Martins, Claudia T. Kniess

Nove de Julho University – UNINOVE at Sao Paulo, Brazil

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mail: [giovane\\_c@yahoo.com.br](mailto:giovane_c@yahoo.com.br), [emersonmaccari@gmail.com](mailto:emersonmaccari@gmail.com), [cibelebm@uol.com.br](mailto:cibelebm@uol.com.br), [kniesscl@gmail.com](mailto:kniesscl@gmail.com)

### Abstract

As a result of social changes, such as globalization, high competitiveness and growing search for knowledge, Higher Education Institutions – HEI found themselves forced to evolve and be managed efficiently and effectively. Currently reworking the academic management and governance aimed at improving the performance and meet the expectations of stakeholders. In this context the traditional forms of academic management are seen as obsolete and ineffective, being progressively replaced by practices based on criteria of economic rationality. One of the management practices of the corporate model that has been incorporated into the academic model is the Project Management. Thus, this study sought to identify how the HEI conduct their projects, through a case study, of one of the projects of the pro-administration of the Coordination for the Improvement of Higher Education Personnel - CAPES, led by the Nove de Julho University - UNINOVE. For this, the research was based on the best practices of Project Management, to identify possible improvements in the development of this academic project. The study was characterized as an empirical, exploratory and single case research. The main results of the survey showed that: a) the project was subdivided into nuclei and subprojects; b) the coordinators of these subprojects had total autonomy in their conduct; c) the project was inserted into complex institutions and adhocratics in that monitoring and control relations were not very clear, so it is recommended that in projects of this nature are made available resources and attention to the monitoring and control of activities.

### Introduction

It is observed the increase of requirements related to Higher Education Institutions - HEI undertaken mainly by external agents that require production of knowledge and creation of wealth, in this sense, Taylor et al. (2008) reported that it is possible to realize the growth in size and complexity of the HEI, so the importance of vigilance and be strategically positioned to seize opportunities and avoid threats quickly and efficiently.

Despite difficulties common to other organizations, Lopes (1999) argued that the HEI develop a distinct logic from the others, for your attention and focus are in the dissemination of knowledge. However, they need to ensure the results expected by *stakeholders*, and the answer to these needs can vary from normal processes, guided by reviews focused on objective solution of organizational issues.

Corroborated this idea, Melo, Melo and Schlickmann (2010) by stating that the HEI the environment is typically marked by informality and irreverence, while in the business segment, the demands for productivity and lower costs make the uniformity and control are quality assumptions. In addition, the HEI have adhocratic characteristics, which, according to Mintzberg (2008), are organizations in which experts are grouped into functional units, focus on creativity and the freedom of those involved, increasing the complexity with regard to command lines, making the decision process flexible and informal.

We see, therefore, two situations in relation to the management of HEI: a) a latent need University Administration, prepared to face high competition and the increasing need for cost reduction; and b) a different environment for the business sector, that the hierarchy, the control and the goals are guided by personal relations, and may vary from institution to institution.

Despite these differences, Maccari (2002) stated that the University Administration does not develop managerial theories of their own, and can observe in its content and performance different models of company administration. Thus, according to Santiago, Carvalho, Amaral and Meek (2006) traditional forms of academic management are seen as obsolete and ineffective, being progressively replaced by practices based on the criteria of economic rationality.

In the same sense, Sporn (1995) stated that an alternative adopted by the HEI is the professionalization of its management body, significantly altering the University management, especially by the introduction of specialist administrators.

Among the models adopted in the corporate world, Project Management – PM is gaining prominence, and according to Cleland and Ireland (2002) and Prado (2003), good practice in PM has become important to ensure the survival, growth and progress of organizations. However, Bryde and Leighton (2009) stated that the HEI have low maturity in PM, similar to companies that adopt these techniques later.

On the basis of the above, it is observed that: a) the HEI face every day more competition and the constant need to increase their efficiency and effectiveness; b) HEI seek in the corporate world managerial and administrative models that meet your management needs, thus becoming more professional.

Accordingly, in the case of this study, the backdrop was a project that was born from the public call of the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - CAPES, which, with the main objective to promote the expansion and consolidation of higher education, launched the bidding process for the project Pro-Administration - PROADM, and invited the Brazilian Universities to submit proposals for projects focused on teaching, research and training support, with the use of available resources in the inter-institutional networks, to enable the production of scientific and technological research, and human resources, training postgraduates in the area of Administration, so as to develop the training areas considered strategic for the analysis of the priorities and existing skills (CAPES, 2011).

Among the HEI who answered the call of CAPES, lies the Nove de Julho University - UNINOVE, located in the municipality of São Paulo, who understood that the topic was important for Brazilian society, and who possessed knowledge and structure that could contribute to the objective of the project. Thus, formed a network of academic cooperation, to meet the invitation of CAPES and approved the project named Challenges of teaching innovation and sustainability in Brazil - DEISB.

