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DELAYS IN *IT* PROJECTS DUE TO FAILURES IN THE *STAKEHOLDERS* MANAGEMENT

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ABSTRACT

The Information Technology (IT) has undergone profound and rapid changes in recent decades. In this context, organizations must be prepared to implement these technologies, on the form of projects, as quickly and effectively as possible, providing results before its competitors. Therefore, it can be noted that the delivery of a project on time, ever shorter, is essential. Considering these observations, the main purpose of this study is to explore how failures in IT project stakeholder management may impact, directly or indirectly, the deadlines of these projects. The empirical research, qualitative in nature, is of the exploratory type and counted with the participation of IT project managers and managers of IT project managers, who answered a semi structured interview and provided documents in support of the research. The transcripts of the interviews as well as the provided documents were used for the analysis of data content. As a final result of this study, the main failures in the stakeholder management that may compromise – mostly indirectly – the timely delivery of IT projects are identified and explored.

Key words: Stakeholders, projects, Information Technology, deadlines, failures.

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ATRASOS EM PROJETOS DE TI CAUSADOS POR FALHAS NA GESTÃO DOS *STAKEHOLDERS*

RESUMO

A Tecnologia da Informação (TI) tem passado por mudanças profundas e rápidas nas últimas décadas. Nesse contexto, as organizações devem estar preparadas para implementar, sob a forma de projetos, essas tecnologias da maneira mais rápida e efetiva possível, apresentando resultados antes de seus concorrentes. Portanto, pode-se notar que a entrega de um projeto no prazo cada vez mais curto é essencial. Considerando tais observações, o propósito principal deste estudo é explorar como falhas na gestão dos *stakeholders* de projetos de TI podem impactar, direta ou indiretamente, os prazos finais desses projetos. A pesquisa empírica realizada, de natureza qualitativa, é do tipo exploratória e contou com a participação de gerentes de projetos de TI e de gestores de gerentes de projetos de TI, os quais responderam a uma entrevista semiestruturada e forneceram documentos de apoio à pesquisa. As transcrições das entrevistas, assim como os documentos fornecidos, foram utilizados para a análise de conteúdo dos dados. Como resultado final, as principais falhas na gestão dos *stakeholders* que podem prejudicar – em sua maioria, indiretamente – a entrega pontual dos projetos de TI são identificadas e exploradas.

Palavras-chave: *Stakeholders*, projetos, Tecnologia da Informação, prazos, falhas.

1 INTRODUCTION

Project failures on Information Technology (IT), especially the recurrent delays within the agreed deadlines, are viewed as something so common that they end up being accepted without much question, although the resulting losses and dissatisfactions have been clear.

Reports and researches across the world (Sauer & Cuthbertson, 2003; Standish Group, 2009, quoted by Gresse Von Wangenheim, 2009, p 1; Chapters of the Project Management Institute [PMI], 2011) report that the non-compliance with the IT projects deadlines remains the main or one of the main fails on these projects.

It is possible to investigate the problem of IT projects delays from different perspectives: inadequate planning, a high degree of uncertainty due to a new technology, constant changes in the scope; poor communication from *stakeholders*, etc...

Because of to the interaction with *stakeholders* (through communication) is considered the main shortcoming of project managers in Brazil (PMI Chapters, 2011), it was chosen to understand the delay phenomenon in relation to the effectiveness of the *stakeholders* management of the IT projects.

The exploration of these delays or other failures in IT projects through the *stakeholders'* theory is still an approach little used by the academic and professional environment.

The importance of this approach is real, since failures in the *stakeholders'* management, such as for example, poor communication of these *stakeholders* (Molena, 2011), results in the problem of higher frequency in projects: failure to meet deadlines.

In this context, one can define the following research problem: how failures in the *stakeholder*s management of IT projects can negatively impact - directly or indirectly - the ultimate deadlines for the project delivery?

Through readings and exploratory discussions on the topic at issue and the through researcher's own practical observation, as a project manager, it could be defined - tentatively - some assumptions for the research. Such assumptions have served as guidelines for the structuring of the theoretical

framework and for the development of the set of interviews. These assumptions are:

- ✓ failure to identify one or more stakeholders can negatively affect the project deadline;
- ✓ changing one or more *stakeholders* after the project had began, may negatively affect the project deadline;
- ✓ poor communication with one or more *stakeholders* can negatively affect the project deadline.

2 LITERATURE REVIEW

2.1 INFORMATION TECHNOLOGY

Increasingly important and strategic for a society and its organizations, the Information Technology (IT) has been undergoing through deep changes every year. The speed with which new technologies appear and the way organizations incorporate them into their daily lives is extremely high.

All of that occurs because the information is essential to society and especially to the modern corporations. It is one of the main ways through which a company can get a competitive advantage in face of competition (Vico Mañas, 2010).

In this paper, the word Information Technology (IT) must be understood as something more comprehensive than Data Processing, Computing, Hardware & Software, Information Systems, Software Engineering and Telecommunications, as it also involves human, administrative and organizational aspects (Laurindo, 2008; Keen, 1993; Luftman, Oldach & Lewis, 1993). This definition, broader, already takes into account the administrative and human aspects of the organizations.

In the past three decades, the same way that the complexity of IT applications has greatly increased, so has increased the managers' concern towards the IT area management improve (Laurindo, 2008).

Such a fact happens since any leading company has access to the same information technology resources or capabilities, so what determines the

competitive advantage or disadvantage of a company is the difference in the way its IT area is run (Keen, 1993).

2.2 MANAGEMENT AND GOVERNANCE OF INFORMATION TECHNOLOGY (IT)

The formal organizational unit or function responsible for providing technological services within a company is called IT department or IT area. Its primary function is to provide the maintenance of the equipment (hardware) systems and programs (software), data warehousing and communication networks. It is mainly made up of experts as programmers, systems analysts, project leaders and managers of information systems (J. Laudon & Laudon K., 2004).

