Identification and Mitigation of Risks associated with Stakeholders in IT Projects: A Case Study in the Period of Merger in the Telecoms Industry

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Abstract

This paper identifies risks associated with stakeholders in IT projects in the period of merger in telecommunications companies and proposes mitigation actions. It adopts an interpretive epistemology in an exploratory case study. The results include a list of unique risks in IT projects in such a period and recommendations for mitigating the risks identified in the study. The theoretical contribution is a list of risks during the merger of telecommunications companies, and the contribution to the practice enables project managers apply the findings identified and mitigations in the risk management in IT projects in a similar setting.

Keywords: Risk management. IT projects; merger. Telecommunications. Stakeholder.

1 Introduction

Uncertainties generate risks in all projects (PMI, 2012), and the identification of risks is a crucial element to the success of risk management (Boehm, 1991; Wallace et al., 2004; Gallagher, Case, Creel, Kushner and Williams, 2005; Bannermann, 2007; PMI, 2012). The Planning is the key component of the management to deal with uncertainties of the developed products and services (Zwikael, Pathak, Singh and Ahmed, 2014). The number of risks is greater in projects of Information Technology (IT), as they have high degree of technological dependence (Sauser *et al.*, 2009). Furthermore, the project rate ending in failure is high (Sauser, Reilly and Shenhar, 2009).

The Project Managers using tools present in current frameworks such as *Project Management Body of Knowledge* [PMBoK] (Project Management Institute [PMI], 2012), have tried to change this scenario. PMBoK uses the approach of splitting your information through knowledge areas, which include groups of processes gathered in management: integration, scope, time, cost, quality, human resources, communication, risks, stakeholders and acquisitions. Except for risk management, other are focused on the assumptions and constraints that have been defined and should be coordinated by the project manager (PMI, 2012). Only the risk management is responsible for trying to foresee and prepare the project to respond if the risks become real (Boehm, 1991; Wallace, Keil and Rai, 2004; Bannermann, 2007; PMI, 2012). Management of Stakeholders has processes that assist in the treatment of those involved in the project.

Risks management is one of the main factors attributed to the success of projects and therefore to the long-term success in organizations (Hartono, Sulistyo, Praftiwi and Hasmoro, 2014). Mergers and acquisitions often constitute a significant number of risks involved, especially the integration between companies (Baker and Niederman, 2014).

The period of merger of a company may cause great uncertainty and impacts on projects. The changes in its structure, its culture and design are also directly affected generating new situations during this process in the companies (Ross *et al.*, 2002; Lemes Júnior, Rigo and Cherobim, 2005; Feitosa, Silva and Firmus, 2012). The media, such as newspapers and magazines tend to gather in the same framework the merger, acquisition or division between companies (Ross, Westerfield and Jaffe, 2002). Fusion is a risky operation and often with interruptions in business activities (Baker and Niederman, 2014). In some extreme cases, this scenario of changes can lead to the emergence of new risks (PMI, 2012). Therefore, IT projects on time of merging of companies may entail specific risks in this period.

The companies that provide services for transmission and reception of sound and image, and answer technologically to the market in accordance with the regulations of the regulatory agency represent the telecommunications industry (telecoms, from now on) (ANATEL, 2014). The impact that companies suffer from this type of operation is large (Ross *et al.*, 2002; Lemes Júnior *et al.*, 2005), and in the case of telecoms companies is much higher, because they use technology as their core competency (ANATEL, 2014). In Brazil, between 2002 and 2012, there were around 19 mergers per year in this sector (KPMG, 2014). In addition, their IT projects can generate more risks in this period of uncertainty (Sauser *et al.*, 2009; PMI, 2012), in which the correct identification of risks can corroborate for success (PMI, 2012). In this context, the objective of this work is twofold: 1. To identify the risks associated with stakeholders in IT projects on the merger of two telecoms companies; and 2. To propose risk mitigation actions to future mergers of telecom companies.

This paper is structured as follows: Section 2 describes the theoretical background of mergers and acquisitions, IT project management and risks and uncertainties. Section 3 introduces thedesign of the research. Section 4 describes the analysis of the results. Section 5 and 6 present the theoretical implications and the practical implications, respectively. Section 7 presents the conclusion, the limitationsidentified andfurther works.

