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Project Management Techniques for Managing Cross-Cultural Differences in IT Offshore Outsourcing

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ABSTRACT

There have been few empirical studies analyzing project management and control techniques to overcome the problems resulting from cross-cultural differences in IT offshore outsourcing projects. Therefore, our research question is “Which project management techniques can be employed to overcome problems due to cross-cultural differences in IT offshore projects?” which is analyzed through an in-depth interpretive single-case study from the European banking industry. The theoretical basis comprises national culture dimensions, effects of cross-cultural differences on project work, and project management and control theory. Our main conclusions are the identification of three project management techniques that can overcome problems due to cross-cultural differences (“cascading deadline approach”, use of “operational process documents”, and “tight controlling and testing”), as well as the theoretical contribution that outcome control is more effective than behavior control in IT offshore outsourcing contexts.

Keywords

IT Project Management, Outsourcing, Offshoring, Culture, Germany, India, Bank, Financial Services, Control.

INTRODUCTION

The successful management of large and high-risk IT projects still represents a poorly understood phenomenon despite being investigated for quite some time. IT offshore outsourcing projects bear some additional imponderability such as risks based on cultural differences which make them especially susceptible to failure (Gupta and Raval, 1999; Nicholson and Sahay, 2001; Rottman and Lacity, 2004). Examples for particular risks in IT offshore outsourcing projects are blocked knowledge transfer, differences in the interpretation of processes, barriers between individuals, and lack of acceptance of foreign behaviors which may result from geographic distance, language barriers, or cultural distance (Dibbern, Winkler and Heinzl, 2007).

There have been many studies analyzing cross-cultural issues that employ national culture dimensions (Hofstede, 1980; House, Hanges, Javidan, Dorfman and Gupta, 2004) However, there have been few empirical studies analyzing project management and control techniques to overcome the problems resulting from cross-cultural differences. Due to the lack of understanding concerning IT project management techniques for overcoming cross-cultural differences, we ask the question:

“Which project management techniques can be employed to overcome problems due to cross-cultural differences in IT offshore projects?”

We provide answers to this exploratory research question by analyzing a large IT offshore outsourcing case from the European banking industry including an international bank with operations in Germany and one of the largest IT service

providers from India. At its core, the project comprises the reengineering of the core banking system responsible for financial transactions. Hence, daily operations are dependent on the system which makes the project a risky undertaking.

The paper is structured as follows. The following section contains the theoretical foundations for this study, consisting of cross-cultural literature and the effects of cross-cultural differences on project team work. Furthermore, we include literature on managerial control techniques in the context of IT projects. The methodology section explains in detail the reasoning for conducting a qualitative and exploratory case study. Also, information is provided on data collection and analysis techniques employed in our research. The following case description provides the reader with a brief introduction to the case, followed by a detailed analysis of the problems that occurred in the project, as well as the project management techniques to manage cross-cultural differences. The final section of this paper presents our theoretical and practical contributions.