To address a number of problems in the IT management area, the IT governance has been adopted by most organizations. The primary purpose of governance is to improve the IT communication with the business and increase the consistency and transparency of its internal processes and its own management (Laurindo, 2008).

The first step toward formulating IT governance is to determine who (the owner) should take each type of decision and be held accountable for its results. Accordingly, IT governance consists of a frame of reference that includes decision makers (or decisions owners) as well as responsibilities and practices to encourage desirable behaviors in the use of IT (Weill & Ross, 2005).

Governance, therefore, contributes to a better alignment between IT and the business. But companies need as well a process that helps them accomplish, efficiently, a strategic IT planning. This planning is a set of future goals that describes the IT bedrock and the main projects of Information System (IS) required in order to achieve the organizational goals (Turban, Rainer & Potter, 2005).

Usually, the last step of the IT strategic planning results in a list of approved and prioritized IT projects. Such projects are added to a developmental schedule or releases (Office of Government Commerce [OGC], 2007) and should be implemented in the period, which generally ranges from one to three years (Turban, McLean & Wetherbe, 2004).

2.3 IT PROJECTS

The most common and accepted definition of a project is the one that defines it as a temporary endeavor undertaken to create an exclusive product, service or result. For being temporary, it always has a defined beginning and ending date. The end is reached when the initial project objectives have been achieved. Although repetitive elements may be present within different projects, this repetition does not change the fundamental characteristic of each project: the unique nature of each of these projects (Project Management Institute [PMI], 2008).

The use of IT means a change in the company, which must be planned and prepared in order to guarantee its success. Such a change requires considerable organizational effort, which is carried out in the form of IT projects (Albertin, 2001).

An IT project may produce and deliver different products, services and / or outcomes: an IS (Information System), new software, a recommendation based on a study, etc... (Marchewka, 2002).

IT projects have particular characteristics that should be taken into account in their management, although it is considered the same conceptual basis of the traditional project management.

As an example of something that should be taken into account, is that many of the IT projects are complex in terms of technological innovation and / or number of interfaces between the players (*stakeholders)* involved. This fact projects a high level of uncertainty to these projects related to the technology involved, the delivery date as well as the horizon of the *stakeholders* involved (Vaagaasar 2011)

Another unique feature is that, very often, the cost of an IT project is tangible, while many of its benefits are intangible (Albertin, 2004).

Just like every project, but mainly on account of these features, IT projects incur in failures that - if not managed satisfactorily - lead to waste, delays, and other problems. Besides it, not well managed failures, provoke, of course, unfavorable effects on the organization's strategy, with often disastrous consequences.

2.4 FAILURES IN IT PROJECTS

IT projects have been synonymous of failures in the past four decades, which ultimately ends up tarnishing their reputation among the majority of their users (Al-Ahmad et al, 2009; Sauer & Cuthbertson, 2003). However, what does determine that a project is flawed? There are two streams of thought (Nicholas & Hidding, 2010; Mañas Vico, 2010):

- ✓ the first, known as "effectiveness", that:
  - defines as successful those projects that have their final result (the product or service produced) regarded as a success;
  - focuses on final project outcomes;

- ✓ the second, known as "efficiency", that:
  - defines success as the project delivery within budget and on time;
  - focuses on the project resources, activities and processes.

Although both approaches are important, this paper target is focused on a failure which is in that group of "efficiency" (the delay). Considering this approach, researches indicate that more than half of all the IT projects become flawed – they exceed their deadlines and budgets while also fail in delivering the expected result (Al-Ahmad et al, 2009.).

The failure which constantly appears on top of national and international searches is related to the deadline. Table 1 summarizes such a scenario.

Table 1: Failures in IT projects in the top of the searches

Percentage of failures within the time limit	Position in the research
23% of projects exceed the deadline	1st place in the research at the University of Oxford (Sauer & Cuthbertson, 2003)
63% do not finish on time	1st place in the research of *Chaos Report* (Standish Group, 2009, quoted by Gresse Von Wangenheim, 2009, p. 1)
53% failed to meet the deadline	3rd place in the research of the Brazilian Office of the Project Management Institute (PMI Chapters, 2011) and 1st place in the same research carried out in 2010 (Brazilian Chapters of Project Management Institute [PMI], 2010)

Source: Prepared by the authors

The need to reduce failures in the time limits is clear. Amid the complexity and uncertainty present in such projects, the deadline has been somewhat difficult to efficiently manage.

2.5 DEADLINES IN IT PROJECTS

One of the main reasons for the use of the project management knowledge and practices is to determine whether the deadline of a project can be achieved and, if not, to look for alternatives to make it happen.

The project management deadline or its time includes the processes and practices required to manage its timely completion (PMI, 2008).

The project, therefore, will be considered a failure if the deadline agreed during planning is not met (with possible adjustments in the dates, incorporated by changes approved by *stakeholders*).

There are several possible reasons for delays and other failures related to poor management of time:

- ✓ lack of proper planning (dedicating time to it and using the project management best practices for the timelines development) for setting up a feasible timeline (Young, 2003);
- ✓ acceptance of the deadline, required by the senior management, by the project manager without deeply analyzing the project needs, without revalidating estimations, without reconciling possible differences, and after all these analyzes, to get a new accepted agreement from senior management and other *stakeholders* (Mulcahy, 2009);
- ✓ uncertainty regarding the ultimate goals, difficulty with the amount of changes due to impossibilities to freeze the requirements and need of parallelism and competition, which are ever increasing because of the shorter period required by companies, have increased the complexity of IT projects and hampered on-time delivery (Williams, 1999);
- ✓ timeline previously planned and approved is the project aspect that undergoes the most changes (five on average) during the project life

cycle. This adds difficulty and complexity to achieve feasible dates (Sauer & Cuthbertson, 2003);

- ✓ any change in the scope, although apparently simple, without an appropriate evaluation and approval by the members of the project team and its *stakeholders* (Phillips, 2003);
- ✓ business cycles, financial situations (a company might have more or fewer receptiveness to invest in a particular time of year) and periods of the year (Phillips, 2003);
- ✓ poor communication from *stakeholders*. According to Molena (2011), relying on the *Benchmarking* study in Brazil Project Management (Brazilian Chapters, PMI 2008), such a problem results in the non compliance with deadlines.