2 Theoretical Background

2.1 Mergers and Acquisitions

The use of mergers and acquisitions can change the scenario as business expansion strategy (Lemes Júnior *et al.*, 2005). The parties receive specific labels: 1. "acquiring company" is used to the company that wish to purchase another; 2. "target company" is the corporation that will suffer the action; and 3. "resulting company", the company generated by fusion (Lemes Jr. *et al.*, 2005).

These operations have the following types of mergers and acquisitions (JusBrasil, 2014): 1. Merger, create a new company from two or more companies; 2. Incorporation, which is an operation whereby one or more target companies are absorbed by another; and 3. Spin-off, whereby a company transfers assets portions to one or more companies (Lemes Junior *et al.*, 2005). The government agency, which has the mission to manage the telecoms industry and protect the interests of users, is called the National Telecommunications Agency [ANATEL] (ANATEL, 2014).

2.2 IT Project Management

IT projects can be divided into two groups: 1. Development in which the deliverable is a computer system, a customized ERP or other process that requires development in a computer language (Pressman, 2011; Somerville, 2011); and

2. Infrastructure, which is characterized by the installation of software, environmental reliability and control of IT items (Pressman, 2011). In addition,the system development hasa dynamic environmentin which agile methodologies has gained ground. Agile methodologiespromise to deliver higher productivity, quality and a greater chance of success in software development projects (Beck *et al.*, 2001). Scrum is applied in development projects with small teams, using small development cycles, which facilitates faster adaptation to changes in volatile environments, the use of up to two weeks tasks cycles and turnover in the various functions of members of the development team (Schwaber and Sutherland, 2013).

2.3 Risks and Uncertainties

An event or uncertain condition originate risks and may affect at least one objective of the project (PMI, 2012). The project risk management includes the processes that are continuous (COSO, 2004; PMI, 2012) and increase the likelihood of positive events and decrease the likelihood of negative events (PMI, 2012). The process of risk identification should be done early to avoid failure in projects (Jani, 2008, 2010; De Bakker, Boonstra and Wortmann, 2010; PMI, 2012) and considering the nature of the company (Alao and Adebawojo, 2012). The main risk management approaches include: PMBOK (PMI, 2012) and the strategic level the Enterprise Risk Management [ERM] (COSO, 2004).

2.4 Research Methodology and Philosophical Underpinnings

The definition of the epistemological and ontological guidelines helps to understand the assumptions and analysis of the items that make up the search (Sarker *et al.*, 2013). This exploratory study adopts a predominantly interpretive epistemology (Eisenhardt, 1989), with the quali-

tative technique (Yin, 2014) and inductive approach (Smyth and Morris, 2007).In this unique case study,the unit of analysis is IT projects in Company-A, thestakeholders with close relationship to the project, in the period of merger from 2007, with Company-B. Data collection was through: 1. semi-structured interviews to employees who worked during the period and had the project management function or similar; 2. collection of documentary information; and 3. information provided by the media written or digital era. Data analysis was carried out by triangulation of data (Hussein, 2009). The flow of processes performed in this study follows the following order:

1. **Listing the risks in IT projects in literature:** We looked for papers that identified risks in IT projects oflocal teams about stakeholders obtained by searching the words "Risk", "Project" and "IT" in the following leading journals between 1981 and 2014: Project Management Journal, International Journal of Project Management (IJPM), Information Systems Journal, Journal of Management Information Systems, Journal of Management Research, MIS Quarterly, Technovation and Telecommunication Policy, Brazilian Journal of Management, and Iberoamerican Journal of Project Management (IJoPM). Whenever we found a risk, we analyzed its focus. It was includedin the list of risks if it was about Stakeholders; otherwise, it was ignored;

2. **Interviews with IT project manager in Company-A:** We designed a semi-structured questionnaire based on the interview protocol presented in Appendix B. The interviews were carried out with people who had the function at or close to a project manager. The interviews could not be recorded by determination of respondents. For this reason, they were accomplished with another researcher

to simultaneously hold the notes, which were united in a single document;