It is observed that the CAPES, to launch the challenge at HEI, instigated these institutions to tackle the best techniques of conducting projects. Between consolidated and growing techniques performed those established by the Project Management Institute - PMI (PMI, 2008).

Considering that the HEI feature growing need for deployment of techniques that enable increased efficiency and effectiveness, and that the PM presents itself as a tool capable of meeting these objectives, the research question of this study:

### **How the best practices in project management can contribute to the development of the projects in Higher Education Institutions: Pro-Administration's case?**

With the overall objective to analyze the use of best practices in PM PROADM's case, according to the PMBOK® Guide, and how these might contribute to the development of this project.

This study is first justified by the importance of the project object of study, secondly by the importance that the PM has been gaining, to ensure the survival, growth and progress of organizations (Cleland & Ireland, 2002; Prado, 2003), besides enabling the use of an applicable model of project management in a practical case of an HEI.

In addition to this introductory part, in the second part were addressed the themes about the HEI and its complexity, CAPES and the project PROADM, in addition to the PM. In the third part were presented the methodological procedures adopted at work. In the following part were discussing the results of the survey in the light of the theory. And at the fifth and last part conclusions and recommendations were presented.

## **Theoretical Framework**

In this section have been addressed issues involving the particularities of the organizational structure of the HEI, as its complexity and management. In addition, it presents the CAPES and PROADM design, to explore the goals of the project and its structure. The final part of this benchmark seeks to identify the main points relevant to the PM.

### **Higher Education Institutions**

In Classical Antiquity, around the 5th century, especially in Greece and Rome, the Higher Education appears. At the end of the Middle Ages, emerged the first Universities, Bologna 1088 and Paris, 1150 (JANOTTI, 1992). The Western University presented at least three distinct periods of evolution, Teaching, Research and Extension. The Teaching has evolved from the early days of the Institution, in the early 13th century in Europe.

As Melo et al. (2010), the *studium generale* was the place intended for teaching, which was later called *universitas*, who had in their communities, teachers and students, who have attracted to themselves the rights over knowledge historically built on the social environment.

According to the author, the survey marked a special moment of the University model, from the 19th century, especially with the creation of the University of Berlin, Germany. The University became an incubator of inventions and innovations, becoming an investigative place. This model introduced rapid expansion across Europe and USA.

And finally, in the early 20th century, the American expansionist and utilitarian movement, complemented the evolutionary cycle with the institution of the Extension function, which as Melo et al. (2010), the main objective was to contribute to the continuous review of the academic process, allowing the university's commitment to the social demands.

As a result of social changes, Universities found themselves obliged to evolve. Moments of great changes, such as globalization, high competitiveness and growing quest for knowledge, forced the HEI being managed efficiently and effectively. Despite this, Souza (2009) stated that studies about educational organizations were fragile, mainly when considering the small number of theses and dissertations on specific areas.

Mintzberg (2008) presented five types of organizational structures: a) Simple Structure; b) Mechanized Bureaucracy; c) Professional Bureaucracy; d) Shared Form; e) adhocratic. These five structures presented by Mintzberg (2008), this study contemplates the adhocratic. This form presents as main feature the little formalization of behavior and high specialization of labor. Experts are grouped into functional units, divided into small project teams. The classical principles of administration, especially the command, do not have such relevance. This configuration focuses on creativity, as there is a greater freedom of those involved, command lines are not very clear. Information and decision processes flow, flexible and informal, making it possible to bypass the chain of authority when necessary, Mintzberg (2008).

Adhocratic organizations are characterized by high complexity. A good example of complex structures is the HEI, because present peculiar characteristics. According to Pereira, Melo e Cunha (2008), the HEI are considered complex due to its expertise in various tasks – teaching, research and extension – for this reason require different work methodologies from other organizations.

Thus, this study looked at the HEI and their complexity, and their new management needs.

### **HEI Complexities**

In the face of its long history, Universities presented certain traditional features. The uniqueness of the modern University, according to Rekilä, Larimo and Tauriainen (1999) derives from the diversity of its components, the different types of students, people, researchers with different resources, teachers with different numbers of hours and learning lines and different types of fundraising.

In addition, the primary function of human resources training for the job market is just another one of the many roles played by the University. As Melo et al. (2010), the University produces knowledge, science, technology, art, culture, identity, material wealth and values, and this is not only benefit of its members, but to the whole society.

According to Maccari (2002), there is also at the University a problematic relationship between the academic power (based on knowledge exercised by specialists) and the bureaucratic power (based on the laws, regulations and standards exercised by the administrators). The expert (teacher) is focused on the specific objectives of the institution (teaching, research and extension) and the administrator on non-specific activities, such as management, allocation of resources and activities that make possible the continuity of the organization.

Etzioni (1989) pointed out that the University is considered a specialist organization, because it is focused on the generation, use and preservation of knowledge, so it has a great number of specialists (teachers) in relation to non-specialists.

