

Changing Psychological Contracts and their Effect on Control Modes in IT Offshore Outsourcing Projects - A Case from the Financial Services Industry

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Abstract

This paper applies a psychological contract perspective to analyze changing control modes in IT offshore outsourcing projects. The research question is: How do changing psychological contracts between client and vendor personnel influence the use and employment of formal and informal control modes in IT offshore outsourcing projects? The research design is an exploratory and interpretive single-case study. Our findings suggest that incidents like unfulfilled expectations from one party of an offshoring endeavor can lead to a change of the psychological contracts between both companies' project personnel, thus leading to different control modes employed.

1. Introduction

For decades, the phenomenon that IT projects fail at high rates has been persistent. According to the 2004 CHAOS report by the Standish Group, merely one third of all IT projects meet the criteria concerning time, budget, and quality requirements [15]. There are numerous reasons for this. One is that IT projects are becoming more complex, spanning both organizational and cultural boundaries. In such environments, project tasks are carried out in dispersed teams that face unique challenges for intra- and inter-team collaboration [7]. Another is that customers of IT services are becoming more demanding since they are more IT literate nowadays they realize the full potential of IT and ask for more functionality to support their business processes [18]. Last but not least, the trend towards offshore outsourcing of IT development work poses severe challenges which includes overcoming cross-cultural boundaries in global IT projects [23].

Research on IT offshore outsourcing is still in its early, formative stages with a high demand for more studies on managerial issues to overcome the accompanied unique challenges [11]. One the

important issues which have to be focused on in more detail is the role of formal and informal control modes [26] and how they interact for effective management of global project work teams [22].

While the different formal control modes and their exertion is codified and agreed upon in the outsourcing contract and service level agreements, the use of informal control modes chosen by IT project managers primarily depends on the mutual obligations that exist between client and vendor organization (i.e. the psychological contract) [3] and to the extent these obligations are fulfilled. Psychological contracts consist of unwritten and mostly unspoken sets of mutual expectations between two parties about each other's obligations [27].

While psychological contracts have been studied in IT outsourcing [14], as well as global sourcing in the case of small software development contracts [1], there have been no studies so far applying a psychological contract perspective to the offshore outsourcing of IT software development in the context of multi-years, multi-millions projects between large, multi-national organizations.

Furthermore, there have been no studies analyzing the use of control modes in the light of changing psychological contracts over the project's lifetime. Therefore, we use a psychological contract perspective to investigate how the use of formal and informal control modes exerted by offshore outsourcing IT project managers is influenced by the extent to which the psychological contract between client and vendor is fulfilled. Furthermore, we focus on the changing nature of psychological contracts, arguing that they are dynamic and changing in nature, and how this influences the use of formal and informal control and management over time. In particular, our research question is: *How do changing psychological contracts between client and vendor personnel influence the use and employment of formal and informal control modes in IT offshore outsourcing projects?*

This research question is investigated by an in-depth single-case analysis from the financial services industry. The case comprises a large IT offshore outsourcing project involving the activities of a large international bank (the client) in Germany and one of the largest Indian IT service providers (the vendor). Up to 150 individuals worked on this 5-year project simultaneously where the goal was to technically reengineer a core banking system and integrate a 30-year old legacy system with a newer, more flexible system. The written contract (as opposed to the psychological contract) was signed on a fixed price basis, with a volume of several million Euros.

2. Theoretical Foundations

The research on contracts has a long tradition in economics and has brought up rich findings in the literature, including their inherent psychological components [16, 17]. Ho and Ang are the first to apply psychological contracts to the domain of IT outsourcing [2, 10] focusing on the affiliation between employer and employee. Koh et al. extend this focus to the relationship between client and outsourcing vendor [14]. Psychological contracts in general refer to the inherently perceptual nature of contracts between two parties, which adds to and goes beyond their legally binding dimension [21]. Central to psychological contracts between two individuals is their perceptual, unwritten, and implicit character [3, 27]. Rousseau proclaims the perceived promises that two contracting parties offer to each other in a reciprocal exchange [24, 25]. According to Koh et al., there are three central elements that define a psychological contract: 1) mutual (rather than one-sided) obligations, where the two involved parties share the same values and beliefs regarding their mutual obligations, 2) psychological (as distinct from legal) obligations, and 3) the individual (instead of the inter-organizational) construct or level of analysis [14].