THEORETICAL FOUNDATIONS

Differences in National Cultures between Germany and India

Culture is a difficult to define concept. It has been conceptualized in many different ways, including values, beliefs, basic assumptions, and ideologies. The most dominant conceptualization is that of culture referring to values (Leidner and Kayworth, 2006). Most cross-cultural research in IS has drawn upon national or organizational level dimensions and classification schemes. Accordingly, national cultures can be characterized along various dimensions, including individualism-collectivism, power distance, uncertainty avoidance, time orientation, and high- or low-context communication style (Ford, Connelly and Meister, 2003; Gibson and Gibbs, 2006). The issue of individualism versus collectivism has been discussed to the greatest extent in the extant literature. The discussion revolves around the relationship between the individual and the group. According to Hofstede, in individualistic societies ties between individuals are rather loose and everyone is expected to look after him or her (Hofstede, 1980). Opposed to this is a collectivistic society where people are integrated into strong, cohesive in-groups, which protect them in exchange for unquestioning loyalty (Hofstede, 1980). According to Sahay and Walsham, the Indian culture is more collectivistic (Sahay and Walsham, 1997). The German culture, on the other hand, is more individualistic (Hofstede, 2001). Power distance refers to the extent to which a community accepts and endorses authority, power differences, and status privileges (House et al., 2004). By Hofstede it has been defined as “the degree to which members of an organization or society expect and agree that power should be shared unequally” (Hofstede, 2001). In low power distance countries, each individual is respected and appreciated for what that person has to offer, and power is differentiated based on the beliefs that power corrupts, and that excessive power results in the abuse of power, which should be avoided (House et al., 2004). Germany is characterized as a low power distance country, which implies that the distribution of power is relatively equal between superiors and inferiors, while India is diametrically opposed and has a high power distance value (Hofstede, 2001). Consequently, hierarchy plays a greater role in Indian social relationships (Sahay and Walsham, 1997). Uncertainty Avoidance refers to “the extent to which members of collectives seek orderliness, consistency, structure, formalized procedures, and laws to cover situations in their daily lives” (House et al., 2004). In high uncertainty avoidance countries or organizations, people adhere more strictly to established rules and formalized procedures (Hofstede, 2001). Germans, who score very high on the uncertainty avoidance scale, are often said to be ‘rigid’. This also has its positive effect, for example concerning the structured planning of IT procedures and the mitigation of implementation risk. India is also characterized by high uncertainty avoidance even though the index is lower (House et al., 2004). Accordingly, the existence of cultural differences between India and Germany can be derived from the comprehensive literature.

Impact of Cross-Cultural Differences on Global Project Team Work

Increasingly, IT projects are rolled out comprising geographically distributed teams spanning even across time zones and continents. Furthermore, most project teams in today’s business world consist of culturally diverse members. This poses significant challenges to team coordination and collaboration (Espinosa, Slaughter, Kraut and Herbsleb, 2007). It also adds to project complexity and therefore can be an inhibitor of project performance (Xia and Lee, 2004; Xia and Lee, 2005). A major issue in this context is overcoming cross-cultural differences for global project teams to work effectively and deliver the full expected functionality on time and within budget (Espinosa, DeLone and Lee, 2006). One challenge in this context is overcoming internal as well as external communication barriers, which plays a role in the strategic alignment and development of a shared vision by the client and vendor on a project basis, and for the global project team in general (Metiu, 2006). A further important issue is trust in virtual teams (Powell, Galvin and Piccoli, 2006) which may be facilitated by certain communication behaviors (Jarvenpaa and Leidner, 1999). Furthermore, distributed teams need clear procedures for conflict resolution, which occurs more frequently when project members work from numerous geographical destinations, and face-to-face communication is scarce (Hinds and Bailey, 2003; Hinds and Mortensen, 2005; Montoya-Weiss, Massey and Song, 2001). Latest research findings have again shown that the above described cultural differences are likely to have a

negative moderating impact on the performance of IT offshore outsourcing projects by causing client extra costs (additional expenditures besides the contractual fees) for coordination, knowledge transfer, and vendor control (Dibbern et al., 2007). Project management and control techniques, if employed effectively, may help to lower client extra costs in IT offshoring.

Project Management and Control

According to Ouchi, two modes of organizational control can be distinguished: the control exerted by personal surveillance, and the other form of control measuring the output of employees, output control (Ouchi, 1979). These two forms are independent from each other. The former, behavior control, is more appropriate when cause-and-effect chains are known and therefore, instruction is possible. The managerial control mechanisms for behavior control include instruction, monitoring, evaluation, and rewarding (Eisenhardt, 1985). Outcome control differs from behavior control as performance results are measured and evaluated directly, rather than the behavior that leads to the outcomes (Kirsch, 1997). Relating to IT project teams in general, empirical results indicate that a high level of behavior control by managers and a high level of outcome control by team members have positive outcomes to project performance (Henderson and Soonchul, 1992).