Lopes (1999), said that Universities develop a logic distinct from other organizations, because their attention and focus are on the dissemination of knowledge. However, they need to ensure the results expected by *stakeholders*.

In this sense, Taylor, Machado and Peterson (2008) argued that in recent decades, the HEI growth in size and complexity. With the increased demands of the external agents for the production of knowledge and creation of wealth, the HEI need to maintain vigilance and be strategically positioned to seize opportunities and avoid threats quickly and efficiently.

According to Melo et al. (2010), it appears that at the academy, often the environment is marked by informality and irreverence, while in the productive sector; the uniformity and control are quality assumptions. Despite these differences, Maccari (2002) stated that the University Administration does not develop managerial theories themselves, and noted in its content and expertise, different models of company administration.

Neave (2002) said that the specific references for academic management are relatively recent, however, most previous debates had focused on the internal environment (students and employees). Currently reworking the academic management and governance are addressed to improve performance and meet the expectations of all *stakeholders*, internal and external.

Salminen (2003) also pointed out that due to the massification of universities and its complexity, the performance indicators, personnel policies and strategic decisions should be integrated and addressed under new optics within the management processes of each HEI.

To Maccari (2002), the business sector has the clear view that the elements of the customer/market/product ratio are fundamental to success, while most of the universities need to understand and accept the relations between money/education; student/client and knowledge/product.

It is in this context that the traditional forms of academic management are seen as obsolete and ineffective, being progressively replaced by practices based on criteria of economic rationality. The HEI are required to demonstrate explicitly to the society that it makes effective and efficient use of its resources and that its activities are relevant to the economy and the labor market (Santiago et al., 2006).

The alternative adopted by the HEI was the professionalization of its management body. Sporn (1995) stated that the university management has been changed significantly by this new scenario, especially by the introduction of specialist administrators.

Teichler (2003) outlined a little scenario of the new university management and stated that its main features are: a) reduced procedural controls exercised by the government; b) greater allocation of powers within the HEI; c) reinforcement of the powers of management, i.e. increase of executive power; d) increase in the number of professionals in higher education, and, e) increase the mechanisms of information, evaluation and control.

However, due to its peculiar characteristics, Birnbaum (2000) drew attention to the possibility of failure in the management of universities with techniques imported from the private sector. This is possibly due to its norms and political character and traditional characteristics.

In parallel, Shattock (2002) advocated the establishment of a balance between the corporate and the high school model, on the assumption that the HEI works best when the management is seen as a partnership between the corporate and collegiate approach, establishing a common and balance purpose. But, also highlighted the tendency to the professionalization of university management.

### **CAPES and the Pro-Administration Project**

Founded in July 11, 1951, the Coordination for the Improvement of Higher Education Personnel, aimed to ensure skilled personnel with sufficient quality and quantity to meet public and private needs aimed at national development (CAPES, 2011).

After 56 years, the President of the Republic of Brazil in exercise approved the law n° 11.502/2007, and created the new CAPES, as well as coordinating the high standard of the National System of Post Graduation, went on to induce and encourage initial and continuing training for teachers on basic education. In addition, CAPES became a Brazilian research-funding agency with expertise in the expansion and consolidation of post-graduation *stricto sensu* (Masters and PhD) in all states of the country (CAPES, 2011).

The document summarizes the guidelines that guide public policies of personal qualification of master and PhD level is called Plano Nacional de Pós-Graduação - PNPG. Edited every six years, the PNPG makes a diagnosis, and from this evaluation, presents proposals for guidelines, system growth scenarios, goals, and budget for the implementation of actions (CAPES, 2011).

According to PNPG (2004), in 2003, only 21.5% of teachers who worked in higher education had a doctorate, and 35.1% had masters. The data submitted demonstrated the need to train teachers, therefore, the 2005 to 2010 PNPG, had as main objective the expansion of postgraduate system, to increase the number of postgraduate students, to meet the demands of qualification of the country's system of higher education, science and technology system and the business sector (PNPG, 2010).

In line with this goal, in September 2008, the CAPES launched the PRO-ADMINISTRATION Edict n° 09/2008 (PROADM, 2008), which according to the CAPES (2011) had the goal of:

“Stimulate in the country the realization of joint projects and research support for the Faculty training utilizing human resources and infrastructure available in different HEI and/or other suitable institutions in accordance with this Edict, allowing the production of scientific and technological research and human resources training postgraduates in the administration area. Contribute thereby to enlarge and consolidate the development of areas of training considered strategic, through the analysis of priorities and existing skills aiming at the improvement of undergraduate and graduate education in administration and management.” (CAPES, 2011)

The project had four-year maximum period foreseen for the budgetary exercise and five years for the implementation of the activities, in addition, had the benefits, the cost of expenses, daily for research and teaching missions, airline tickets and scholarships (CAPES, 2011).

### **Project Management**

The PM has been gaining prominence in the corporate world, and it is important to ensure the survival, growth and progress of organizations (Cleland & Ireland, 2002; Prado, 2003).