By answering the question “*what are the mechanisms through which an organization can be managed so that it moves towards its objectives?*”, Ouchi identifies three different mechanisms of control: market mechanisms, bureaucratic mechanisms, and clan mechanisms [20]. For the market type of control, where prices act as informational requirements, the social requirement of a ‘norm of reciprocity’ is needed. That is the assumption that markets cannot exist without the mutually accepted rule, or norm, that no party involved in a market transaction will cheat on the other. Otherwise, the punishment exerted by all members of the market system upon the cheater would exceed the potential ‘benefits’ of the wrongdoing by

far [20]. The bureaucracy type of control additionally features a legitimate authority as social requirement, whereas rules act as informational requirements for the bureaucracy system to work successfully. Finally, for the clan type of control, besides a norm of reciprocity and a legitimate authority, shared values and beliefs between clan members are further social requirements, whereas traditions serve as informational requirements [20].

Based on this elementary theoretical foundation laid by Ouchi, Eisenhardt distinguishes two major forms of control: behavior and outcome control [6]. They are independent from each other, whereas behavior control is more suitable when cause-and-effect chains can be identified and this way, teaching of individuals is feasible. Control mechanisms for managers within the behavior control domain include monitoring, evaluation, instruction, and rewarding of team members [6]. When imposing behavior control, executives can evaluate and measure the behavior of subordinates that leads to a certain outcome. The other major form of control, outcome control, helps directly measuring and evaluating the performance result or outcome of a controlled entity [13].

In offshore outsourcing IT projects, the client would be the controller and the vendor would be the contreee, what we define as the paper’s focus.

As illustrated in table 1, control can be further categorized into formal and informal control modes [4]. Behavior and outcome control can be characterized as formal control modes, while informal control consists of self-control and clan control. These modes take social or individual strategies into account [4, 6, 12, 13].

Control modes		
Formal control modes	Behavior control	Personal surveillance of employees
	Outcome control	Measurement of employees’ output
Informal control modes	Self control	Relying on individuals to monitor and control themselves
	Clan control	Relying on the group (i.e. clan) to monitor and control itself

Table 1: Overview of Control Modes

3. Research Methodology

Adopting an interpretive perspective [29], the goal of this paper is to analyze changing control modes in IT offshore outsourcing projects as they are deployed

by project managers during the course of the project. Thus, special emphasis is laid on studying the use of control modes as they unfold over time wherefore data is used (and interviews are conducted) that cover all periods of the 5 years lasting project to allow for a longitudinal research approach [19]. Furthermore, and in line with interpretive research methods, we focus on interpreting the phenomenon from the viewpoint of our informants, looking at how they give meaning to the psychological contract and how this influences the use of control modes. Thus, we try to explain why managers in IT offshore outsourcing projects act the way they do, according to the changing psychological contract. This research is exploratory in nature [28], focusing on the creation of new insights for supporting the theory-building process (rather than theory-testing) of research on the management of IT offshore outsourcing projects. Psychological contract theory, as well as project control theory is used as a theoretical lens, although no hypotheses are generated a priori and the researchers remained open to new concepts and categories during their empirical investigations. Similar to Walsham [31], the theoretical lens for this study evolved over time during our empirical investigations as we started to depict the changing nature of mutual expectations between client and vendor personnel from the data together with their influence on the use of control and management techniques.

We selected a single-case study design for our research because of the longitudinal character of the case at hand, where this layout is appropriate [32]. Our data collection took place between August 2007 and May 2008, resulting in a total of 31 qualitative and semi-structured interviews with 28 different interviewees. Each interview lasted between 1 and 2.5 hours and resulted in approximately 50 hours of interview time and more than 260 pages of interview transcriptions. We selected our interview partners by following a structured and well-defined procedure. Interview partners were involved from both client and vendor company; the bank's business and IT departments; top-level, project-level, subproject-level, and team-member level; and lastly, interview partners involved during a particular phase of the project and those involved during the whole course of the project. We conducted each interview with at least two researchers from the team and took extensive notes at the field site. After each interview session, we immediately transcribed the field notes to prepare for the structured data analysis phase. In addition to the data obtained from our interviews, we received presentation material, project status protocols and other secondary material that we included in our analysis for data triangulation purposes [32].