3. **Listing the risks in IT projects from interviews, projects and Media Artifacts:** All documents generated in the interviews with the information collected constituted the basis for the identification of risks and document requirements and requests of process changes. We used specialized industry magazines and large circulation newspapers;

4. **Identifying exclusives risks:** We kept the risks identified in the triangulation, which do not have equivalence in the risks listed in the literature. Comparison with literature builds the internal validity, raises the theoretical level, and improves the construction of the definitions (Eisenhardt, 1989);

5. **Proposing mitigation actions to the risks identified:** Mitigation actions were suggested to the risks identified in the item 4.

2.5 The Study Objects

The two companies analyzed have specific characteristics from the point of view of its organizational structure, market and maturity in project management. The "acquiring-company", called Company-A, is a multinational installed in Brazil for nearly two decades and initially had landlineservices in a few states. It has a weak organizational matrix and the presence of project managers is not part of the available positions (PMI, 2012). Despite this feature, many positions, usually of coordination, exercise the function of individual form of project managers.

The target-company, called Company-B, is a multinational installed in Brazil for over a decade and always had as a mobile focus. It does not have a project culture and, like Company-A, has a weak organizational matrix (PMI, 2012). It has increased the market share in recent years (KPMG, 2014), and periodically probed by Company-A,

which came to acquire interests through purchase of shares (Folha de São Paulo [FSP], 2014).

The operation performed under the legal point of view the operation was characterized by the incorporation of Company-B by Company-A (ANATEL, 2014; RF, 2014), but as a way to spread in the media was considered as a merger (FSP, 2014; TELECO, 2014; GazetaMercantil [GM], 2014), before the officials of their respective companies. In this work, for the sake of standardization of the various sources, we will consider the label "fusion".

Chronologically, the preparations for the operation began in 2007 through the purchase of assets (FSP, 2014; TELECO, 2014; GM, 2014), which was confirmed in the interviews. The telecoms agency approved the merger with three constraints items which should be addressed by mid-2012 (ANATEL, 2014).

2.6 About the Interviews

Although the hostile setting characterized by an environment of distrust, fear of dismissals and many organizational changes in both companies, we conducted eleven interviews with employeesinvolved in the period of merger. We followed the recommendations of Guest, Bunce and Johnson (2014): 1. Among respondents there is the subject domain and share a common experience; 2. Respondents report their experiences independently and there is a consensus on the events; 3. The respondents are of a relatively homogeneous population and the objectives are clear; 4. There was saturation of the data, from the sixth interview; and 5. The sample was for convenience, in which you can identify patterns, even in small groups, as they all had experience in the same phenomenon. The end of the interview process occurs when there is saturation of the data and the continuity of interviews returns insignificant improvements (Eisenhardt, 1989). The three project

managers interviewed mentioned some risks in engineering. Based on these reports, we interviewed an engineer who confirmed the data collected by the project manager.

The Company-A does not have the position of project manager, but one can find employees acting as a project manager. This is common in business, and one can consider it as an employee who just did not get the label, but is fully capable of responding as a project manager (Richardson, 2014). In this research were those who acted as project managers, even taking office as "Project Manager", "Administrator Department", "Engineer", "Process Analyst", "Business Analyst" or "Senior Systems Analyst". Appendix A lists the function of each respondent in the period of merger.

3 Analysis of the Results

3.1 Risks Identified in the Literature

The risks identified in the state of the art in IT projects were only related to stakeholders. Figure 1 lists these risks.