Therefore, it is necessary that organizations possess tools to transform simple opportunities in assets and business value, and among these tools are the projects (Lavingia, 2002). In this sense, the projects function as engines that drive the innovation of ideas in the marketing (Shenhar & Dvir, 2010).

In this study the concept was adopted from the PMI (2008), in which the projects, become part of everyday life of businesses and to permeate the entire organization, especially because the technological, economic and social changes happen with increasing frequency, and each of these changes needs, in principle, of a project to be addressed. Thus, it is necessary that organizations are prepared to manage multiple projects simultaneously, a fact that gave rise to the expression "Project Management" (Sato, Hatakeyama, & Dergint, 2004).

For Jugdev and Müller (2005) it is necessary that the PM is aligned with the strategies of the Organization, because it is about managing people to achieve goals, and not just the activity management, so it must be applied to improve efficiency and effectiveness in conjunction with the strategic vision of the business. In this sense, Carvalho and Rabechini Jr. (2008) stated that through PM techniques, organizations become able to give effective and agile responses to environmental problems, especially those relating to competition and market positioning.

One of the benefits of good practices in PM, Buzin (2003) highlighted that organizations can define and show clearly the goals and criteria of quality and performance, as well as negotiate and approve these objectives and criteria with all interested parties (*stakeholders*). The author also stated that through the PM can identify and manage the risks involved, as well as coordinating the correct use of resources, which generates the savings of time and money.

As Patah and Carvalho (2002), the organizational structure is closely linked to the success of the strategies implemented by any company and in recent years true revolutions occurred in business structures, especially structures that meet the needs of greater flexibility and agility in compliance with the requirements of the market and the environmental changes.

According to Patah and Carvalho (2002), the projectized structures arose from the difficulties encountered by project managers in integrating the activities of the projects, especially with the increased complexity of organizations. In response to these difficulties, according to Kerzner (2001), in projectized structure the Project Manager can control the project as a whole, and second Meredith and Mantel (2006) as well as the functional structure, presents certain unique advantages and disadvantages.

For Kerzner (2001), projectized structures present as biggest advantage the nonexistence of levels between the management and the project team, making strong communication and quick decision-making.

In this study were adopted the concepts of PM set by the PMBOK<sup>®</sup> Guide, which, according to the PMI (2008), is a recognized standard for the project management profession. The guide describes standards, methods, procedures and practices established for the profession. The procedures established by the PMBOK<sup>®</sup> can be grouped into five groups of processes, according to PMI (2008): a) initiation; b) planning; c) execution; d) monitoring and control; and, e) closure.

## **Methodology**

This study seeks to verify a theory in an observable reality, this way is characterized by empirical research, in this case, the concepts of PM applied to a project of an HEI. Is exploratory, since there are few previous studies conducted on the subject, in this context.

This research aims to further investigate the perception of social subjects involved in the research environment, about the PM in HEI, so, it is characterized by qualitative research which, according to Godoy (1995), studies of this type involve obtaining descriptive data about places, people, organizations and forms of interaction that take place through the direct contact of the researcher with the situation studied.

Considering the features and objectives of this work, one can characterize it as a single case study, which, according to Yin (2007), characterized as an investigation in order to understand a contemporary phenomenon within a context of real life.

The data collection for this study was divided into two groups: 1) bibliographical research, based on literature review and document analysis, based on minutes of meetings, projects; and 2) interviews and observations, and data collection through the interviews was conducted based on the method of open account, without the use of closed questions, and were held in the period from May to June 2012.

Among the 31 researchers who composed the network for the project proposal, seven people were interviewed, one of each institution, including two coordinators of subprojects.

## **Analyses and Discussion of the Results**

For a better organization of this chapter, covering the four dimensions of the research separately in: 1) presentation of the case and the PROADM project; 2) identification of the organizational structure and the role of those involved in the project; 3) the understanding of respondents regarding the concepts of good practice in Project Management; 4) how actions and procedures adopted in the project PROADM, based on the best practices guide, contributed to its development; and 5) identification of possible improvements in the

development of projects of this nature.

### **Presentation of the Pro-Administration Project**

Complying with the provisions of the edict of PROADM, the DEISB was formed by an organizational network composed of seven HEI, and in the scope of the original project, it was agreed that the coordination was under the responsibility of the UNINOVE, represented by the coordinator of the Graduate Program in Administration and other HEI would assume the position of associates, which are: University of São Paulo - USP, University of São Caetano do Sul - USCS, University of Grande Dourados - UGD, Federal University of Mato Grosso do Sul - UFMS, Centro Universitário da Faculdade de Engenharia Industrial - FEI and Centro Universitário de Assunção - UNIFAI.

The proposed project aimed to support the development of general training teachers for teaching undergraduate and graduate, in administration, with a focus on discipline in the management area "innovation", through the formation of a network of institutions with relevant competence in theme and with ability to multiply in Brazil the knowledge achieved.