It is also clear that large part of the ultimate benefits of IT projects is intangible (and these benefits may take a long time to appear even after the termination of a project). Thus, the longer a project delays, the longer the *stakeholders* will feel that the initiative is not providing any return.

Stakeholders are not only interested in the completing of the project on time. It is a fact that many of them have interests contrary to the project entry within the agreed deadline, either by valid and positive interests or by opposing interests and invalid to the initiative starting. Whichever the case, the IT project manager must manage these *stakeholders*.

Many of these *stakeholders* hold powerful positions in the organization, which go beyond the influence of the IT project manager formal authority. It is in this context that the project manager should use different approaches to manage and influence *stakeholders* to support the project (Boddy & Buchanan, 1992).

2.6 MANAGEMENT OF STAKEHOLDERS IN IT PROJECTS

In the current world, in which companies are in constant change, the concern only to clients and shareholders is no longer enough. In this context, other *stakeholders* such as employees, suppliers, distributors, press, local community, government, union and society are increasingly involved in business concerns (Rock & Goldschmidt, 2010).

According to Freeman (1984, p 46.), "a stakeholder in an organization is (by definition) any group or individual who may affect or is affected by the achievement of the organizational objectives".

The same way as an organization has internal and external *stakeholders*, the IT area also has its own parties concerned.

The IT *stakeholder* can be defined as any group or individual who is affected or may affect the strategic decisions related to information technology in a company. They are usually numerous and sometimes difficult to identify, and their involvement largely depends on the context.

In projects management, a stakeholder can be defined as any group or individual who is affected or may affect the achievement of the project objectives. They can be divide into internal (those who are under the formal authority of the project manager) and external. Figure 1 shows the different kinds of an IT project. In it the internal stakeholders are those who are part of the Project Team and the external, those who are outside (around) the Team.

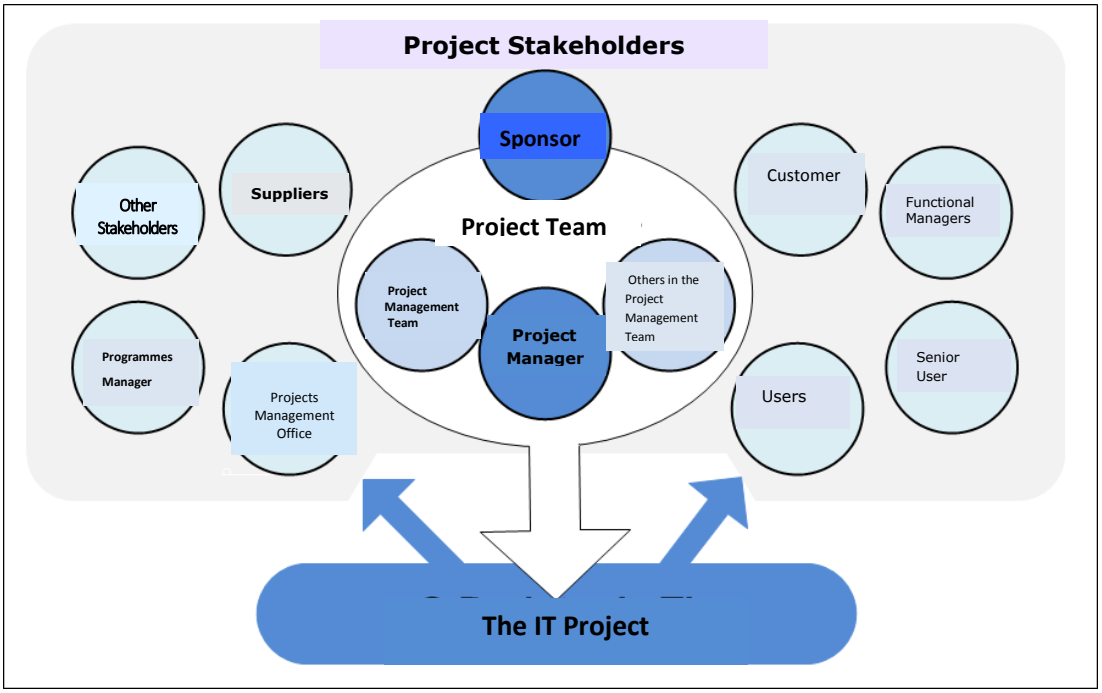

Figure 1: Relationship between the *stakeholders* and the IT project
Source: Adapted from PMI (2008, p 24.)

The external ones, since they represent a greater potential impact on the project and because they are outside the formal influence of the project

manager, require more systematic management in order to minimize unexpected problems, while also ensuring their support to the project.

Often, the project is sensitive to actions and decisions taken by the external *stakeholders*, since a lot of information and resources needed are controlled by them. This control gives the *stakeholder*s some power (Karlsen, 2002). Furthermore, the stakeholders are the ones who, in the end of the process, will assess whether the project was a success or not (Jergeas, Williamson, Skulmoski & Thomas, 2000).

The management of the project *stakeholders* assumes that the success depends on taking into account the potential impact of the project decisions on all the *stakeholders* during the life cycle of the project. Thus, it is essential to have a formal process to identify, manage, and understand how the likely project *stakeholders* may: be impacted by the project decisions, react to such decisions, interact with each other and with the project manager, in short, how they can affect the chances of the project success (Cleland, 1986).

