The Organizational Culture’s Influence on Risks in IT Projects – a Structuration Perspective

Michael Prifling
Goethe University Frankfurt, prifling@wiwi.uni-frankfurt.de

Follow this and additional works at: http://aisel.aisnet.org/amcis2010

Recommended Citation
http://aisel.aisnet.org/amcis2010/477

This material is brought to you by the Americas Conference on Information Systems (AMCIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in AMCIS 2010 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.
The Organizational Culture’s Influence on Risks in IT Projects – a Structuration Perspective

Michael Prifling
E-Finance Lab, Goethe University Frankfurt
prifling@wiwi.uni-frankfurt.de

ABSTRACT
A revelatory case study has been conducted to investigate the influence of the organizational culture on risks in IT projects. Following the Grounded Theory Methodology, we interviewed 26 experts from a large financial service provider. We selected a company from the cooperative banking sector, which makes this case unique. With Giddens’ Structuration Theory as a theoretical lens, we show how the structural and cultural conditions of an organization influence risks in IT projects and project portfolio management.

Keywords
IT Projects, Risk Management, Structuration Theory, Cooperative Banking, Organizational Culture.

INTRODUCTION
Research on information technology (IT) project management has a long tradition in the area of information systems (IS). Numerous studies on how to manage those projects, which are prone to fail due to their intangible nature (Nelson, 2007), have been undertaken. Recent studies question the role of critical success factors in IT projects, stating that success and success factors are very context-specific (Chua and Lim, 2009). The numbers tell a straight story: Standish Group’s CHAOS reports (2006), among others, demonstrate the ongoing high error ratio of IT projects, and they also reveal that 55% of the surveyed IT project managers blamed “No risk assessment / ongoing risk management” as the primary reason for project failure (Warkentin et al., 2009; Xia and Lee, 2004). Risks that are closely associated with software development projects have been identified and suggestions how to improve risk management in those IT projects have been made (Keil et al., 2000; Schmidt et al., 2001). Despite all these efforts of the scientific community, failure rates of IT projects, especially system development projects, remain high (Ewusi-Mensah, 2003).

However, in recent years, researchers posed the question of what actually constitutes the success of an IT project (Thomas and Fernández, 2008). Success is often seen either from the efficiency or the effectiveness perspective. Efficiency has been defined as “doing things right”, whereas effectiveness can be distinguished from the former and described as “doing the right things” (Drucker, 1967). Recently, authors have identified two schools of thought in the community of researchers in the area of IT project management. The one would be the efficiency oriented school, pinpointing the measures of efficient management of a project, such as adherence to time, budget, and quality requirements. The other school, by contrast, places more emphasis on the effectiveness of projects, i.e. fruitful overall project outcomes for the organization as a whole, such as future profits or improved business process performance (Hidding and Nicholas, 2009). The mentioned CHAOS reports refer to the efficiency benchmarks when they speak of project failures (e.g., late or over budget projects). Hence, the literature has no comprehensive view yet whether an IT project is regarded as successful or not (Thomas and Fernández, 2008).

The organizational environment in which IT projects take place have been examined starting in the mid 1970ies (Lucas, 1975). Organizational risks caused by the environment which threaten IT projects can be manifold, but are often willingly ignored by project management (Doherty and King, 1998). Prior literature shows clearly that organizational issues resulting from the culture and/or the structure of an organization can have an impact on risks in system development projects (Doherty and King, 2003). Recent studies even show that “organizational risks appear to overshadow many other risks, and that all risks might be ultimately construed as organizational risks” (Warkentin et al., 2009). Moreover, these authors demand further studies, especially in different ‘organizational culture settings’ that could help in shedding light on the nature and impact of organizational risks on IT projects.
To explore risks and risk management in IT projects, we conducted an exploratory case study in the financial services industry. We were invited to analyze a number of projects undertaken by a large European bank from the cooperative banking sector. This setting makes our case study revelatory in nature, since cases are revelatory “when an investigator has an opportunity to observe and analyze a phenomenon previously inaccessible to scientific investigation” (Yin, 2003). To the best of our knowledge, we are not aware of any research finding on IT project risk management in the cooperative banking sector. In this paper, we present empirical findings from our study. Our research questions are:

What is the influence of organizational culture on risk management in IT projects in the financial industry? Does the cooperative banking sector place more emphasis on efficiency or effectiveness of IT projects?