As a consequence of this goal mapping activities have the demands of enterprises and society of this management training, in contrast to the offerings of undergraduate and graduate degrees from Brazilian HEI, which sought to identify inconsistencies and propose measures that would contribute to teacher training and the increase of quality of teaching innovation and sustainability in undergraduate and graduate courses in Administration.

As part of planning the development of the project, it was defined that the DESIB will have as thematic action area the technological innovation (products and processes), market and organizational, in the view of economic, social and environmental sustainability, bringing together skills and application focus on HEI participating in the proposal.

The proposal was also a network of academic institutional capacity building in teaching and research on "innovation", with an emphasis on entrepreneurship and sustainability, which sought to expand in Brazil throughout the development of the project, particularly with the formation of new skills teachers.

The development of the project sought to fulfill six steps, which are: a) survey of competencies, training teachers, educational services (undergraduate and graduate) and research in the subject area, through the databases of CAPES and CNPQ, configurational studies and field research; b) a survey of the demands and expectations of corporate society, non-governmental entities and HEI, subject area, by means of information along the representative entities of the business class, of research and teaching; c) diagnosis of pent-up demand: identify the differences between the expectations of society (demand) and existing skills (offer) of HEI in innovation, entrepreneurship and sustainability; d) election of priorities and actions: propose measures and actions that contribute to the quality of teaching and teacher training of undergraduate and graduate degrees in Administration; e) diffusion model: develop broadcast model of teaching and research methods to other HEI and other regions of the country, not directly involved in this proposal; and, f) validation of results: preparation of balance sheet of the objectives, methodology and academic and practical results achieved, particularly in relation to the teaching qualification conquered and its multiplication potentiality through the project developed.

According to the proposal, the DEISB has been characterized as a project, insofar as it has a limited period of time and aimed at the generation of products and/or services unique and distinguishable. It was also considered in the proposal, that the set of activities: survey, analysis/diagnosis, actions/contents/models, evaluation of results were treated as projects, featuring a "set of projects". It was hoped that the administration of activities was developed from the perspective of Project Management best practices, planning them by areas of

knowledge and making that its controls were effective and results-oriented.

### **Organizational structure and the role of those involved in the Project**

To facilitate the preparation and conduct of the project in the manner proposed, the DEISB was incubated within the organizational structure, which supported the professional master's program in Project Management of UNINOVE, and thus adopt the PM model as facilitator and catalyst of the efforts of the proposal. The model took into account the structure of the team involved, the management strategy used, in addition to the following objectives:

- a) Guide the detailing scope of the project - translation of the relationship between activities and deliverables of the project, given the methodology adopted on the proposal;
- b) Establishing supporting to the production schedule through the sequencing of activities as a way to optimize the time and ensure that it will be respected;
- c) Ensuring communication between the different teams involved and compliance in terms of integration of the various elements of the research – survey, processing and analysis of data in line with the objectives of the research;
- d) Establishing parameters for budgeting, control of use of material, human and financial resources;
- e) Establish control and ensure an information system that would allow the definition and evaluation of project performance standards;
- f) Consolidating the results of the project by means of the search reports and corresponding accountability.

According to the edict of PROADM, the project should have a maximum of four years for the budgetary exercise and five years for the execution of all activities. In addition, its annual funding could reach R\$ 120.000,00, totaling as much as R\$ 480.000,00. Based on these assumptions, the project coordinators developed a schedule of activities.

From the project management model adopted, it was possible to devise Work Breakdown Structure - WBS, as a tool of decomposition of project work in manageable chunks. The WBS served as the basis for project planning, guiding the work of project teams and integrating activities.

After the establishment of the project's activities, even though macro-level, and the delimitation of main products, it became possible to define the performance criteria, based on projected deliveries, guiding the evaluations of the work of the teams involved.

It was also determined the functions and responsibilities as follows: a) General Coordinator: establish guidelines related to aspects of management and control processes related to initiation, planning, execution, control and completion of subprojects; b) Council: guide the research activities around themes related to the definition of macro objectives, establishment of methodological approaches, definition of activities related to subprojects (seminars, workshops, etc.), consolidation and validation of deliverables (reports, theses, dissertations, articles, etc.), attending the general coordinator. This council was formed by members from all institutions associated with this project proposal and subsequently regulated; c) Project Manager: to act as a link between the network of agencies involved in this project proposal for PROADM, establishing a bond in terms of focus and integration of staff of institutions involved in the project; and d) Project Leader: participate in the development and implementation of the project plan, in partnership with the project manager and the leaders of associated institutions. Also receives information and meets the guidelines

of the council and of the general coordinator of the project.

### **Understanding of respondents regarding the concepts of good practice in Project Management**

To carry out the interviews, at first, was presented to respondents some concepts inherent in the matter of organizational structure, and then applied the semistructured script with the questions: 1) How is structurally organized the project team? It can be framed in any of the types cited above?; 2) What are the main members of the project, and what its importance in conducting the project?; 3) Is there the figure of the leader or project manager?; 4) How does the communication between project participants occur? And how do the members of the project report the progress of their activities?; and 5) How does the functions and activities are distributed in the project?