We conducted our analysis following the guidelines of Walsham on the use of theory and the development of a theoretical contribution in an interpretive study [29, 30], as well as the recommendations of Glaser and Strauss for analyzing the qualitative data and deriving the emerging concepts and categories that are 'grounded' in the data [9]. Operationally, we analyzed the data in a structured, sequential way using the qualitative data analysis software Atlas.ti.

We believe that the assumption of psychological contracts fits well to our case study findings, since all three essential aspects for the application of the psychological contract theory can be found in the data: mutual, rather than one-sided obligations between the vendor and the client, psychological – as distinct from legal – obligations, and the individual level of analysis [14]. Due to their nature as inherently perceptual [17], psychological contracts can only be investigated at the individual level, reasoning the level of analysis we have chosen. The use of a theoretical lens supported the theorization, concept-building process where we iteratively compared emerging concepts from the data with possible theoretical conceptualizations [8]. In that sense, our goal was to use the mentioned theories as a sensitizing device for the data analysis and theory-building process. In doing so, we maintained a high level of research flexibility, allowing for completely new issues to come up that we had not thought of before.

4. Case Description

The case we analyzed involves a large scale IT offshore outsourcing project. An international bank with significant operations in Germany decided to reengineer two of its core banking applications, whereas the older system – a legacy system from the 1970ies – was to be integrated into the newer, more adaptive, better performing, and more scalable system. The main goals included reducing data redundancies, complexity, and the dependence upon elder employees who originally designed the system. After having started the project without external involvement in 2003, the bank soon decided to get an IT service provider on board. Due to expected cost saving potentials as well as the high diffusion rate of CMMI level-5 certification, the company chose an offshore vendor from India to perform the reengineering task. The IT department of the client, which was operating out of Germany, negotiated a fixed price contract for the venture worth several million Euros. The fix price setup was negotiated for the part of the vendor only, not taking into account the own additional effort for controlling that the client put into the project, which in the end resulted in some extra cost for the bank [5]. It

took about five years to complete the project and approximately 150 people from both the client and the vendor were involved. The reengineering and systems integration task was split into several sub-projects to better handle the complex job. The complexities of the project itself and of the end product were very high: millions of financial transactions worth billions of Euros were processed every day on the old systems. A failure or shutdown even for several minutes when switching on the new system could have caused distortions in financial markets on an international level. Therefore, the quality requirement for the newly integrated system was very high. To mitigate the risk of operational failure, the new software was extensively tested under real world conditions and was rolled out iteratively.

Although a considerable amount of additional resources had to be invested in the process by both the client and the vendor, the strategic project was regarded as a great success by all stakeholders because it met all quality and functional requirements in the end and established an ongoing fruitful business relationship between the bank and the IT service provider. The organizational setting of this venture is illustrated in figure 1.

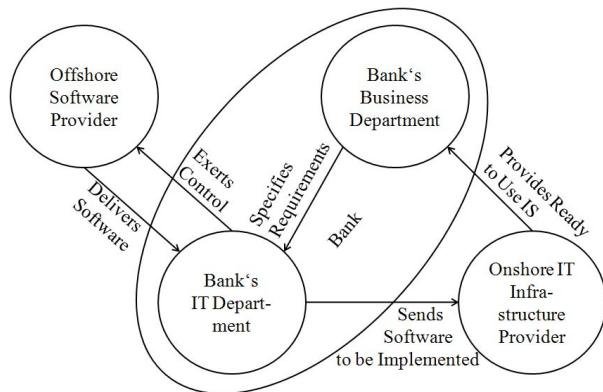


Figure 1: Organizational Setting

As shown, two business entities from the bank were involved in this project: the bank's IT department, which operationally controlled the delivered software and actively supported developing parts of the deliverables later on in the project, and the functional business department of the bank (responsible for the investment banking and private customers businesses). The IT department also performed a significant proportion of the project management activities. Two more companies were involved: the offshore software provider from India with a considerable team of onsite project managers at client's locations in Germany, and a third IT infrastructure provider which operated most of the bank's computing resources. This firm however

was not actively engaged in the reengineering project, it only received the final software for installing it on the infrastructure and going live with it.

5. Case Analysis

In the analyzed case we found strong evidence that the psychological contract (as opposed to the formal contract) between the client and vendor played a major role. The program manager from the client company stated at the very beginning of our interview series:

I don't want to be forced looking into the written contract. I believe, when it comes to the point that I have to consult the contract, the project is dead.