A further theoretical viewpoint that has been used to explain managerial control is goal-setting theory (Locke and Latham, 1990). Specific and difficult goals result in high levels of effort and performance, supposing that they are accepted by the individual and that feedback is provided (Locke, 1996). Clarified roles and established goals for each team member can leverage team performance. Also, clear definitions and documentations of work processes and tasks, adjusting and correcting work results, and providing feedback boost project performance (Katz and Lerman, 1985; Locke et al., 1990).

METHODOLOGY

The research question of this study is “which project management techniques can be employed to overcome problems due to cross-cultural differences in IT offshore projects?” Due to the exploratory nature of the research question - according to Yin, ‘what’ or ‘which’ questions are suitable for conducting an exploratory study (Yin, 2003) - a qualitative and interpretive research design seemed to be most appropriate (Walsham, 1995, 2006). Accordingly, rather than testing hypotheses derived deductively from theory, our goal was to identify categories of meaning and concepts explaining project management techniques for overcoming problems due to cross-cultural differences in IT offshore outsourcing projects. Furthermore, the role of theory in this research was not only to explain observed phenomena. Findings from theory served as additional data alongside the empirical data to be compared with each other through constant comparisons (i.e. moving back and forth between the empirical data and possible theoretical conceptualizations) (Glaser, 1998; Glaser and Strauss, 1967). Theory guided our observations in the case study and informed us inductively about possibly fitting theoretical explanations of our findings.

We collected primary data between April and November 2007 resulting in a total of 15 qualitative interviews with over 25 hours of interview time. These face-to-face interviews were conducted in an unstructured and open-ended manner and at least two researchers participated in the interviewing. The sessions took place at business locations of the bank in Germany. The interview partners were selected along three dimensions. First we included interview partners from both companies involved in the outsourcing relationship, the client firm from Germany (10 interview partners) and the vendor firm from India (5 interview partners). Furthermore, we included interview partners within the client firm from both the business and the IT department. The benefit from including all these perspectives in our analysis was to get a more complete picture of the relationship issues, as any relationship consists of at least two parties. Second we conducted interviews with representatives from different hierarchical levels, i.e. the top-level management, project-level management, subproject-level management, as well as project members. Third we interviewed mostly project members who were involved during the whole course of the project, but also included interview partners who participated only partly in the project.

In an interpretive and inductive fashion, our goal was to develop new theoretical models and/or concepts by applying the grounded theory approach, following the recommendations of Glaser and Strauss as well as Eisenhardt (Eisenhardt, 1989; Glaser et al., 1967). We aimed at formulating managerial techniques for overcoming problems caused by intercultural differences in an IT project. Grounded theory helped identifying these techniques and understanding their effects. The collected data was interpreted by the three researchers (enabling investigator triangulation) and from the viewpoints of our interview partners. Emerging concepts were identified by moving back and forth between the empirical data and possible theoretical conceptualizations. During this inductive theory-building process, we identified many concepts in the data (e.g., mapping to national cultural dimensions or project control issues) which have been described in great detail before in the extant literature. In particular, while the problems due to cross-cultural differences and project management techniques in general have been documented well in the extant literature, we did not find much literature linking project management and control techniques with the overcoming of problems due to these differences. Therefore, we inductively created new concepts

in our research that extend our knowledge on how cross-cultural differences can be managed. These concepts include for example a cascading deadline approach, team-building mechanisms, and the implementation of a clear communication structure between client and vendor firm. They will be explained in detail in the following case analysis section.

CASE DESCRIPTION

The case we investigated deals with a large scale offshore outsourcing project at a large European retail and investment bank. Two separate IT systems which handled all of the bank's current accounts, one of them a legacy system from the 1970ies were running in parallel for several years. The older system however, caused high maintenance costs because of its inflexibility to meet changing business demands. Additionally, operating two systems with similar functionalities is costly because of data redundancies that need to be facilitated. A third problem was the lack of personnel that would even understand the technology upon which the old system was running. Skilled staff was hard to find for replacing the people who originally designed the system and were about to retire.

Therefore, the bank decided to start a reengineering project which aimed at combining the two systems onto the platform of the newer system. The bank chose to outsource this large and technically complex project to an Indian IT service provider mainly in order to limit costs.