**METHODOLOGY**

We employed a Grounded Theory approach in our qualitative study in order to build theory that is rooted in and relevant for the studied field (Glaser and Strauss, 1967). Grounded Theory is not a theory itself, but rather a technique to discover abstract theories or theoretical frameworks from (mostly qualitative) data (Charmaz, 2006). The ‘generalizable’ theory emerges from the collected data, and is therefore grounded in the data. No preconceived hypotheses are tested; instead, topics, concepts, and categories appear during the data collection and data analysis phases. Although a theory-building instead of a theory-testing approach is most appropriate in under-researched areas, according to one of the principal authors of Grounded Theory, this methodology will even help to gain a better understanding of the social processes at work in well-researched areas, such as risk management in IT projects, as well (Glaser, 1992).

We were invited to investigate the IT project portfolio of the bank and its management practices. We started our research without predefined hypothesis and no clear research question at hand. The purpose of this study was to explore how risks are managed in the particular cooperative banking context. The above stated research questions, however, only emerged after the first data were collected and analyzed. This procedure is in line with the foremost principle of GTM: “the research problem and its delimitation are discovered” (Glaser and Holton, 2004).

We conducted 25 semi-structured expert interviews, interviewing 26 people in total, including program managers, project managers, sub-project managers, members of the audit department, and the leader of the PMO office. The project managers came from both the IT department as well as business departments. The data collection phase started in July 2009 and ended in November of the same year. All interviews were conducted by two researchers and were tape-recorded. After the interviews, the perceptions of the processes at work were immediately discussed between the researchers, serving for triangulation purposes. Also, discussions of preliminary findings with the interview partners took place at various occasions after the data collection period, which helped us to clarify meanings and context information, and to test whether our ideas would match with the real life experiences of the practitioners.

The audio files from the interviews were transcribed and coded line by line. At this stage, the researchers allowed the data to “speak for itself” (Glaser and Strauss, 1967), when the first concepts were identified. Only in the second stage, the selective coding, which was performed iteratively, existing literature was used for further triangulation as additional data points. A comparison with existing literature in the IT project risk management domain, organizational culture, and project portfolio management, helped in refining emerging concepts and establishing categories of data. Besides the interviews, secondary data such as presentations, project portfolio planning documentation, and other internal documentations were used to guide the sense-making process and to triangulate evidence from the interviewees.

Structuration Theory (Giddens, 1984) helped us sharpening our analysis of the IT project risk management practices of the organization. We used it as our meta-theoretical lens for analyzing the context and the actions of the employees. This theory is sufficiently abstract, so that there is no danger to “force it onto the data” (Glaser and Holton, 2004). Instead, it served as a theoretical reference framework to include both the organizational, as well as the individual levels of analysis. Giddens himself recommended to use the theory more as a ‘sensitizing device’ for the researcher, rather than a methodological approach providing detailed guidelines for research procedures (Giddens, 1989).

**THEORETICAL PERSPECTIVE**

Since its formulation in the late 1970ies and early 1980ies, Gidden’s Structuration Theory (Giddens, 1984) has received much academic attention and reception, particularly in the IS field. It is seen as a “valuable framework for a rich understanding of management, organization and related subjects of inquiry” (Pozzebon and Pinsonneault, 2005). Structuration Theory is a general sociological theory, not a theory specific to IS (Jones and Karsten, 2008). Its generally rather unspecific nature is of great advantage for serving as a ‘sensitizing device’ to explore social phenomena, such as work
procedures, in interpretive case studies (Walsham, 2006) – very specific theories with high empirical content, on the other hand, would bear the danger of forcing data upon preconceived opinions and schemes.