When *stakeholders* management is neglected, uncertainties and unexpected problems may appear which may contribute to the failure of the project. According to Jergeas et al. (2000), the following negative effects can occur when *stakeholders* are not managed:

- ✓ *stakeholders* dissatisfied with the project outcome;
- ✓ interruptions in the project that end up affecting the budget and the deadline;
- ✓ insufficient endorsement for the project, even to start it;
- ✓ problems that may impact the relationship with stakeholders and the project team, which may impair working together on future projects.

Managers of IT projects should be careful so that they do not ignore groups or individuals who apparently are not important at any given time, since they may become essential (or cause greater impact) in the future. "The failure to identify an interested party may extend the timeline and substantially increase the costs" (PMI, 2008, p. 24).

Hence, a more formal process for *stakeholders* management in IT projects, proposed by Cleland (1986) and shown in Figure 2, is fundamental to the project success.

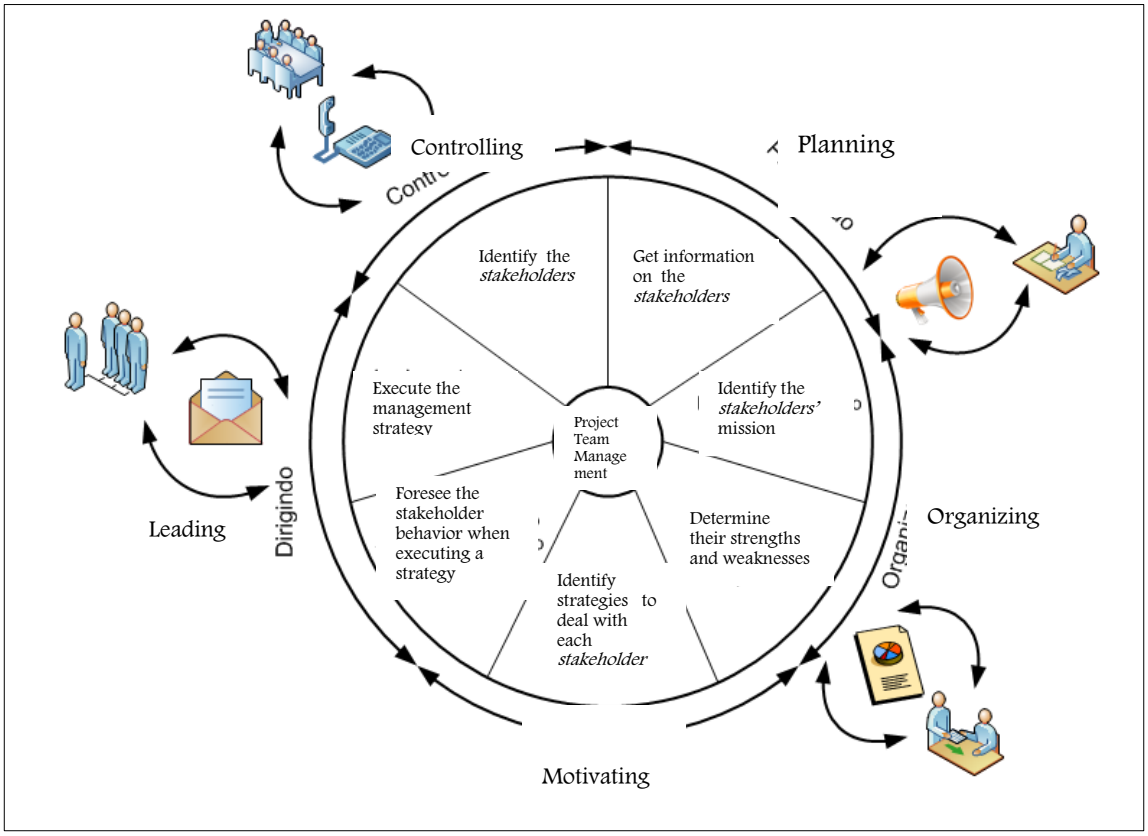

Figure 2: A formal process for the *stakeholders* management

Source: Adapted from PMI (2008, p 24.)

The process first step (to identify the *stakeholders*), considered the basis for all the others, can be made easier by the creation of a map with the project *stakeholders*. The whole process for the *stakeholders* management involves intense communication and the use of the administration main essential functions (Dale, 1978), as it is highlighted by the cycles around the process (Figure 2). Even though some offer more rigor and formality, all the process steps use communication, either for further information about a stakeholder or to manage their expectations.

Clear communication builds up credibility with *stakeholders*. Accordingly it is of utmost importance that the project manager spends much of his time reporting to the *stakeholders*. He must constantly "sell and resell" the project to all the *stakeholders*: top management, functional departments, customers, other stakeholders from outside the project and also for the project team itself. This "sales process" should focus on the clarification of the project objectives and how success will be achieved (Meredith & Mantel, 2012).

Meredith and Mantel (2012) also highlight the political nature the project manager must perform in relation to the *stakeholders*. It is pointed out that the job description of a project manager should include, for example, the building and maintenance of alliances with the functional areas leaders.

It is also essential that the project manager recognizes danger signs, especially those connected to stakeholders that can exert more power over the project. Some of these signals according to Boddy and Buchanan (1992) may be:

- ✓ interference of the *stakeholder* in the project without consulting;
- ✓ *stakeholder* does not provide support when needed;
- ✓ many hierarchical levels between the project manager and the *stakeholder*, causing a poor communication link;
- ✓ *stakeholder* makes groundless promises or promises without support.

Only a project manager who builds credibility and knows how to insert himself in the power structures of his company (through thorough knowledge of the stakeholders and their potential for influence) can recognize these warning signs and defuse potential crises before a worse scenario takes place (Buchanan & Boddy 1992).