Starting from the concept of Etzioni (1989), that organizations are social units, or human groupings, intentionally constructed and reconstructed in order to achieve specific objectives, this study sought to understand how was structurally organized the project team of DEISB.

It is worth noting that the project was inserted into an HEI, which due to its configuration, could be framed as an adhocratic system, where, according to Mintzberg (2008) is characterized by being formed of experts, usually grouped into functional units and divided in small project teams.

The nets, as shown by Neto (1999) represent the market response to the difficulties, and the growing concern of companies in gaining flexibility, improve technology and increase the managerial capacity. In the same sense, a network between HEI should seek, through synergy, increase the strength of the team through the diversification of *know-how*, and thus fulfill the project within the cost and deadline.

According to the interviewees, soon after the approval of the project constitutes the interinstitutional network, and first the team was divided into three cores called: teaching training, innovation and sustainability, which, according to one of the respondents "... behind this theory had the question of setting up networks, and make them work. Something that would be tested and practiced in the course of these subprojects."

It became evident that, in addition to these cores, some members of the project were given specific tasks, such, as for example, the responsibility of the Organization of the inter-institutional PhD in Mato Grosso do Sul by a professor from UNINOVE, the teamwork between the UNINOVE and the USCS on the bibliographic survey.

For the respondents, the sub-projects had a prominent role in the DEISB structural organization, including during the interviews highlighted that the coordinators of each project assumed the central role in the conduct of activities.

Overall, the interviews corroborated with the proposal of the project, where in the item "Project Governance", it was observed a structure that resembles the matrix structure, as shown in Figure 1.

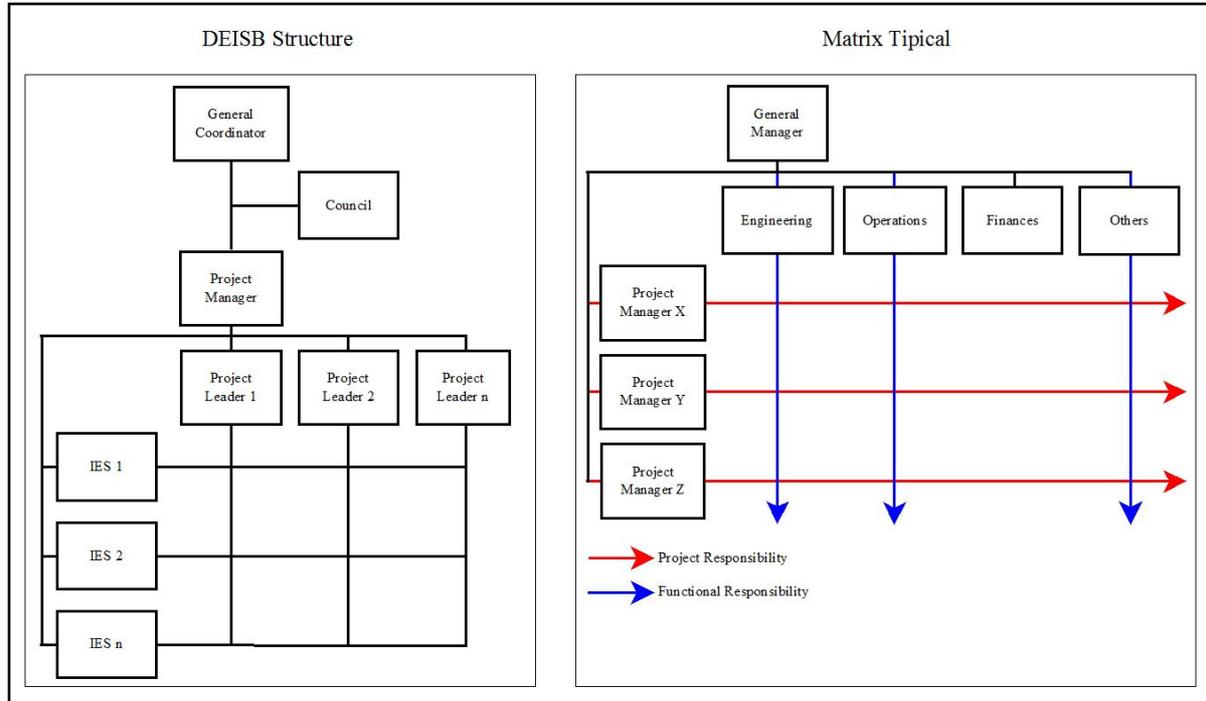
For a clearer understanding of the organizational structure, it was necessary to understand the role of those involved in the project, the importance of these on their way, and the relationship with the project leader.

