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**Extension Project Management in a University: an experience report**

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**Abstract:** Many public universities in Brazil use extension projects to propose solutions to specific problems detected in a local community. Given the multiple possibilities of modeling, this case addresses the experience of undergraduate students with no previous project experience. Taking action research as reference, this case helps to understand the point of view of a group of undergraduate students' on adopting management techniques. Another important result is the form of adaptation in the conduct of the project, approaching hybrid methods of project management. This case is significant for evidencing the difficulty of articulating the concepts of communication in project management. The case concludes by presenting the organizational and behavioral determinants that affect the development of projects in a public university.

**Keywords:** Public Service. Project Management. Tacit Knowledge.

## **Introduction**

Business practices differs from those used by leading extension projects in universities. A better understanding of the reality offered the possibility to review concepts and to propose new paths, taking advantage of the tendency to use agile methods. Given the legal constraints that the public sector imposes on project management in Brazil, any proposal for modeling should take into account not only the observance of norms but also the needs of the public university community.

Most academic projects tend to study the management process assuming a prior modeling for activity management. We realized that it would be valuable to discuss the process of transforming the perception of students, who had no prior knowledge of techniques, in a project without prior structure design. It would be much of the same to discuss the waterfall model in a rigid environment of standards and metrics, with expected results for a broad spectrum of stakeholders, if this project had not some specificities. We wanted to understand how to give an opportunity to students to learn project management techniques without compromising the variables agreed upon in the project plan (scope, time, cost and quality). How should the project manager address communication in this environment of free creation and self-paced-learning? Using action research, a theoretical model in which participants are

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subject to influence based on interactions, this case illustrates the findings and appropriations of project management techniques by a group of young freshmen in a Social Sciences course during an extension project.

### **Research Design**

The intended scope of the study was the adequacy of the document archiving structure of the university in which we work. One of the authors of the project was responsible for detailing the technical issues related to the organization and systematization of archiving practices. The other professor was responsible for the development of the project team as well as other daily academic and managerial activities.

During the development of the proposal, there was no student participation, due to the lack of interest to join the team; the students invited alleged that they needed to focus on final exams and could not provide any assistance at that point.

In the following academic term, the sponsor, the university in which the professors work, approved the project and instituted it as a regular course called “Curricular Activity in Community” for undergraduate students. Students enrolled in any course at the University could take part in the project, without prior technical or managerial knowledge. In accordance with the university rules, this kind of activity implies that the content/scope might vary accordingly to the interest of the professor responsible for it. Thus, the project duration must match the academic length of four months. From the academic point of view, the criteria used for the course evaluation would be the assignment of grades at the end of field activities. The professors would appraise the performance based on the student adherence to the principles adopted in the organization of archives and on the apprehension on project management principles.

As already mentioned, the students were from diverse backgrounds, ages, and knowledge on the scope development. Dealing with and evaluating students was challenging, especially because we chose the participant observation method where all the participants, professors and students interacted in field activities and in situations for which no prior script was available. However, this method allowed a higher possibility of judgment influenced by impressions.

Another expected difficulty was that students would place greater importance to the professor evaluation, rather than the development of scope or the attendance of the needs of interested parties, such as other tenured faculty and administrative workers. The students would consider them as being “invisible” since they would not find in the daily practice of fieldwork.

At this point, it is valid to clarify what we understand as being a project: an intervention that involves purpose, time, and defined resources. An archival project is different from other

kinds of projects because it can have at least, two management approaches: a task orientation and an organizational perspective (ANDERSEN et al., 2009). A task perspective sees the project as a well-defined venture that project participants can plan in detail early in its development cycle. Within the organizational perspective, a project tends to be a supportive organization that helps a grassroots organization in its change initiatives and that has more focus on the purpose of the project than its predetermined tasks. This version has a long list of corrections, changes, and new developments that significantly improve functioning. In projects of social orientation whose benefits stakeholders shared in different environments and orbits of influence, directly or indirectly related to scope - it is a measurement of results by means of approximations, even more, accurate to approach complex problems (ANDERSEN et al., 2009).