Finally, the communication of *stakeholders* in the IT projects management is not as simple as assumed by literature in general. The way an IT project is reported and addressed from the outset to *stakeholders* can contribute significantly to the success of the project (Mcmanus, 2004).

3 RESEARCH METHODS AND TECHNIQUES

For this research, it was chosen a qualitative approach which usually emphasizes the words rather than the data quantification. This approach proves to be increasingly popular among researchers of management (Bryman & Bell, 2003), because it offers a possibility to better understand how individuals provide meaning and adopt their organizational worlds (Swanson & Holton III, 2005). It allows the researcher to explore and learn the meaning that respondents give to the issue (Creswell, 2010).

In relation to its general objective, this research shall be classified as a qualitative one, of exploratory type, which provides greater familiarity with the problem at issue, seeking to make it more explicit and enhance the ideas related to the theme (Gil, 2002).

After the drawing up of the interview script, semi-structured interviews were carried out with 17 IT project managers and/or managers of IT project managers from private business organizations and in their majority, of large size. This sample - considered small - is validated for being a qualitative research, where there is a great expenditure of time on account of the extensive interpretations based on in the interview transcripts. As the sample is small, the results of this study cannot be considered representative of the general population and the research should be viewed as an exploratory one.

The interview script, previously prepared, is made up of three parts, namely: information to the interviewee: general guidelines for the interviewee on the survey and on the interview; regarding the respondent: basic record to identify the respondent profile; about the project: list of questions related to the topic at issue. Such script was previously tested and validated by two colleagues also academics researchers with practical experience in managing IT projects.

Before starting every interview, each respondent was informed that the entire interview would be recorded, so if something were confidential, the researcher should be informed. Furthermore, the respondent had the option of not having their interview recorded or to request that the recording was paused at any time and also to request that specific information spoken / written were not documented. Since this is a survey that sought to identify flaws, it was chosen the anonymity of respondents in any kind of citation used in the study.

Each interview lasted on average about 19 minutes and was conducted in a semi-structured way aiming at leaving the respondent feel at ease, which helped the flow of the interview whose technique sought answers to specific questions. The respondent was requested, however, to identify other relevant aspects of the subject. This contributed to the fact that relevant information not previously thought were not omitted. This technique provided a deeper way of questioning if compared to more formal interviews (Dolphin, 2005).

The IT project managers and / or the managers of IT projects managers were intentionally chosen as participants and objects of study since they are in a

better position to assist the researcher in understanding the issue at hand, because they are the ones who are at the management center of the different *stakeholders* and should manage their expectations to achieve the project success.

At the end of each interview, the interviewee was asked to share at least one document that exemplified a *stakeholders'* management plan prepared by the interviewee during his work as an IT project manager. Thus, a content analysis (Bryman & Bell, 2003; Vergara, 2005) could be applied to the results of the interviews carried out, as well as to such documents - when available. It was opted for the content analysis since this is a method with both, exploratory purposes (discovery) and verification purposes (with the presuppositions either validated or not) (Vergara, 2005).

Among the procedures employed in this work are: a) reading and exploratory talks about the topic (Quivy & Campenhoudt, 1998), b) the deliberate participants selecting (IT project managers or managers of IT project managers) who would best contribute with the researcher for problem understanding (Creswell, 2010), c) development of a set of interviews (Creswell, 2010) d) carrying out semi-structured interviews, person to person or by phone with IT project managers or managers of IT project managers (Vergara, 2005); e) interviews recording transcription (Creswell, 2010), f) analysis and categorization of the answers and the content of documents shared by respondents by using interpretative procedures (Vergara, 2005); g) qualitative interpretation and data description; h) comparison of obtained results with the theories that gave support to the research (Vergara, 2005).

Both the categorization as well as the content analysis of the data collected was assisted by using of the qualitative data analysis *software* NVivo (Qsr International, n.d.). In this *software*, all documents were imported and, with the aid of this *software* resources nodes (categorization, coding or nodes) and *query* (query or search), the related information could be searched and grouped into categories, facilitating the analysis process.

With the support of this *software*, the analysis starting involved the organization of responses by category (nodes) and notations of important points that could cooperate with the interpretation and understanding of the data.

The following advantages of the qualitative research chosen for this work should be listed: 1) flexibility and versatility, as it can be used as a starting point for further researches of a more conclusive nature (Gill & Meirelles, 2004), 2) the interpersonal interview, one to one, allows the researcher to control the line of questioning and get - in this case through semi structured interview - historical information of respondents (Creswell, 2010), 3) it becomes useful when, as in this case, the participants cannot be directly observed (Creswell, 2010), 4) large amounts of qualitative data can be processed and stored with the aid of specialized software (Vergara, 2005), 5) it is possible to notice the reaction of the respondent to each question.

Although the qualitative method is suitable for the exploratory objectives of this work, some limitations of the procedures adopted in this study are known, in particular (Creswell, 2010): 1) the presence of the researcher during the interviews face to face can influence the responses, 2) the responses may end up providing indirect information filtered out by the respondents' viewpoints, 3) not all of the respondents can provide examples of the requested documents due to restrictions imposed by the companies they work for; 4) when provided, not all documents are authentic or accurate.

4 PRESENTATION AND ANALYSIS OF RESULTS

Somehow, all the interviewed project managers and managers of project managers have reported cases where problems in the *stakeholders* management have impacted negatively, directly or indirectly the IT projects deadlines.

Aspects such as late amendment of the requirements / scope of the project, lack of available human resources on the agreed date and even "ego" issues are some of the problems caused by failures in the *stakeholders* management and that can cause a delay in the IT projects deadline.

For a better understanding of the respondents' profile and of the interviews carried out, Table 1 was prepared. In this Table there is a summary of these interviews. It is also possible to identify the background and experience of

the respondent, the segment of the company he/she work for and whether the respondent acts as a system project manager or IT infrastructure. Other information, such as the length and the way the interview was conducted, are also available.