This indicates that the client side clearly had the expectation that the vendor would agree to a common objective, i.e., reaching the goal to successfully reengineer and integrate the complex information systems, without specifying every single step how to reach this shared goal, and without insisting on basing all actions on the written contract.

In the initial project design phase, work load between client and vendor was divided 40 percent (client) to 60 percent (vendor). This distribution of work was not explicitly specified in the written contract, but it was an expectation from the project managers from both the client and the vendor organization. For example, both parties implicitly agreed from the beginning that the service provider would execute the testing of the newly developed or integrated software and setup an appropriate testing environment. When the first modules were delivered, it turned out that the system was too complex for standard testing procedures normally employed by the vendor and that the bank had much higher quality requirements than initially expected by the vendor, taking into account the high security and high performance necessities due to the nature of the end product as a core banking system with millions of transactions a day.

In the beginning, the bank only planned to exert output control. This was specified in so called "operational process documents", where output controlling procedures were explicitly specified by both parties from the beginning. The client project team checked the test results that were delivered by the vendor and found significant dysfunctional elements during the first phases of the project. Following these incidents, the onsite vendor project manager stated:

There were quite a few points we had to reflect. For example, the testing approaches at the beginning of the project. Since it was a very complex project with an

aggressive timeline and a complex functionality, we had to ask ourselves, if we should change the testing approach drastically. We (i.e., the vendor and the bank) had to deliberate a lot.

The bank realized that output control alone would not be enough and that it had to invest more resources than initially expected. The problems partly arose because of the nature of the old system as a wholly self-developed legacy system with variables and lines of code in German language (including comments and actual ‘compilable’ code), which the vendor from India could not understand. Therefore, mere source-code analysis by vendor programmers would not be enough to understand the functionalities and the logic behind the algorithms. To close this gap, the bank realized that it would have to invest more proprietary resources and support the vendor in building an appropriate test environment, among other things. The actual work split then was fairly equal, meaning that approximately 50 percent of the total work was conducted by each party. This shows the additional effort that the client invested in particular, but overall, both companies put more resources into the project than previously thought.

The overall psychological contract between the project leaders of the vendor and the client – to successfully complete the project jointly – remained the same over time, but the lower level psychological agreements changed. The bank side recognized that there is a need for help and support of the vendor, and the managers agreed to invest more on this, but without touching the formal contract. This change also brought another control mode into the picture: the bank’s project members collaborated more closely with their peers on the vendor side. They jointly developed testing procedures that would better fit the needs of the bank’s IT department. This signifies a change from only output control to a coupling with behavior control, since the bank then also supervised *how* an objective was reached, not only cross-checking the delivered end results. Two sub-project leaders formulated the situation as follows:

Another work load breakdown was planned originally. We had to “take the vendor by the hand” for controlling the quality. We had to adapt this to stay within the time restrictions by tightening the leadership of the vendor and increasing their know-how.

The expectations of the client in the performance of the vendor were particularly raised because the Indian company wanted to “conquer” the European IT market in the financial services industry. The project at hand was planned to be a “flagship” venture to attract attention from other potential clients. This

circumstance contributed to the high expectations of the bank in the vendor’s abilities and formed part of the psychological attitude of the bank’s executives, leading to the idea of only exerting output control instead of informal control modes or behavior control.

As a matter of fact, initial client expectations of the vendor’s abilities were not fulfilled. Particularly, functional and business knowledge was lacking and it turned out that these could not be built up in a reasonable amount of time. Due to this development, not only the “informal contract” changed, also the control modes had to be revised.

In the initial phases of the project when the first software parts were delivered, the counterparts of the Indian programmers within the IT department of the bank evaluated the quality. They found, that the quality did not match their expectations. A senior executive of the bank, who was involved with the decision to outsource the reengineering project, commented on this issue:

The quality was not that bad at the beginning, but those who received the deliverables – and who actually produced those things by themselves before – had particular high expectations. They thought: “now I’m going to compare this work against my very highest standards.” Then they realized that there is a gap – and then they said “hey, they can’t do it!”

In part, such an attitude seemed justified, but partly it was not because the expected standards were unrealistic. Out of this situation, the project management realized that there is need for action to find a way for solving these problems, and to create a psychological contract between all involved project members. Mutual and psychological (i.e., not legally specified) obligations needed to be established on an individual level, which could be accepted from people of both parties involved. This insight also led to a switch from output control to behavior control executed by the client upon the vendor.