The lack of evidence of effectiveness, applicability and universal success of a proposed methodology are common problems in both management approaches (AHLEMANN et al, 2013).

Organizational culture influences project participants and goals (ANDERSEN et al., 2009; COOKE-DAVIES e ARZMANMAN, 2003). The diversity of visions and interests implies an expanded understanding of the interrelationship and influence of each participant, work team and organization involved. The members of the project need sensitivity to meet established technical standards without losing sight of the context.

Regarding the evaluation of the effectiveness of the proposals, the project manager should adopt indicators but these tend to vary according to scope and organization, although the efficiency parameters are well known: cost, time and quality of the product or service to be developed. The metrics themselves are subjective because of the time and space in which the project is developed and the stakeholders involved in this process.

Unlike other possible projects within the academic environment, the extension project tends to permit a wide range of models. The project manager/professor in the case is the main responsible for the best approach. In such types of projects – named as exploratory or design projects – the project plan usually does not clearly present goals and scope before the participants carry out activities. This means that the use of tacit knowledge is necessary since it is not possible to predict possibilities accurately (KOSKINEN et al., 2003). Some examples of tacit knowledge in the project include personal beliefs, ideas, values, personal judgments, perspectives, and intuitions in the decision process.

Thus, the concept of "success" in a project is questionable; it depends on who and how to use benchmarking measures, as well as how to define failure. Perhaps the best definition would be an inability to explain the methodology to those involved (MORRIS, 2010). It is thus important to examine how the participants appropriate tacit knowledge in different projects and

environments, relating it to the consciousness and reality of each individual, in a wide dimensionality, in the particularity of the context and the moment of the organization.

### **Research Practicalities**

The students admitted in the project need to enroll in the course offered for all undergraduate courses at the university. The professors prepared a project plan referring to a method used by Brazil National Archive technicians to address archive issues. Much of this process focuses on document conservation and preservation but does not help to understand managerial aspects necessary to implement and monitor the execution of an archive policy for a University archive.

The participants, both students and professors had to observe technical requirements and parameters to develop the scope, as there was the legal implication. However, they were able to propose how to develop project activities, structure actions, set deadlines, define responsibilities, and manage stakeholder engagement, among other administrative aspects.

As the professors expected, it was difficult to work with a group of twenty students from various background, so they divided the project into two stages. The first stage included the organization of documents and the structuring of the archive sector. The second stage was a training for archival users. This would be one of the most important deliveries of the project because it would suit to attend not only actual demands but to avoid future problems, as well. A problem that users commonly reported was the lack of a standard for archiving, and keeping and discarding documents, which led to the loss of important documents.

Because this project involved an archive containing confidential data, the students signed a confidentiality agreement. In the document, they committed to keep all information contained in the documents confidential. Another commitment was to maintain the integrity of the documentary pieces without removing them from the workplace. Although the professors constantly monitored the activities, this action protected the team against legal disputes.

Students and the professor, named “project manager”, determined the steps for developing the project after two meetings. The participants met to discuss the priorities. Thus, the following major group of activities was established:

1. Study of the technical content related to the scope
2. Revision of ethical implications of the project
3. Guided visits to the sites where the activities were developed
4. Interviews with stakeholders to identify their expectations related to the project
5. Standardization of procedures
6. Development of professional requalification activities

## Method in Action

One result that affected the project was the frequency of project status meetings with the entire group. At the outset, the students decided to meet every two weeks, but because of the difficulties they faced to operationalize concepts, they changed the periodicity to weekly. One difficulty was the refinement of the project scope: what would be in and out of scope? Another problem was the number of hours that the professors estimated for planning activities: the number of hours was underestimated but it did not really compromise the project because the project had many activities that could be easily fast-tracked.