Interviewed	Length – (minutes)	Way of the interview	Background (Graduation)	Company Segment	Experience (years) as IT Project Manager	Systems or Infrastructure Project Manager
1	24	Person to Person	Business Management	Information Technology	4	Infrastructure
2	17	Person to Person	Business Management with emphasis on Foreign Trade	Information Technology	8	Infrastructure
3	26	Telephone	Economic Sciences	Projects Consultancy/Management	6	Systems
4	19	Telephone	Business Management with emphasis on Systems Analysis	Information Technology	15	Infrastructure and Systems
5	17	Telephone	Business Management	Information Technology	13	Infrastructure and Systems
6	13	Telephone	Processing Data		8	Infrastructure
7	25	Telephone	Business Management with emphasis on Systems Analysis	Information Technology	9	Infrastructure and Systems
8	20	Telephone	Computer Engineering	Projects Consultancy	18	Infrastructure and Systems
9	30	Telephone	Mathematics	Information Technology	8	
10	13	Telephone	Business Management with emphasis on Systems Analysis	Information Technology	4	Infrastructure
11	15	Telephone	Computer Sciences	Finances	5	Infrastructure and Systems
12	12	Telephone	Law Sciences	Information Technology	14	Infrastructure
13	23	Telephone	Business Management with emphasis on Systems Analysis	Food sector	3	Infrastructure and Systems
14	20	Telephone	Processing Data	Civil Construction	9	Infrastructure and Systems
15	16	Telephone	Electronic Engineering	Medicine and Healthcare	4	Infrastructure and Systems
16	18	Telephone	Business Management	Telecommunications	1	Infrastructure
17	14	Telephone	System Analysis	Services - Projects Consultancy	15	Infrastructure and Systems

Table 1: Summary of interviews carried out

Source: Prepared by the Authors

About the late identification of a *stakeholder* in projects, the manager of the IT project managers of a large IT company reports:

> [This] is unfortunately quite frequent. So depending on the pressure to start the project very soon, you end up not involving all the needed *stakeholders* for the project. At the appropriate time (initial) and consequently this will bring you a certain amount of resistance. The *stakeholder*, when it is not initially involved, you run the risk of having a resistance from this *stakeholder*, you have an impact in scope because, undoubtedly, this brings new requirements and, consequently, you are likely to incur in a timeline delay.

Below the analysis carried out for each of the research assumptions and for the documents provided by respondents will be detailed.

4.1 THE LACK OF IDENTIFICATION OF ONE OR MORE *STAKEHOLDERS* CAN ADVERSELY AFFECT THE PROJECT DEADLINE

All respondents reported to believe that the failure to identify a *stakeholder* can adversely impact the project deadline. All of them reported that they experienced an initial situation of not identifying a *stakeholder*, which caused problems with the deadline and other project variables.

The large majority, however, associates indirectly, the adverse impact on the project deadline because, for most of the interviewees, the failure to identify a *stakeholder* will cause a number of new requirements on the part of this *stakeholder* who was earlier "forgotten" that will result in changes in scope and ultimately in the project deadline.

The examples provided of direct impact with a project deadline were few. In one of these examples, the *stakeholder* involved belatedly asked for changing the deadline because his team would not be available on the requested date, as reported the project manager of a service provider of projects management services: "(...) the *stakeholder* was not involved properly and, when it comes the time for his team to work, he had no resources [available] and the project was delayed".

Other interesting features were reported by the interviewees.

- ✓ Sometimes it may be interesting for the enterprise itself that a particular *stakeholder* is not identified or involved in the project.
  According to two project managers of service providing companies, some companies "prefer" not to involve a determined *stakeholder* so that the project has a shorter duration and reach its goal faster. According to them, this may occur because some *stakeholders*, such as for example, the area of Information Security, usually put a lot of restrictions and requirements that normally increase the effort, the cost and the projects deadline.
- ✓ Project managers of service providing companies are more affected by the problem of failing to identify one or more *stakeholders*.
  A project manager for an IT company which provides outsourcing services to other companies, commented that in the area of provision of services, is very common that, at the beginning of the contract, the Project Manager of the service provider does not know anyone (in other words, no *stakeholder*) of the client company.
  Hence, the project manager of the service provider depends on someone from within the contracting company, who knows the different *stakeholders*, so that the process of identifying the key people and the areas involved in the project is started. Considering that the service provider does not know in detail the new client company and to the fact that it depends on someone else from within the contracting company to provide information, the identification of *stakeholders* can take longer. This causes the project to end up starting without all the *stakeholders* identified and included.

4.2 AMENDMENT OF ONE OR MORE *STAKEHOLDERS* AFTER THE PROJECT START CAN ADVERSELY AFFECT ITS DEADLINE

For nine of the interviewees, the amendment of one or more *stakeholders* after the project start can indeed adversely affect the project deadline.

According most of these interviewees, the negative impact of changing a *stakeholder* may be higher depending on the status or power that the *stakeholder* holds. This status or power depends largely on the level of influence,

political power, position in the hierarchy and property in a particular subject, as reported by some respondents, a concept very similar to the one quoted by Karlsen (2002).

Two aspects fairly mentioned by the interviewees were the possible expectation problems brought by the new stakeholder and the requests for changes in the project scope.

Regarding these aspects, two project managers commented that the new *stakeholder* may have different expectations concerning the project deliveries and can even see the project with different priority (smaller) if compared with other initiatives.

Furthermore, they reported that, together with the change, it almost always comes up requests for amendments in the deliveries and, therefore, in the project scope. These late changes in the scope are, for most interviewee projects managers, the cause of delays in timelines.

4.3 POOR COMMUNICATION WITH ONE OR MORE *STAKEHOLDERS* CAN ADVERSELY AFFECT THE PROJECT DEADLINE

Fifteen of the 17 respondents said they did not inform some stakeholder for not deem it necessary, and that this caused some problem for the project.