Additionally, within the informal control modes, clan control entered the stage. The clan – “the group of individuals who are dependent on one another and who share a set of common goals” [12] – was formed through a combination of project members from the client and the vendor. For instance, in one sub-project onsite employees from the Indian service provider were “put” into one open-plan office together with their counterparts from the German IT department. Socialization between project members was also supported by common social activities. Since the project was originally planned as a long-term endeavor spanning over four years, and because the common goal to successfully implement this large scale project

(for the strategic benefit of both the bank and the service provider), all determinants for the occurrence of clan control are met [4]. This shift towards formal behavior control and informal clan control (additionally to the former exclusively applied output control) is grounded in a new psychological contract between the project managers of both parties and also among project members on various hierarchy levels of both companies.

It was important for the establishment of these new psychological contracts that the legal contract was not touched. One senior executive told us:

There is often the danger that the vendor says "you are crazy, we can't do that". This happened a few times. If there are two or three moves into the wrong direction, then the whole process becomes somewhat independent. When the contract has to be touched, then the project is in danger.

It was crucial that the project lead did not allow the project path to diverge, but to find solutions commonly, which asked for compromise from both sides. Only this way, a new psychological contract could be established that led to project success in the end. According to a manager from the client side, during this phase, the vendor also generated substantially higher expenses than planned, but without trying to pass them on to the client.

In this first somehow difficult project phase – where the major questions were answered and the project was set up decently – the deliverables were supplied in many little steps according to the expectations. When every stakeholder can see the success of the venture, there is no reason anymore for doubts or for not supporting the project. Since this phase, the project members referred to earlier, who tried to “defend their territory“ and set unrealistic, highest expectations, could not retain their critical point of view, because then they would be branded as grumblers. With the possibility to find new job positions within the bank, the renunciation of dismissals for operational requirements, and the positive development path, these once skeptical project members were won for a promising new psychological contract.

5.1. The involvement of the business side

At the beginning of the project, top management attention from the business department of the bank, which eventually paid for the new system, was high. Steering committee meetings also involving representatives from the IT department and the vendor were held on a regular basis. In this initial phase, the

business department exerted behavior control over the project managers. However, during the course of the project, the attitude towards the project changed. As a member of the IT department’s project team noted:

First, the people from the business side hesitated. But one could observe how this initial caution transformed into full support. The people saw that it worked, and they believed in us.

From that point in time, the business department was fully confident in the IT department’s ability to deliver the promised functionality in close cooperation with the vendor, and its managers withdrew to sole output control. This shift was foregone by a renewed psychological contract – once this informal agreement existed between the IT department and the business department only, later it expanded to include the project leaders from the vendor company, as well. It was important, that the project delivered real results, and the business side did not have to wait for two years for these. The milestones and pieces of software were sliced in small components. This could only happen after the technical problems from the beginning were solved. The program manager put it that way:

The proof was that we would make it together with the vendor. That built up trust that the project would work. Going into production with the first two sub-projects was very important.

Before the project started, the IT department decided that it would be a reengineering project, meaning that it would not contain any or only minor functional amendments. The involved business department had many ideas how to expand and improve the functionality of the software. There were many discussions on that topic, but the IT department managed to convince the sponsoring business entities that the project would primarily build the technical base upon which changes will be possible to implement, once the newly integrated system is running. Otherwise, if the demanded additional functionalities would have been tried to implement from scratch, the complexity would have risen dramatically. Therefore, there is evidence that even within the bank there have been rival expectations between departments that had to be overcome. A psychological contract had to be established between leading managers from the IT and the business side.

Evidence how psychological contracts influence control modes is depicted in the following: At about the middle of the duration of the project, there was a discussion among the bank’s departments regarding the non-conformity of the vendor towards the contract.

The vendor was “accused” by the business side that it would not deliver the software products in the required functionality and/or quality wherefore the business side claimed for compensation. The IT department did not decide in favor of the business side. Instead, the IT managers could convince their business colleagues that not only the bank, but also the vendor had invested considerable additional amounts of resources to make the project a success. The business side agreed because the two units of the bank had one common goal and the functional department trusted the IT unit and believed that they know best what needs to be done. This is clear evidence that they exerted output control only, based upon a psychological contract with mutual obligations.