One of three central ideas is the duality of structure. This notion refers to the relationship between individual agency and society (Giddens, 1984). Among the three key concepts of Structuration Theory (duality of structure, time/space distantiation, and actor’s knowledgeability), the concept of duality of structure is the one that was most articulated in IT research so far (Pozzebon and Pinsonneault, 2005). We refer to this primary idea, as well. Giddens argues that social structure is not externally predetermined, but continuously being recreated through individual actions. Social practices are interpreted as constituted by social structures, and these structures on the other hand, are being continuously reconstituted by the “sum” of individual agency. In other words, what constitutes society, is embedded in practice, in which it is recursively implicated (Giddens, 1984). People enact social structures by their actions, and their actions, in turn, are being ‘regulated’ by structures. Only through this duality of structure on the micro and macro level, social structures continue to exist.

Examples of the use of Structuration Theory in the context of organization and information systems research include works on technology adoption and virtual teams, among many others (Majchrzak et al., 2000; Orlikowski and Robey, 1991). One of the challenges in employing Structuration Theory in empirical (IS) research is that Giddens’ ideas are process-related in nature, due to its premise of a mutual influence and dependency between structure and agency, whereas structural change can only happen over time when individuals change their individual actions and others follow, thus establishing new structural properties (Pozzebon and Pinsonneault, 2005). We reflected this process-oriented view by taking the evolution of IT projects over time into account – although we did not collect data during the total course of different projects (which span over a period of several years for the most part), our data collection phase did last for several months, and we always asked interviewees for detailed descriptions of the evolution of IT projects from their initiation onwards.

CASE DESCRIPTION

We were given the chance to investigate how risks in IT projects are managed at a large financial institution in Europe. Precisely, the investigated company is one of the major banks within a widespread cooperative banking network. It serves as a ‘central bank’ that offers IT solutions, all kinds of complex banking products, and support to the so called ‘tier 1 banks’ or ‘primary banks’ – the customers and owners of the central cooperative bank. The latter, a bank with a multi-billion Euro balance sheet, runs corporate and investment banking as well as transaction banking and operates as the appropriate financial services provider for key accounts. It serves, for example, as the leading underwriter for corporate loans, which in many cases would be too big for a single primary cooperative bank. Those smaller banks, which operate all over the country within clearly specified geographic regions, are owned by their members, the ‘associates’. All members must be natural persons, not a legal entity. Each member can only have a maximum share of ownership stakes, which is a rather small one in monetary terms. This way, the primary cooperative banks make sure that no single associate can have more influence than any other in terms of co-determination of business strategies, payments of dividends, and business conduct in general. All primary banks jointly own the central cooperative bank and other specialized financial institutions of the cooperative banking sector, as well as the two major data processing centers. Specialized banking products, like certificates and other derivatives, are developed and marketed by the central cooperative bank and several other narrowly focused financial service providers – one could call them ‘tier 2 banks’. These products are then sold to end-customers through primary banks in their respective regions. In total, several hundred of these tier-1-banks exist. A simplified diagram of the cooperative banking sector is presented in figure 1. As shown, small primary banks, which are independent companies owned by individual associates, are at the same time owners and customers of specialized financial services providers. We conducted our case study at the large central cooperative bank.
The organizational culture of the cooperative banking sector holds ‘integrity’, ‘trust’, and ‘cooperation’ as its core values. Organizations in the financial services industry are characterized by their heavy use of IT. Almost each business process is based on information technology, as well as the banking products themselves. Additionally, market shifts and new regulatory requirements are very common. Accordingly, the analyzed bank holds a large portfolio of several dozens of IT projects, ranging in budgetary size from several hundred thousand Euros to over 100 million Euros. An overview over all the projects we were allowed to investigate, including a list of the experts we interviewed, is provided on request due to space limitations.