An important issue was that students preferred to use a material with little academic depth to base managerial decisions regarding the project steps. The content of material available on blogs and personal websites did not help to understand the context of the project. As the undergoing project had specificities, the vast material available was not pertinent but created some misconceptions on how to deal with some problems during the project. For example, when a student decided to leave the project due difficulty to conciliate the project activities with a part-time job, the group had to deal with the process of replacing a member of the team. In accordance to their view, the project manager should refer to a resource pool and replace the participant, with no changes in the project baseline. The misconception was to believe that, as some websites indicate, it would be simple to recruit and to assign a new member to activities of the student that left the project. However, the first problem was the availability of the number of participants: the project would admit students at the beginning of the semester when they had enrolled in the course. According to the university guidelines, the professor should accept a student exiting the project at any time during the project timeline.

As an extension project whose student participation was voluntary, the turnover rate of participants reached a high rate of 30%. The impact clearly affected the baseline: the project manager had to balance the activities assigned to each member of the team and to avail an increase in the risks of the project, i.e.: costs, duration of the project, among others. All these would be least if the users of the archive had not informed the professors an increase in the number of mistakes in some technical processes. To minimize the effects, the professors promoted a workshop on archival processes to improve student's skills. Ultimately, the professors scheduled a round of meetings to resolve doubts and to let the students assimilate the workarounds.

In part, "learning-by-doing" with more experienced participants was productive, but sharing practices and how students reported lessons learned were a challenge. The participants with more time in the project ended up presenting a synthetic form of the report, which added little to the group's knowledge. The report neither helped the novices to understand more about the project nor generated knowledge for other stakeholders. The result was poor reporting, which did not contribute to the learning of the project team.

Another burden was the contact of the student team with representatives of the academic units to evaluate how they made the documents in the university archive available. The archive user receptivity was good, but data collection showed bias. For the student, without prior preparation to deal with subjective issues involving the file, it was a great challenge. The students proposed a solution to avoid this sort of problem in one of the “iron-meetings” with the professors. The agreement was to have a veteran leading each group of tasks, especially those related to stakeholders.

The veterans adapted a methodology used by Brazil National Archive technicians to measure the mass of documents. Much of the process focused on the document conservation and preservation, without indication of how to address managerial aspects necessary to implement and monitor an archive policy for a University archive. Thus, the experienced students decided to create an interview script based on common issues to document management. The remaining students applied the pre-test; however, due to changes in the composition of the project team, the assigned participants were not able to provide a throughout analysis of the results.

Regarding the project development, the leaders of each group of tasks agreed to use process indicators and milestones to verify the degree of achievement for each activity, as it was in the original project plan, namely:

a) the teaching-learning process

Indicators for diagnostic evaluation:

- visit report: the content professor would audit the activities and held meetings with key stakeholders once a week. Field leaders would take part in some audits whenever the professor invited them.
- participation in classes and discussions with the professor: the process-professor would hold biweekly a meeting to clarify technical question with the presence of leaders and novices. Leaders would conduct meetings with their teams in this meantime and could contact the content-professor whenever there was a problem. Professors would perform field audits to verify compliance with the agreed standards in the project plan.

b) diagnosis of the situation to propose alternatives:

b1) Indicators to procedural evaluation:

- participation in classes and discussions with the professor: the process-professor would hold biweekly a meeting to clarify technical question with the presence of leaders and novices. Leaders would conduct meetings with their teams in this meantime and could contact the content-professor whenever there

was a problem. Professors would perform field audits to verify compliance with the agreed standards in the project plan.