The IT department managers had to find an amicable solution for both the client and the vendor without formal claims of compensation. Otherwise they would have violated their psychological contract, which proclaims psychological instead of formal and legal obligations. The program managers from the bank and his peer from the vendor calculated in confidence how much additional costs each party had to bear. Then they agreed which party gets additional support for which processes in the form of manpower, but without paying for that. They sealed their psychological contract with a handshake.

The reason for the early problems in delivering the desired quality of the software resulted mainly from lacking functional knowledge on the vendor side. There, the bank’s employees had to help out. Also, the technical requirements and the highest performance standards that were requested from the bank remained unclear to the vendor staff at the beginning. The service provider was not aware enough of the possibly severe negative consequences that a downturn of this core banking system would have, once in operation.

The solution of these initial problems was critical to the project’s success in the end. A senior executive from the IT department commented on this:

The sustained, consequent, good solution of these initial problems made this level of support possible in the first place. In case of a doubt, thereof we live until today (in the project).

In summary, it was an important success factor for the project to come to the point where psychological contracts were established between leading personnel from the IT department and the business department (i.e., the sponsor of the project), from the IT department and the vendor, and between individuals from various project hierarchy levels among each other. Following incidents that changed those psychological contracts and their associated mutual

obligations, control modes changed as well: the business department formerly exerted behavior control and switched to output control, whereas the IT department initially executed only output control and then later on in the course of the project added behavior control and informal clan control, as well.

5.2. Client Expectations

Mutual expectations formed the basis for mutual obligations on a psychological level later on in the project, as described above. High expectations were raised at the very beginning of the project because of the vendor’s “CMMI level five” certification. This led to the assumption that a so labeled company would be a champion in project management, because the highest level of CMMI – level five – means that software development processes have reached a maturity level that is “optimizing” by definition from project to project. The senior architect from the client side remarked:

The vendor should be able to present an adequate software development model. That’s what they do. It should be easy for them to provide a process model for such an undertaking. Maybe this knowledge exists somewhere with the company, but they did not show it to us.

The lack of experience of the vendor led to some degree of disappointment, because this kind of knowledge did not have anything to do with banking know-how or client-specific knowledge, but with the organization of international projects. Since the CMMI certification led to an expectation of a sound project management and process know-how, the client originally planned to limit its tasks to output control of the vendor. Over the time, mutual expectations shifted and sharpened, which led to altered psychological contracts, which in turn formed the basis for different control modes. Another example for the shift from output control to behavior control provides the program manager from the IT department:

The expectations at the beginning were different. The vendor was supposed to develop and do things, with more effort. Then we realized that we had to invest more in this. We said “let’s do more together”. Sometimes one wished that the vendor would bring in more ideas and more structure. In fact, they adopted almost everything from us, for example the documents and proceedings for the status reports, etc.

Another expectation from the bank was the functional knowledge of the vendor. The people from

the bank's IT department asked themselves, if the Indian vendor would know how to test the software. The conversion itself was pretty technical. But for testing purposes, the frontend dialogs also needed to be considered. The error messages of the frontend were in German language, so the vendor's employees could not understand them. Still, in one reported occasion the service provider tested this system, but performed a non-realistic test. Summarizing, the bank expected four types of knowledge from the vendor: 1) business knowledge, 2) process knowledge, 3) functional knowledge, and 4) technical knowledge. The bank expected to contribute these types of knowledge to the project, and if this knowledge would not exist, it should have been absorbed from the bank. A project member from the vendor stated the following, providing evidence for the outcome control approach applied at the beginning of the project:

We had to fulfill these expectations. The client always wanted to have an objective (user requirements, user expectations). Our counterparts never worried about the people, they only worried about the final code.

The client expected from the vendor that capable, qualified, and experienced people would be sent to the project. One problem identified by one executive from the bank regarding this demand was that often other people sell the project to the client than those who actually work on the project later on. Therefore, the bank introduced the demand to the contract that those senior people who negotiated the project terms and conditions would actually work for the project. This would also help meeting the client's high quality requirements.

Many interview partners agreed that at the start of the project, it was not clear to them what the mutual expectations and obligations were. The challenge was to "make the psychological contract explicit". A psychological "handshake" existed from the agreement to conduct this project, but the mutual expectations were not clear at the beginning. Only through formal exchanges like project reviews, the parties exchanged mutual expectancies and made psychological contracts explicit. The informal agreements were amended by the evolution in the project. This way, the distribution of work load was changing, as well. New forms of cooperation, new team compositions with staff from both companies, and resulting, other control modes emerged in the process. It was an important success factor for this project to clarify mutual expectations in an early stage, so that necessary adjustments could be made soon in terms of resource allocation, management tasks, and control modes.