What stands out is the finding that there are almost no IT projects anymore. All but only a few very small technical amendment projects are business driven projects that touch IT to a greater or lesser extent. This is in line with recent findings from the literature (Hidding and Nicholas, 2009) and can be explained by the immanent nature of IT in the financial service industry. This attribute is reflected by the very structure of the (IT) project management we studied: each project of the bank has two project leaders, one being from the commissioning business department, the other one from the IT department. Each project, which by definition is a one-of-a-kind endeavor, has the goal to create something new or to change existing structures, hereby touching existing business and IT processes.

CASE ANALYSIS

Structuration Theory helped us to increase the understanding of the organization (the bank in its cooperative context), organizing (managing IT projects in this context), and the organized (the project managers), in line with the works of Pozzebon and Pinsonneault (Pozzebon and Pinsonneault, 2005). The theory backed our attempt to bridge the gap between the organizational and individual levels of analysis, since we were able to analyze the interactions between individual project management behavior and the organizational understanding of projects and its portfolio management. To be precise, we used Structuration Theory for the analysis of how individual actions, e.g. risk management of individual IT project managers, influences the organizational ‘culture’, and vice versa.

Organizational Culture

A review of organizational culture goes beyond the scope of this paper. For a deeper understanding of research on organizational culture in the area of IS, please refer to Leidner and Keyworth, who provide a thorough review on this issue (Leidner and Kayworth, 2006). Although meanwhile a substantive body of knowledge exists in the area of cross-cultural differences and on national levels of culture with its effects on IT development and usage, research on organizational culture and/or the organizational context in which IT projects are carried out, is still scarce. Few studies have been investigating the effects of national cultures on IT project risk perceptions and risk management behaviors, all of them demanding more research in this area (Keil et al., 2000; Tan et al., 2003).

We used these findings from the literature as additional data points to include them in our analysis of the qualitative data that we gathered in the case study, as suggested by the Grounded Theory Methodology.
By ‘organizational culture’, we mean individually respected conditions within an organization, its collective values, and norms. Among the multitude of definitions of what culture is, one common aspect is that basic assumptions (of a group of individuals who form a ‘cultural unit’) are formed over time as members (of this group, which could be an organization) develop strategies to cope with problems and pass along the strategies to new members (Van Maanen and Barley, 1985). This notion of incremental change, eventually introduced by subtle deviations from the mutually accepted norms by (new) individuals is in line with Giddens’ concept of the duality of structure.

The organizational culture of the company was heavily influenced by the context of the cooperative banking sector. The strategic guideline of the company consisted of values like integrity, trust, and cooperation. One project manager from the corporate strategic development department explained the core principles of the organizational culture:

“That’s the cooperative principle, we want everything together. Yes, we want high quality, we want to reach quite some things, but not at the expense of others. That’s the way people are here, somehow selected or educated by the bank. That’s what makes up the culture in this bank, and that makes cooperation very easy.”

Generally, the corporate culture could be described as rather soft in terms of attitude of individual conduct. This, however, also implicated a kind of ‘safeguarding culture’, in the sense that consensus among colleagues was the most important thing to take care for. Members of a project team always had to be asked for their accordance, in order not to ‘tread on someone’s toes’. Another statement of a project leader from a business department illustrates this:

“Whenever decisions become transparent, when general approval is obtained … [then you will succeed], but you must not apply ‘sledge-hammer methods’, because that certainly will not work here.”

Mutual accordance is extremely high valued, which has several implications. First, decision taking can take longer than in contexts with a simple top-down hierarchy. Second, as a last consequence, this kind of culture may lead to missing responsibilities of individuals, since prior decisions were commonly taken, thus, no single individual can be blamed for mistakes. Indeed, interviewees confirmed that there are almost no sanctions on project managers who fail to deliver their projects on budget, within schedule, and with all desired features.