Integrating the two systems while up and running bared high risk, since the core business processes of the bank were totally dependent on them. Daily financial operations of the bank's customers would be interrupted if these systems would stop operating. A shutdown time of only a few hours would cost the bank tremendous amounts of money and would severely damage the bank's reputation. Therefore, the reengineering of the current account systems is a highly risky endeavor and can be compared to an open-heart surgery. Despite these difficulties, the project is seen as a success by the client. Although the bank had to invest more management effort than previously planned, the time, budget, and functionality objectives have been fully met.

CASE ANALYSIS

In the following case analysis section, we will describe the main problems that resulted from cross-cultural differences in the project. We present our analysis how these challenges were tackled with specific project management techniques and link the empirical data with the extant literature, where applicable. Issues found in the data that could not be mapped to the extant literature will be presented as our theoretical contributions.

Conflict avoidance tendency

The first issue that emerged out of our analysis pertains to interpersonal communication between client and vendor project members. Frequently, setbacks in the production process or problems with implementation issues were not communicated sufficiently in advance so that appropriate action could not be taken soon enough. It followed that interpersonal conflicts emerged and emotions came up that hindered constructive problem solving. Related to this issue is the problem of Indian project members agreeing with suggested timelines and milestones by the German colleagues even though they did not really believe in their feasibility and actually knew that it could not work the way it was suggested. One subproject manager from the client firm bemoaned:

“Our Indian team colleagues always say ‘yes’ and see everything in a positive way. But then, how do I know whether everything is in order or if there is a problem somewhere which is not communicated to our team? Unfortunately, we also make frequent mistakes in assessing when there is a problem and reading the real message between the lines.”

These problems occurred mostly at the initial phases of the project, i.e. in the design and testing phase, when the Indian service provider was about to deliver the first implemented software modules. Due to the early stage in the client-vendor relationship, the Indian project members did not want to report early setbacks and problems regarding implementation issues. They also did not report problems directly to their supervisors. We interpret this issue as one of power distance between project members and their superiors. The higher an Indian project member is positioned in the hierarchy of the organization, the more power and respect is given to him. A project manager from the client organization explained us how the reluctance of Indian project members to say ‘no’ affected the coordination of work:

“We enter negotiations with our Indian colleagues regarding deadlines, milestones, and detailed implementation plans with certain expectations that are a result of our own experiences and the limitations set upon us by the business department. When we suggest something – for example a detailed implementation plan for some subproject – to our Indian colleagues, then mostly the answer is ‘yes’. However, sometimes the answer is complemented by presenting an alternative solution that simply is not feasible at all and sounds like a crazy idea in the first place. In the beginning we just overheard these

alternative proposals. Later, after having gone through various conversations of the same type and learning from the consequences, we realized that this was the Indian way of saying 'no, your plan does not work, let's try something else'."

This different communication culture resulted in frequent problems during the second phase of this cross-cultural collaboration, where the first software modules were delivered. One issue was that the agreed upon deadlines were not met which caused frustrations with German project workers who complained about not being able to coordinate the work properly with their Indian counterparts. A related issue was that of quality. When timelines slipped, German project members usually started to build up pressure and sometimes even escalated the problem to a higher-level manager. Accordingly, the project members from India started to deliver their implementation results on time but not with the requested functionality and quality. This led to severe conflicts and escalated into a big issue for the bank in Germany due to the high risk and criticality of the project and the expectations from the project sponsors on the business side of the client organization.

Risk avoidance attitude

The literature tells us that Germans in general have a high risk aversion (House et al., 2004). We found empirical support for this in the conducted case study. One influential factor for the strong tendency of the project members towards avoiding any kind of risk is related to the national culture of Germany. Another highly influential issue is the nature of the project, being one that affects the core business processes of the bank. Therefore, the people in charge on the client side were especially keen to avoiding any kind of risk. That manifested in additional test runs and parallel operations of the old and the new system, for example. The Indian side however, was found to be more risk seeking or less risk averse. Some interviewees from the German side told us, that – at least in the initial phase of the project – either some of their Indian counterparts did not fully capture what a halt in the core banking system would mean to all the stakeholders, or maybe they *did* realize it but were just more relaxed about it. One project manager from the client side commented:

"The value that's running on our [core banking] system equals half an Indian city. If that system stops working, Germany stops working. That impresses the Indians less than the Germans, and therefore, they less worry about that something could go wrong. They don't have a problem with that, they're pretty laid-back."