In the speeches of the interviewees there was evidence that there would be a division of labor, this division was made by subprojects and that there was a hierarchy, getting clear the figure of a general project leader. However, it was evidenced that this leadership does not interfere in the conduct of the subprojects. Such monitoring would occur only in the monthly meetings of the project. In this sense, it is noticed that possibly the leader of the project had as its main function, channeling the efforts of subprojects for the larger goal, exercising little

or no interference in subprojects.

Respondents were also asked about the distribution of activities. It was evidenced that, as the team was composed of high-level experts, all with doctorate, the distribution of activities took place taking into account their specialties.

Figure 1: Structure of the Project x Matrix Structure



Source: Prepared by the authors

As the project team held monthly meetings to report progress of the activities, the communication occurred formally at these meetings. Furthermore, according to the respondents, each subproject leader established the best way to coordinate the activities between your team. As the team was formed by members of the institutions involved, the face-to-face communication was often restricted to meetings, for this, the electronic media served as an indispensable tool for closer relations and establish means of communication.

During the documentary survey, it was not clear on the project planning the issue of the end of the activities, however, as reported by respondents, was scheduled a formal termination of activities, through the supply of reports.

Following was asked to respondents to go a little deeper in its analyses in relation to concepts, in PM, such as sequencing of activities and estimation of resources and duration of activities.

Respondents stated that each project or mini project manager, established and leading activities, the resources were allocated according to the needs of each mini project submitted, and the CAPES approved or not. In addition, it was highlighted that no subproject was disapproved by the organ. It can be seen that the activities were not sequenced and formally estimated but this fact not affected the conduct of the project.

During the interviews, it was noticed a discomfort in relation to the conduct of management, especially when interviewees stated that the project was not managed the way several of them imagined that a project should be managed, without charges and partial reports, but managed by final result of each subproject.

**How actions and procedures adopted in the pro-administration project, based on the**

### **best practices guide, contributed to its development.**

It was possible to verify, first, a grip between the concepts of good practices in PM and the manner with which the DEISB was planned and executed. Mainly because it was noticed that the goals of the project were aligned with the strategies of the organization, that according to Jugdev and Müller (2005) is a fundamental point, considering that the PM comes from managing people to achieve goals, and not just the activity management, so the PM should be applied to optimize the efficiency and effectiveness in conjunction with the strategic vision of the business.

Moreover, in general, supported the affirmation of Kerzner (2003), which advocates that the PM is set through the process of planning, organization, direction and control of resources to complete specific and general objectives within a given deadline. So, probably the procedures adopted were of great value to the development of the project, and the organization could define and visualize the goals and criteria of quality and performance, as well as to negotiate and approve the goals and criteria with all stakeholders of the project.

The understanding of the way in which the team was organized structurally refers to reflection about certain issues, some that could generate some complication, as, for example, the project to be inserted in an organizational network, and even more in an HEI that are characterized as adhocratics institutions, i.e. a complex organization. In this way, we can say that the structure adopted is projectized, which, according to Patah and Carvalho (2002), the projectized structures arise from the difficulties encountered by project managers in integrating the activities of the projects, especially with the increased complexity of organizations.

As the main benefit of projectized structures, Kerzner (2001) stated that the project manager can control the project as a whole and have full authority on the project. In addition, Meredith and Mantel (2006) highlighted that in this type of structure, all the project team is responsible for managing, there is also a shortening between the lines of communication, as there is no functional divisions and especially the team develops a strong and distinct identity, and tends to develop a high level of commitment.

Given the need for flexibility demanded by projects of this size, especially in such complex institutions, it is difficult to determine the exact structure to which the project fits, in this same vein, Carvalho and Rabechini Jr. (2008) stated that each project and each organization deserve an individual examination to choose and define what is the most appropriate structure.

### **Identify possible improvements in the development of projects of this nature**

It was noticed that the PM model generally adapted well, with no major changes in its basic form presented by the PMI.

According to the documentary analysis and interviews, it was noticed that the DEISB project has fulfilled its goals satisfactorily. The output found to fulfill this step was to compare first the plan presented by the DEISB project with the 42 PM processes presented by the PMI. The processes that have not been identified were:

- 1) Integration Management: was not identified the integrated control of changes;
- 2) Scope Management: was not identified the survey and requirements gathering of the project;
- 3) Time Management: project activities were defined, but has not been identified the sequencing of activities, resource estimation, estimation of activities, detailed schedule and schedule control. In addition, only macro project activities were present, the sub-projects were not detailed;
- 4) Quality Management: was not identified the planning of quality nor the control;

- 5) Risk Management: was not identified the risk management plan, risk identification, qualitative and quantitative analysis of risks, planning of responses to risks and monitoring/control of risks.

In addition, according to one of the respondents of the survey, the process of monitoring and control of activities in General was not very clear, perhaps, in the case of DEISB, the fact that the project team is formed by highly specialized professionals, mitigated the negative effects of the absence of this process. But, according to PMI (2008) the integrated nature of project management requires that the monitoring and control processes are integrated with the other groups of processes.