ID	Risk / Description	Authors
LS01	**Lack of user support** Lack of support from client operation users	Schmidt *et al.* (2001); Nakashima and Carvalho (2004); Buckl *et al.* (2011)
LS02	**Lack of partners with value aggregation** Inability to generate value to partner with other suppliers / partners	Schmidt *et al.* (2001); Bannerman (2007)
LS03	**Changes in the attitudes of users** Changes in the behavior of users involved	Jiang and Klein (2000); Wallace (2004)
LS04	**Lack of alignment with stakeholders** Project with lack of alignment with the interests of stakeholders	Buckl *et al.* (2011)
LS05	**Reluctant users** Users with negative or reluctant attitudes towards the project	Wallace (2004)

Figure 1- Risk of Stakeholders in the literature. In the ID column, "L" stands for Literature and "S" stands for Stakeholders

3.2 Risks Identified in the Interviews

The analysis conducted based on the notes of the interviews about the preparation of the merger, processes, risks, problems and finalizing, generated three risks. Figure 2 shows the risks identified by the respondents, which are related to theStakeholder category. Cancellation of partners contracts (RS01) by order of the board due to the change of policy Company-B considered viable internal development, called in-sourcing, said the project manager R11: "... a risk that was not foreseen or planned were the contracts with suppliers not be renewed because the Company-B already practicing in-sourcing ..." .

Foreign presence in begin period from the matrix generated more fears to employees who still providing services in the company (RS02), as reported by area administrator R5 interviewed: "... At first many reports, questioning everything had to be quick and confidential (...) There were many foreigners ...".

The problems with the union (RS03), mainly due to wage parity between the positions of human resources of the Company-A and the Company-B, was a major barrier to projects. In the interviews was also reported that due to the agreement signed with the union, Company-A employees could not work in their homes (remote access) even in case of an emergency, but Company-B employees could

ID	Risks / Description	Respondents
RS01	**Cancellation of partners contracts** The vast majority of contracts with third parties were not renewed.	R11
RS02	**Foreign presence** Foreign presence entailed speculation and fears of major changes due to the imposed silence.	R5
RS03	**Problems with the union** Possibility of conflict with the union due to fees differences between team members that could occur.	R2

Figure 2 - Risks of the Stakeholders. "R" stands forthe origin of respondents and "S" stands for Stakeholders

access normally. The business manager R2 asserts: "... the equalization of the Company-A functions with the Company-B (...) there were problems with the union due to salary differences between business ..."

3.3 Exclusive risks in the Merger Period

We analyzed the risks found in the interviews to identify those which have no reference in the list of risks identified in the literature. The Figure 3 shows the results of research. This list does not include the risks found in the interviews that were referenced in the risks identified in the literature. We analyzed the exclusive risks by Stakeholder and resulted: the risks of partner agreements termination (RS01), foreign presence (RS02) and problems with the union (RS03) found no resonance in the literature. Figure 4 outlines the consolidation of risks associated with Stakeholders.

Focus	ID	Risk / Description
Stakeholders	RS01	**Cancellation of partners contracts** The vast majority of contracts with third parties were not renewed
	RS02	**Foreign presence** Foreign presence entailed speculation and fears of major changes due to the imposed silence
	RS03	**Problems with the union** Possibility of conflict with the union due to fees differences between team members that could occur

Figure 3 - Unique risks in IT projects in the period of merger of telecoms companies: categoryStakeholders

3.4 Considerations for Analysis of Results

The merger took place in three main moments. The first in 2007, when Company-A bought the shares of Company-B. In a second step, almost two years later, with the preparations for the operation and management level of some key processes. In a last moment was the official statement by ANATEL, its internal disclosure and the media.

	ID	Risk / Description
Literature	LS01	**Lack of user support** Lack of support from client operation users
	LS02	**Lack of partners with value aggregation** Inability to generate value to partner with other suppliers / partners
	LS03	**Changes in the attitudes of users** Changes in the behavior of users involved
	LS04	**Lack of alignment with stakeholders** Project with lack of alignment with the interests of stakeholders
	LS05	**Reluctant users** Users with negative or reluctant attitudes towards the project
Respondents	RS01 Unique	**Cancellation of partners contracts** The vast majority of contracts with third parties were not renewed
	RS02 Unique	**Foreign presence** Foreign presence entailed speculation and fears of major changes due to the imposed silence
	RS03 Unique	**Problems with the union** Possibility of conflict with the union due to fees differences between team members that could occur

Figure 4 - Consolidation of Risks associated with Stakeholders

IT projects have suffered in various ways: dismissals of team members, immediate need to integrate systems, new services, new development methodologies and different databases (Glória Júnior and Chaves, 2014). The risks identified in the interviews revealed the speculation environment and dismissals in which the employees were inserted. Some executives tried to defuse the situation, but the actions was frustrated.