The bank had a specifically formal approach to work in general. Documentations had to be very precise and documents had to be filled in very precisely. The vendor had another approach and a different methodology for documentations. The fact that the bank wanted to plan everything in detail and specify every single step in advance, and the differing view from the vendor side on these issues, led to some conflicts and discussions on the individual work level in sub projects. We found that particularly the formal approach to documentations and planning, the high value that was put on testing environments, the parallel test runs of the new systems, and the rigor controlling from the project management may have contributed to effective intercultural cooperation and to project success in the end.

The other side of the coin, speaking of the different attitudes towards risk in the two involved cultures, may have eased and accelerated processes: the Indian way of *just doing it* with less emphasis on pre-planning was found to be very helpful to implement things, according to our interview partners. This more hands-on and less complicated approach also helped to generate new ideas and to bring the project forward. A German team member said appreciative:

"The German side always wanted test runs, whenever possible, to ensure that nothing can go wrong. The Indian side however was bolder – they wanted to make progress."

Strict Obedience to Rules

Another challenge for the successful cross-cultural cooperation and the resulting project performance was the strict obedience to rules in the Indian supplier company. Indian IS professionals tend to depend on obligations more than their German counterparts (Dibbern et al., 2007). One bank representative expressed the vendor employees' mentality as follows:

"They act without reflecting what they are doing. This is faster, but sometimes it produces not the desired result."

A colleague added, after having visited the work site of the vendor in India:

"They scurry around and are very assiduous. You just have to tell everybody in detail what to do and make the expectations as clear as possible."

One rule the vendor enacted for its employees was to adjust very closely to the customer. The problem in this case was that the supplier's employees adjusted almost too much – it came to the point that they came up with empty "templates" and wanted to fill in these documents only according to the client's wishes. Sometimes, the project leader of the client would

have preferred that the vendor would bring in some own ideas and creativity. Instead, the main focus of the vendor's activities was to learn from the client and continue to work with the input from the client.

Another example of strict obedience to predefined rules concerned a subproject relating to a maintenance task. The vendor had six criteria for measuring the performance of that maintenance. The client's control team however complained that these measurement values were so meaningless and superficial, that they could not work with them. Nobody from the vendor team could really explain the meaning of these measures, and which conclusions could be drawn derived from them. But they were presented according to the rules of the company without questioning or critically reflecting.

Overcoming these problems with project management techniques

The project management from the client side applied mainly three project management techniques to overcome these intercultural problems: a "cascading deadline approach", the use of detailed "operational process documents", and a "tight controlling and testing".

Indians tend to accept deadlines even though they might not agree with them. This is based on the fact of high power distance in the Indian culture and the derived behavior of "yes-saying" and "face saving". The latter also applies for the conversation counterparts – Indians generally are likely to strive that nobody "loses his / her face". In the initial periods of the project, a number of scheduled deliveries did not fully meet the required outcomes. The vendor actually delivered something on time, but, in the words of a project member of the bank:

"At a given deadline, the Indians deliver a result, but not the desired 100% solution."

After learning from this experience, deadlines were set well in advance of the actual necessary deadline for a specific delivery subset. This way, the German project coordinators had enough time to identify missing pieces of work (in case the requirements were misunderstood and this was not communicated, e.g., the Indians did not ask any questions) and control the outcome and behavior of the Indian team members. Guidance how to conduct a specific task could then be provided, and misunderstandings could be identified. Giving instructions, monitoring the performance of the representatives of the other culture, evaluating their work and providing beneficial feedback, was only possible because there was enough time for intervention and corrective action, due to an iterative feedback procedure with multiple sub-deadlines – the "**cascading deadline approach**".