Seven of them reported that the *stakeholder* who was not informed felt "uncomfortable" or felt excluded. It is noteworthy that these project managers, in most cases, do not associate this feeling of discomfort or exclusion to other more serious problems in the project. For most, it was cases that generated some "stress", but little impact on the project. However, what seems just a nuisance or even an issue of "ego" by the *stakeholder* who was not informed, as reported by one of the project managers, can actually be something negative that affected the project.

After listening to the report that the *stakeholder* got upset, the interviewer questioned the project manager on the reasons for such a discomfort. The interviewee then explained that because the *stakeholder* had not been notified of the dates that his team should work in the integrated tests, this

team could not carry out the tests as it was a period of monthly closing and they would be dedicated to other work. That was actually the reason "discomfort".

Anyway, the issue of "ego" is something to take into account since it was mentioned in some way, by many of the interviewees. A project manager, who provides consultancy in project management, commented that frequently a *stakeholder* does not need to receive some information, but for reasons relating to hierarchy, to political issues, or even to "ego" issues, the person wants to receive the notice. This is something that, although it seems subjective, should not be underestimated.

One of the project managers interviewed summed up the need for good communication after facing challenges in the project for failing to involve the company top management over a problem that at first he believed it was not a "catastrophe", but the problem quickly grew up and turned to be a crisis. The interviewee said he learned a lesson from all of this: "No matter how bad it is, no matter how simple it is, communicate! Because this problem can grow and turns into a situation that will bring you a much greater wear afterwards".

4.4 ANALYSIS OF THE PROVIDED DOCUMENTS

As a whole eight documents with models of *stakeholder* management plans were provided by the interviewees. Because some documents were fully in English or with some terms in that language, the frequency analysis of words was impaired and was not considered in the research.

Except for two documents received, all models had a sort of table with the type of communication (what to communicate), the primary recipient, the frequency of communication and the means used (email, phone, in person, etc...).

Half of documents have a matrix called *Responsible, Accountable, Consulted, Informed* (RACI), containing the roles and responsibilities of the project members. The use of a RACI matrix was also mentioned by the interviewees as something important to make clear and well communicated right at the outset, the responsibilities of the different project *stakeholders* (internal and external).

Other visual device, also mentioned during the interviews as something important, was a kind of organizational chart of the project. Although found in table format, this seems to be a pretty useful tool to show visually the different project *stakeholders*.

Among all the documents shared by the interviewees, the plan of communication and *stakeholder* management employed by the company of Medicine and Healthcare seems to be one of the most structured and the one that takes more seriously the issues related to *stakeholders* management.

One of the advantages of such a company is the fact that its projects are supported by its department of internal communication, which helps with plans, policies, tools, and direct support in the different projects of the organization.

Within the communication and *stakeholder* management plan used by them, it can be highlighted a mapping spreadsheet of the *stakeholders*, which includes, in addition to the basic aspects of communication present in other models, two important attributes for better management of *stakeholders*: the expectation and the influence of each *stakeholder* on the project.

Such attributes allow the company project managers to map and control which is the expectation of a given *stakeholder* in relation to the project objectives and what kind of influence (positive / negative, strong / weak) this *stakeholder* may have on the project.

As from the documents analysis, it can be noticed (in relation to the project managers who provided such documents) a coherence between the provided interviews and the documents provided, showing that there is an ever increasing concern on the part of project managers, of the Project Management Offices (PMOs) and of the managers of project managers with the communication and the *stakeholder*s management.

4.5 OTHER INTERESTING INFORMATION OBTAINED WITH THE SUPPORT OF NVIVO

With the feature called "words frequency consultation" of NVivo it was possible to obtain the words most mentioned by project managers during the interviews. Before running this consultation, all questions were removed from the transcripts to avoid the counting of words that were not mentioned by the

interviewees. Moreover, the query was set up to consider similar words as part of the search. Finally, the researcher have formatted the data in MS-Excel, removing words that were not important to the research (prepositions, proper names, etc..), grouped some words not considered similar by NVivo, but that, in the context of the research, were similar and left only the ten most frequent words.

Table 2 presents these ten words found most often in the respondents' answers.

Table 2: Frequency of words in the interviewees answers

Word	Counting	Similar words or with similar meaning in the context of the research
stakeholder	206	*stakeholder, stakeholders*, user, users, client, clients, interested, *sponsor*
scope	204	scope, scopes, conditions, requirements, request
time	181	time, timeline, timelines, deadline, deadlines
team	168	basis, team, teams, staff, material
personnel	164	personnel, person, people, guy
communication	151	Communication, *communication*, final, item, latino, mail, material, point, project, propaganda, report, request, respond, follow, start, verbal
cost	100	cost, costs, financial, budget
knowledge	62	knowledge, *call*, *center*, *check*, ego, favor, *history*, item, *kick*, *knowledge, learned, learning*, normal, particular, *plan, point, power, skill*
change	41	change, changes
information	28	information

Source: Adapted from a consultation with the NVivo software

The most interesting fact that can be noticed is the word "scope" appearing as the most frequent (with 204 sightings) and immediately after the word "stakeholder". The fact that the word stakeholder be on top with 206 sightings was already - in a way - expected, because most of the questions was linked to this word.

Thus the large quantity of times the word "scope" was mentioned may indicate how important the project managers and their managers consider the scope and requirements management in order to avoid project failure, especially those related to deadlines.

The answers given to the open question on the reasons for the delays in the interviewees' opinion may also support this observation. For such a question, most of the interviewees pointed out the bad survey of requirements and problems in defining the scope as the main causes of delays.

The next chapter will address some findings and final remarks.