Finally, still as a possible improvement for similar projects, it has highlighted the importance of correct and accurate survey of the requirements of the project, which, according to PMI (2008) this survey raises the chances of a project be successful, because the proper approach of the requirements makes it possible to meet the needs of stakeholders, in addition to contributing to balance competing demands as scope, time, cost, quality, risk and resources.

### **Conclusions and Recommendations**

About the search results, in relation to describe the organizational structure and the role of those involved in the project-the main conclusions were: a) that the project was formed by an organizational network, which might be characterized by an alliance of opportunity, which, according to Kanter (1990) is characterized when the alliance is due to a specific opportunity, and is constantly used in research and development activities; b) the organization studied was inserted into an adhocracy, which, according to Mintzberg (2008) has as main characteristic the little formalization of behavior, high specialization of labor and experts divided in small project teams; c) was observed with the interviews, that after the Constitution of the network of the project, the teams were divided in three cores: innovation, sustainability and teacher training; d) it was noticed that besides the Division by nuclei, the project was divided into smaller projects, where the deliverables of these subprojects completed the deliverables of the larger project.

As to the organizational structure adopted, it can be affirmed first that it possessed some characteristics of projectized organizations, in that the project manager has full authority, which, according to Kerzner (2001) is one of the requirements of these organizations. On the other hand, to be inserted in an HEI, it also presented features of functional organizations, which, according to Vasconcellos and Hemsley (2002) are recognized for high technical expertise and divide by area of knowledge.

In this way, the structure that would meet the needs of the project, the object of this study would be the matrix, which, according to Meredith and Mantel (2006), in this type of structure organizations can assume various forms, depending on their functional needs or projects. In this same vein, Carvalho and Rabechini Jr. (2008) stated that the matrix structure allows the flexibility of an organization, it is realized that there is no standard structure or defined model, and each project and each organization deserve an individual examination to choose and define what is the most appropriate structure.

Finally, one can still affirm, on the basis of the interviews, that the project leader had a catalyst role and coordinator of the efforts of the large group, and the subprojects leaders had autonomy and full control over their projects.

And on the identification of how actions and procedures adopted in the PROADM project, based on the best practices guide, contributed to its development - could be observed that: a) The adherence between PM practices and the way the project was conducted made it possible to align the goals of those involved with the overall project goals. Thus, the

procedures adopted were of great value to the development of the project; b) In view of the complexity of the environment in which the project was inserted, the PM made it possible to integrate the activities. One of the factors that contributed to this integration was the fact that the project leaders had full autonomy and authority about your designs, merit of the structures and the model adopted, so the overall project leader could have a vision and control of the project as a whole.

And on the identification of possible improvements in the development of projects of this nature – It can be affirmed that: a) Projects that are inserted into the adhocratics institutions, especially when the experts possess specific knowledge in the area of administration, should have special attention to the processes described in the guides to best practices, because as noted, some processes described in the guides were suppressed, or not identified, among them we can mention: scope management, time management and risk management; b) Possibly these processes have been treated, but according to the analyses of this study have not been identified; c) Moreover, it would be necessary that projects of this nature could get out more attention to monitoring and control of activities, since as noted in the case studied, these two processes were not very clear, perhaps, in the case of DEISB, the fact that the project team is formed by highly specialized professionals, mitigated the negative effects of the absence of these important processes. But, according to PMI (2008), the integrated nature of project management requires that the monitoring and control processes are integrated with the other groups of processes; d) Finally, even as a possible improvement for similar projects, stresses the importance of a correct and accurate survey of the requirements of the project, which, according to PMI (2008), would increase the chances of a project be successful, because the appropriate approach to meet the requirements would meet the needs of *stakeholders*, in addition to contributing to balance competing demands as scope, time, cost, quality, resources and risk.

On the basis of the comments made in this study, some suggestions, become relevant, including:

Projects of this nature should have their well-defined activities; the explosion of the WBS (Work Breakdown Structure) into smaller activities would possibly that the team and the project coordination better view all activities necessary to fulfill the goals of the project. This would allow view even better the sequencing and duration of all activities. In complex projects, with many activities and sub-activities, you can make use of software to enable the correct allocation of resources and estimated timelines and sequencing of activities.

Another point that deserves attention is the management of changes on objectives, these changes may occur during the execution of any activity, but it is necessary to follow, to ensure that these changes do not alter the ultimate goal of running task.

In addition to the processes mentioned above, it is recommended to do a full survey of requirements before starting such projects. Additionally, increase attention on the issues of quality and determine the best way possible the risks to which these projects are involved.

With respect to continuity of studies in this area, taking into account the role that PM has to educational institutions, it is suggested: make a survey of the main difficulties encountered in educational Institutions for projects, then identify the main characteristics of these difficulties and its eventual recurrence. In addition, it would be viable and interesting expand the number and the profile of the samples, identifying the occurrence or not of similar projects, but in different areas. To then assess whether the methodologies of PM could be used in projects in different areas.

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