The "**operational process documents**" were a set of project documentations and process and task descriptions that was developed jointly by the client and the vendor at the very beginning of the project. These documents were very detailed and regulated every to be delivered service and product, up to the document templates. Through a longitudinal process of cross-cultural experiences and hence resulting improvements, the operational process documents were advanced and refined. They turned out to be very helpful devices for project management. Over time, they were used as a controlling tool to avoid delays, to set clear responsibilities, and to provide in-depth task and process descriptions. One project manager from the vendor stated:

"There are some different approaches and we had to deliberate a lot. We had a lot of discussion on how to do things. The usage of tools [the operational process documents] helped to mitigate the risks caused by cultural differences."

One example for how these documentation tools were used to overcome cultural obstacles was the delivery date issue. It was clearly stated in a document what exactly has to be delivered by whom and until which date. Controlling the outcome was the predominant idea for using the operational process documents in the first place.

"**Tight controlling and testing**" as a process of project management refers to the bank's strong controlling attitude. Based on its organizational culture, the client company always scrutinizes every business aspect. Also in this offshore outsourcing scenario, every step by both parties was discussed in detail. As before mentioned in the above described example, the bank's managers questioned the measurement values of a maintenance task which was used by the vendor for a long time. No client before was challenging these numbers and tried to get to the bottom of their exact meaning. This strong controlling, monitoring and reflect-upon-everything approach of the bank made it especially capable for identifying behavior patterns and cause-and-effect relationships dealing with intercultural differences in an IT offshore outsourcing arrangement.

Testing first and foremost refers to the parallel runs and setting up of extensive test environments before "going live" with every single element of the reengineered software modules. Here, the bank clearly prevailed with its secure and safe mode of implementing the new software system due to its very high risk character. The relaxed attitude of the vendor in terms of the impact of that system for the bank and its customers – effect of a slightly lower Indian risk aversion – was compensated by the client's tight controlling and testing approach.

Summing up the aforementioned findings, table 1 illustrates problems that arose because of cross-cultural differences.

Problem	Cultural Dimension, Theoretical Explanation	Applied Project Management Technique	Theoretical basis of project management technique
Conflict avoidance tendency	Power distance (Hofstede 1980)	Cascading deadline approach,	Project control, Behavior and outcome control
Risk avoidance attitude	Uncertainty avoidance (Hofstede 1980)	Operational process documents,	
Strict obedience to rules	Power distance (Hofstede 1980)	Tight controlling and testing	

Table 1. Overview of problems due to cross-cultural differences and applied project management techniques

CONCLUSIONS

Table 1 summarizes the findings of our explorative research approach. There have been a number of studies which identified problems due to cultural differences in IT offshore outsourcing projects. This research has shown that cultural differences indeed had an impact on the large IT offshore outsourcing project we investigated. We found very specific theoretical concepts how to resolve some of the potential conflicts. We apply the project control perspective on how to overcome problems due to intercultural differences and have found that the project management techniques “cascading deadline approach”, “operational process documents”, and “tight controlling and testing” strongly support an IT offshore outsourcing project’s chance to be a success. Therefore, we contribute to the domain knowledge of IT offshore outsourcing and intercultural collaboration, as well as IT project management.

We contribute to the theory base by concluding that in contexts of geographic and cultural distance within global project teams, outcome control is more effective than behavior control for tackling problems arising from cross-cultural differences. The reason for that is that we found clear empirical support that all three project management techniques, which proved to be successful in the case, can be seen as much more outcome control oriented than behavior control oriented.

The main practical contribution of our research is showing project managers from client companies conducting IT offshore outsourcing projects different project management techniques that can help managing cross-cultural differences between own staff and team members of the vendor company, especially in globally distributed team environments.

Future research could elaborate the possibilities of project management techniques on other dimensions of cross-cultural differences, such as individualism vs. collectivism. Further, it would be promising to examine the different effects of formal vs. informal control modes.

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