5 FINAL REMARKS

This research sought to explore and better understand the IT projects late deliveries through the *stakeholders*' theory. These projects, due to their complexity, may suffer from many uncertainties regarding the final delivery date and in relation to the *stakeholders* involved.

In the study, it was shown that, even in an indirect way (but also in a direct way in some cases), the IT projects deadlines can indeed be negatively impacted by failures in the management of its *stakeholders*.

This could be observed not only through some authors mentioned in the theoretical framework, but also by the reports of the IT project managers and the managers of IT project managers.

The initial assumptions could be verified mostly by the interviews analysis. Some considerations on each assumption are mentioned below.

The first verification (failure to identify one or more stakeholders can adversely affect the project deadline) showed how the practical experience of not identifying a stakeholder at the beginning can cause problems to the project, especially those related to the late request for new requirements that end up impairing the delivery of the project objectives in a timely manner. Although in low quantities some quotes from direct impacts in the deadlines were also reported. Such a finding can also be found in the best practice guide in project management (PMI, 2008, p. 24) and in research on large IT projects (Bloch, Laartz & Blumberg, 2012).

The second verification (the amendment of one or more stakeholders after the start of the project may adversely affect the project deadline) also confirmed a possible negative impact on the projects deadline. Such a view is

described by Legris and Collerette (2006) as a key factor to be considered when implementing an IT project. Therefore, IT projects managers should be well aware of these changes, especially if the new stakeholder has political powers that can be exercised on the project.

The third and last verification carried out (poor communication with one or more *stakeholders* can adversely affect the project deadline) could be confirmed by reports of IT projects managers who, for some reason, have not informed properly some *stakeholder* and this caused delays in the project. In this case, once again, most of the negative impacts on the deadlines were caused in an indirect way because of failures in the *stakeholders* management. The association of poor communication with delays is also reported by Molena (2011).

What could be noticed predominantly is that most of the IT project managers associate failures in the project timely delivery to scope problems and poorly defined requirements. However, it is interesting to highlight that many of the problems of requirements gathering and of scope may be associated with failure in the stakeholders management. For example: a) a stakeholder not identified early on project has chances of asking for something new when engaged, b) a new stakeholder (who replaced the other), who has the management of his expectations neglected, offer greater chances to request changes in the project delivery; c) the stages of requirement identification and of scope definition involve intense communication with stakeholders. Therefore, an inefficient communication in these phases may lead to failures in the identification of the project requirements, which, in turn, may generate late requests for new requirements and, consequently, affect the punctual delivery of the project.

To manage and to influence stakeholders' expectations so that they have a common understanding of the project objectives and thereby increase their support to those goals are actions that can, not only reduce delays, but also increase the chances of the project success as a whole.

Thus, it is essential that the IT project managers draw up a formal plan for managing the project *stakeholders*. This plan needs to stop being optional - as some interviewees revealed - to become mandatory, as a kind of foundation so that the chances of IT projects success be enhanced. It is through this plan

that the project manager can think and organize the management of *stakeholders* before beginning the project execution.

Such a plan must be created during the project initial planning stage in the form of a document and should contain sections that address the following issues / questions:

- ✓ the process of *stakeholders* management (Cleland, 1986; Project Management Institute [PMI], 2013) that will be used in the project;
- ✓ how to identify each stakeholder in a detailed way (who are the people who know the organizations and impacted groups that can help in this identification?);
- ✓ which tools can be used to assist in this identification and registration (for example: spreadsheets records; visual maps, specialized systems, etc.);
- ✓ which information about each stakeholder should be obtained. Some examples: position, expectation, communication method, frequency of reporting, responsibility in the project impact (either positive or negative) for the project, etc.).
- ✓ how to engage them in the project major decisions (for example, an important change in scope);
- ✓ how to monitor the main stakeholders in order to foresee behaviors that may impact the project;
- ✓ which approaches may be used to influence these behaviors;
- ✓ how the changes of *stakeholders* will be monitored and controlled. For example, how a new *stakeholder* will be introduced to the project? How his entry will be communicated? How the project benefits will be sold to him?

Finally, the execution of the *stakeholder* management throughout the project must always be carried out based on such a plan. In other words, the project manager should always follow what has been planned in this document for managing and controlling *stakeholders*. This plan should not be seen as something static and should be adjusted during the project. The establishment of such a document also allows a smoother management in projects involving more than one project manager or involving assistants. Other benefit is upon a change of the project manager during the project: the new manager will have a plan to follow and will not have to start from scratch.

Regarding the exceeding of deadlines in particular, it seems that professionals and academics of the area are starting to seek practical solutions to address this problem. One of them is the projects management *Agile*, which seeks to be based on greater interaction with stakeholders and other methods and tools to faster deliver IT projects. This point was mentioned by one of the interviewees and has been becoming one of the first actions globally accepted to deal specifically with IT projects.

The understanding of the issue in question, from the viewpoint of IT projects managers, although it may contribute to a better understanding of the problem, it also limits this understanding as from a "unique looking." Thus, it would be interesting, for example, to investigate this problem from the viewpoint of other organizational players such as the *stakeholders* themselves, in order to understand the view which these players would give towards the problem.

Other acknowledged limitation, but which met the exploratory objectives of this study was the sample size used in the research, considered small. Thus, a future study, perhaps using the quantitative method with a larger sample, would also be helpful.

Thus, in face of the comprehensiveness of the research topic and the limitations of the particularities presented, it is opportune the continuation of this study in order to develop the theme in its diverse issues. For example, a study that compares the problems faced by project managers working for companies that provide IT services with the problems faced by project managers internal to an organization. Such research can be interesting, since it seems that the project managers of the companies that provide IT services are more affected by problems related to the *stakeholders* management. Lastly, changes in the scope, although apparently simple, are aspects that deserve a deeper study, since it can negatively impact the IT projects deadlines, as mentioned throughout the theoretical framework and by most interviewees.

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