Management of the Project Portfolio

The overall project portfolio of the bank consisted of dozens of projects of different sizes, most of them affecting one of the business and the IT department. Portfolio planning at the bank took place annually, whereas the executive board only set the general strategic orientation of the bank – towards serving in the best possible way for the cooperative network – and the overall budget that covers the project portfolio. The selection of which projects would we carried out was up to the division directors, located directly beneath the executive board in the corporate hierarchy. That means that the choice of whether a project should be carried out in the upcoming year or not is not strategically derived, and there is no clear priority of projects.

The reason for the top management’s approach not to determine which projects should be carried out, but rather to leave it to negotiations at the divisional heads’ meetings for project portfolio management, called the ‘Project Management Board’ (PMB), can be found in the organizational culture. This is consensus-oriented, emphasizing mutual agreements over top-down decisions. Consensus in this organization can be understood as ‘real’ consensus, not ‘consensus by authority’, where decisions are taken by the top management first and a subordinate committee then just waves through the a priori decided verdict. Quite the contrary organizational procedure was observed here. Top managers from the executive board do not exert their formal power to rule out decisions made at the subordinate PMB. One project manager from a business department commented on this:

“As you can imagine, in an organization of this size, business departments are planning lots of projects, because they want to have many things. Almost all of these projects are going to be initiated, because they somehow manage to get through their projects in the end. This results in a shortage of resources [i.e., human resources] because you can’t do everything with external resources. We do have budgetary limits. That, in turn, leads to the delays of most of the projects we have...”

The composition of the project portfolio, which does not make a difference between rare ‘IT-only projects’ and those business-driven projects with a varying degree of IT stakes, is negotiated between coequal managers without a superior person in the hierarchy. The executive board does not decide upon the project portfolio. Therefore, it can be interpreted as the organizational intention that division leaders compete for resources and that they first and foremost represent the interests of
their respective divisions. Since every manager at the PMB can ‘bring down’ the other division manager’s desired (IT) projects, there’s a strong constraint for mutual agreement, and hence a tendency to grant too many projects for the limited number of employees dedicated to work for these projects. The head of the ‘project leader pool’ group explained:

“By means of the PMB, barters, or counter-trades become possible. ‘If you help me, I will help you’. It’s kind of an exchange, like a market. Negotiations happen there. And why not, it’s not silly at all. People say ‘OK, let’s get together’, and we’ll see how we can jointly reach the goal.”

The notion of ‘joint conduct’ is a typical expression of the organizational culture, where values like trust, integrity, and transparency are emphasized. It also means, however, that some decisions are simply not taken, e.g., decisions not to start a project. In this case, it can happen that all projects of a division’s wish list will be initiated.

Risk Management in Particular IT Projects

Risk management of particular IT projects, or in other words, business driven IT related projects in general, was directly influenced by the organizational culture, as well. The risk factor that was mentioned as the most important one by every project manager, both from the IT and the business departments, was ‘shortage of resources’. This can directly be associated with the oversized (IT) project portfolio of the bank. Only marginal changes in a single project’s schedule can affect resource planning of several other projects easily, when key resources – e.g., JAVA programmers – are ‘claimed’ by several projects. The main task of project leaders at the cooperative bank was not to execute a given project assignment. Instead, the primary challenge was to get agreements with all involved business and IT divisions, departments, and groups, in order to reach consensus among all participants. One project manager from the human resources department noted:

“It’s all very consensus-driven. I know project management from other companies, where it’s straight forward: there’s a clear project goal, and the project manager’s duty is to accomplish this. I don’t have this role here. At this bank, I’m more like a ‘consensus-estabisher’. My primary task is to get everybody on board. And that’s the more important part than staying within budget and on schedule.”

The head of the project manager pool agreed with this view:

“We have this cooperation model. It means that as a project leader, you have to manage the collaboration between IT and business departments. That’s your main task.”