- partial report: each leader would post daily an electronic note on the Moodle environment reporting the events of the fieldwork. Professors considered failure to report or incomplete data a flaw that they should take into account when was the time to evaluate the leadership.
- community discussions: based on the daily report, each team member could post on Moodle comments on his/her participation. The professors expected that the team members accessed the forums at least once a month. Moodle would send a note to the professors when there was a long absence.

b2) Subsequent evaluation indicators:

- final report: students would create a task force to produce the final report. One of the leaders would be responsible to manage the process. Professors would consider delay or fail to produce the text in accordance with academic patterns as being a flaw. Professors would refer to a scale of grades to evaluate students based on the final text.
- scientific papers: likewise, the final report, the students would assign a leader to this task. All the students involved in the project would choose a leader without the participation of the professors. The professors would use the same scale used for the final report.
- seminars with the community involved: another leader would be responsible for this task. Professors would count on the help of a representative of the archive users to evaluate the student's participation.

c) the intervention process:

- participation in classes and debates: content-professor would evaluate the engagement of the students based on their performance in oral exams during meeting and workshops.
- activities report: the process-professor would evaluate weekly reports of the leaders that must address time measures and tasks completion. The professor would audit fieldwork every two working days.
- seminar presentation: for the seminars to the archive users, the content-professor would appraise the adherence to academic standards, while the process-professor would keep an eye on the project management skills development. Both grades would have the same weight in the composition of the final grade.

As the project evolved, the indicators demonstrated to be good to evaluate the progress of tasks. An alternative to meet the deadline would be to fast track some activities but this would be the last option to call.

### **Practical Lessons Learned**

Archival projects involve a sense of specificity because they require people with technical and interpersonal skills. When the project manager chooses a project, the management approach should consider not only the profile and influence of stakeholders, resources, time and standards of excellence established by the contracting organization but also the characteristics of the scope.

In the absence of a support structure or team, as in situations where there is a Project Management Office (PMO), the communication effort of the project manager tends to be greater. The composition of the team, combining students with professionals, is an important factor and project managers should highlight the mix during the project risks assessment.

In this project, flexibility in the decision-making process, which aimed to provide the student with the practical learning of project management concepts, eventually generated tension in the relations among project members, with a significant impact on the execution of the activities. Another lesson is to consider the effects of participants' level of commitment to the project (e.g., volunteers) on the work to be accomplished.

It is crucial for open-sourced design projects that the significant time investment is in project status sessions with the team. Consolidating work and effective organization is important to avoid dispersions that affect the project scope and team morale.

In particular, an archival project, which, by itself, tends to generate discussions about organizational power, should have a team prepared to deal with discussions that go beyond technical merit. In this case, it would be necessary to extend the time dedicated to training and preparation of the team to attend to behavioral situations observed in the project team's interaction with the university workers. To address the project team's relationship issues with the internal stakeholders, the professors could have mapped what information related to the project was most relevant at the beginning of the project.

### **Conclusion**

One way to better understand and respond to specific situations found in a university project is to discuss the organizational and behavioral determinants that affect the vision of the process. As the process is recurring in the project in the academic environment, it depends on all actors, not only on professionals specialized in content. It is a risk that the professor, the project manager, needs to evaluate, in spite of how critical the scope development must be.



It is pertinent that a pragmatic direction revises and shapes the actions of the team of an extension project. Participants of a project should use specific metrics capable of revealing the status of the effort employed not only to meet the scope requirements but also the development of competencies of the team members of the project. The provision of metrics may also consider that some process-learning experiences might have a different pace than knowledge (content) acquisition ones. The common understanding to address both is to relate them to a certain informational maturity readiness, sometimes attached to beliefs or misbeliefs.

Extension projects should contemplate the articulation of practices that go beyond the academic approach, leading the participants to reflect on administrative processes and personal development, as well. Gathering different members of a team into a university project, based on volunteerism, requires a management with a great sense of balance and sensitiveness. In spite of the challenge to deal with different levels of interest and maturity, the project manager should be capable of identifying and establishing a degree of influence that each member can exercise in the management of the team. It is not sufficient to foretell what kind of interest they might have in a project by its own nature tends to vary a lot. An alternative is to create working groups to discuss management goals and administrative implications.

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