The deadline of this research was on August 31, 2014, and until then, the merger had not yet been fully realized. Many systems were still in the integration phase, speculation of some specific layoffs and the creation of a new cultural identity still in training.

3.5 Recommendations for Mitigating Risks

In each identified risk we proposed mitigation actions to be incorporated into the proj-ect risk management in future mergers of telecom companies. These recommendations are based on both the reality founded in the companies and the best practices in the literature, shown Figure 5.

Mitigation	ID	Risks
PMI - Procurement Management PMI - Stakeholders Management	RS01	Cancellation of third party contracts.
PMI - Stakeholders Management	RS02	Foreign presence.
	RS03	Problems with the union
Scrum	RS01	Cancellation of third party contracts.

Figure 5 - Mitigation of risks

- **Mitigation 1: Use of Project Management Frameworks:** Application of PMBoK (PMI, 2012) may assist in mitigation for the application of the procurement management process in RS01, which includes the process of managing procurement relationships, monitoring contract performance, making changes and corrections as appropriate and completing each project procurement. The stakeholder management process can mitigate the risks RS01, RS02 and RS03 with the process of communication and working to meet their needs/expectations, monitoring overall project relationships and adjustment strategies and plans for engaging stakeholders.

- **Mitigation 2: Using Scrum:** The application of Scrum methodology is suitable for small teams with alternate positions (Glória Júnior, Oliveira and Chaves, 2014) and in dynamic environments, as the period of merger between the companies (Lemes Júnior *et al.*, 2005). The characteristic of fast deliveries within two weeks with an executable product, called "done", covers the RS01 risk, promotes replacing partners by team techniques.

3.6 Theoretical and Practical Implications

This research contributes to the theory by means of an investigation of the origins and consequences of the identified risks listed. Regards the practical implications, the risks identified in this study allow project managers to rethink their strategies to develop risk management in IT projects in telecoms companies in the period of merger. In addition, the contribution of this work goes beyond identifying and proposing mitigating actions for each of the new risks identified through the application of the actions described in the section Risk Mitigations: use of Scrum and frameworks Project Management. These are the necessary tools to assist the manager of IT projects to make implementation easier for team techniques.

4 Final Remarks

This research adds to the body of knowledge of projects by the identification of 3 unique risks about stakeholders in IT projects in the period of merger of two telecoms companies. Among the most frequently reported risks identified are the insecure environment that permeated all areas and the high rate of layoffs that impacted the IT projects. From the list of unique risks, it was possible to propose mitigation actions, as follows: 1. the use of Scrum methodology, volatile environment and constant deliveries; and 2. the application of project management techniques, which were related to the knowledge areas of PMBoK to address the specific risks presented, as procurement management and stakeholders management.

Finally, the limitations for this research include the merger of a single sector and the barriers to obtaining documents of IT projects.The merger is still in process that can contribute to the emergence of other risks not listed in this research.

The impossibility of interviews the senior of the companies involved and the need for validation of the Scrum methodology in such an environment. Proposals for future work include the use of the unique risks and mitigation proposals in other mergers of telecoms companies and the creation of a model directed the Scrum methodology for these companies.

Respondents	Function	Area	Company
R1	Operations Consultant	Projects	A
R2	Project Manager	Projects	A
R3	Project Manager	Projects	A
R4	Project Manager	Process	A
R5	Administrator Department	Process	A
R6	Engineer	Engineering	A
R7	Process Analyst	Process	B
R8	Project Manager	Projects	A
R9	Business Analyst	Process	A
R10	Senior Systems Analyst	Projects	B
R11	Project Manager	Projects	A

Appendix A - Profile of the Respondents

#	Question
1	The project had already started before the period of merger?
2	What risks can you comment in this project?
3	You participated in the identification of risks in the project?
4	How were documented (e-mail, formal document, etc.) risk in the project?
5	There was some risk mitigation action?

Appendix B - Interview Protocol

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