Interview partners agreed that commonly no sanctions are applied against project managers whose projects were behind schedule due to resource shortages. Managing projects with the above mentioned characteristics makes the process very transparent to all involved stakeholders and line units, where most of the project members come from. Since stakeholders and supervisors know about the reasons for resource shortages, individual sanctions don’t seem appropriate. Managing risks in this organizational context also means to make sure not to offend anybody by deliberately or unintentionally not fully seeking accordance with all stakeholders. A project manager from a business department put it in these words:

“You have to try not to announce any ‘not-harmonized’ issues, otherwise it won’t work. You need to seek partnership, don’t ‘pull strings in the hierarchy’, because you know where that would end up. We never do that. We always seek the cooperative approach. Explore possibilities of working together, create synergies, and make them transparent.”

This approach brings some advantage for typical risk management processes with it, since the openness of the project management towards members of the project team and the transparency of current project conditions to all relevant stakeholders simplifies status reporting, since psychological barriers like ‘mum’ and ‘deaf’ effects (Park et al., 2008) are reduced.

DISCUSSION AND CONCLUSION

Structuration Theory helped us in understanding how organizational culture (i.e., norms, values, and rules, which constitutes social structures within the organization) influences IT project performance in the sense of ‘classical’ success criteria such as meeting time, budget, and quality targets. We interpret the organizational culture, which in this case places most emphasis on consensus and balance, as the structural precursor that paves the way for an oversized IT project portfolio. Too many projects are granted by the division heads, because no division wants to refuse another division’s desired project. Even though there is room for negotiating and discussing priorities, there are no definite decisions from the executive board about how to derive a strategic prioritization of the overall (IT) project portfolio. The reason why more projects are initiated than realistically can be conducted at the same time can clearly be found in the organizational culture. A shortage of key human resources like specialized IT personnel has been identified as a result. This, in turn, may lead to project delays. Being behind schedule does
not provoke penalties for project managers (PMs), because the reason for delays mostly is a lack of resources, which can be traced back to the oversized project portfolio. The fact that no sanctions are imposed influences the overall organizational culture, since project managers know about this situation. They don’t make intense efforts to manage time and budget risks over other risks, because the organization places more emphasis on project outcomes, rather than on project performance. In other words, the bank prefers effectiveness over efficiency of IT projects. Figure 2 represents the interaction of structural properties and individual action at the bank.

Giddens’ concept of the duality of structure is inherent to the above described processes. The organizational culture (at the organizational level of analysis) is enacted by individual agency (at the individual level of analysis), and through agency it is being re-enacted on an ongoing basis.

In this research project, our goal was to explore risk management of IT projects in a unique case setting, the cooperative banking sector. Following our interpretive qualitative research design, the concepts of organizational culture and its effects on the overall project portfolio as well as risk management methods in particular IT projects emerged. Besides these core issues, one of the findings was that there are almost no pure IT projects anymore. Instead, the vast majority of all projects are business-driven endeavors with smaller or larger information technology involvement. This has been identified as a particularity of the finance sector. Figure 3 presents the graphical representation of a ‘generalizable pattern’ (Langley, 1999) of our findings, which does not necessarily constitute a variance model, however.
Our research exhibits several limitations. First, the conclusion that the analyzed bank from the cooperative banking sector prefers effectiveness of projects, i.e., project outcomes, over efficiency, i.e., staying within time, budget, and requirements specifications, does only refer to 'normal' IT projects. Exceptions are those projects which are triggered by regulatory directives that entail changes in IT systems of the bank. Second, we did not analyze completed projects at the bank, but instead interviewed project managers of ongoing projects. Therefore, we cannot conclude that the risk management procedures which are influenced by the organizational culture and by the overall project portfolio have an impact on the outcomes of the projects. At the time of data collection, the investigated projects were not finished yet. However, we did not only ask our interview partners about current projects, but also about their experiences in other previous projects at the bank. Third, our findings are potentially generalizable, although data was collected from a single case study only. To get to an abstract-theoretical conclusion, we employed qualitative data analysis techniques like constant comparisons between data and prior literature. Still, quantitative research is needed to verify whether these findings are universally valid, indeed.

REFERENCES