5.3. Vendor Expectations

The working style of the vendor changed over time. At the beginning, there were many formal procedures. For instance, formal requests from the vendor to the client were common in an early stage of the relationship. Later in the project, a partnership evolved, where it is not necessary anymore that requests have to be sent from one party to the other for a couple of times to achieve accreditation for valuations, descriptions, or approvals. At the beginning, there were a lot of uncertainties within the vendor's team. Many processes had to be established over time. Towards the later phases of the project, the bank's employees just asked the vendor colleagues until when they could deliver a specific task, and the service provider directly estimated. That was different earlier when the client's conventions how to deliver software was unknown. This change in attitude involved a sharpening of the psychological contracts between team members of both sides, and a change of control modes exerted by the client. Clan control gained importance towards the later stages of the project, when mutual obligations became clear, and shares values and beliefs emerged over time. From the beginning, all team members were dependent on one another and shared a common goal, to successfully complete the project. Under these circumstances, one can speak of a clan and therefore, clan control will be established.

Operational expectations from the vendor included getting access to data for testing. There was no team as such to maintain this data and reuse them for future projects. So the vendor staff had to look for them by themselves. Also, the vendor expected that more knowledge would be transferred to its employees. The fact that the decision to outsource the reengineering effort was made after the project had started, and therefore, the vendor came on board several months after the setup of the initial requirements, turned out to be a hindering factor for the performance of the supplier. One senior project member from the service provider stated:

We missed that in the beginning, and it was more difficult later to get the business knowledge. Only slowly we gained the knowledge by talking to project managers from the bank. But it would have helped a lot, if we had been part from the beginning.

It seems that the most important expectation, but at the same time the most difficult to meet, was to estimate the costs clearly. The reason for this difficulty lies in the nature of the project as a reengineering effort. A project member from the vendor told us:

When I came here, I realized that the system was very old. All the coding was in German. All the variables were in German, too. So at first sight you can't know what the functionalities of all the programs are and you don't know how big the program is. So this was a challenge.

This shows that the vendor had an expectation that the client would help specifying details of the systems and provide documentation in English. The vendor project managers tried to mitigate those risks with formal control mechanisms, as vendor personnel stated.

6. Conclusions and Future Research

This paper is, to the best of our knowledge, one of the first attempts to bring together psychological contract theory and organizational control theory in the domain of IT offshore outsourcing research. The findings of our case study suggest that the establishment, the refinement, and the amendment over time of psychological contracts between project managers from the client and the vendor (in the context of an outsourcing agreement) influence the selection and implementation of control modes varying between formal and informal modes of control, and on a more concrete level, varying between behavior, outcome, and clan control.

With this work we add a new theoretical lens to the work of Choudhury and Sabherwal [4] by providing a possible theoretical explanation of the influencing factors in their model of the evolution of controls. According to our findings, these influencing factors can be understood as psychological contracts that are established (i.e., one incident), sharpened (i.e., another incident), and changed (i.e., a further possible incident). From this it follows that psychological contracts serve as determinants for the application of distinct control modes.

As a contribution to the domain knowledge in the field of IT offshore outsourcing projects and as a contribution to practice, we found in our case study that it is an important success factor to identify realistic expectations of one another and to explain them as early as possible in the course of a project. Adjusted and realistic mutual expectations seem to lead to fewer conflicts in the client-vendor relationship and therefore, to a better collaboration and more realistic, more feasible distribution of project works. This contributes to a higher chance of successfully completing such a project. Thus, the early recognition of mutual expectations sharpens psychological

contracts between responsible people and leads to a more adapted selection of adequate control modes.

It would be a promising route for future research to explore further the role of flexibility in control modes in IT offshore outsourcing projects. Also, the consideration of cross-cultural factors into the context of psychological contracts and control modes needs more attention in the offshoring arena. A further remarkable avenue for future research would be analyzing the relationship between CMMI certifications, requirements engineering, and mutual obligations between client and vendor companies. To get to a more general picture, i.e. comparing large scale projects like the one at hand with other setups, multiple-case studies might also be of interest in the future.

7. References

- [1] P.J. Ågerfalk and B. Fitzgerald, "Outsourcing to an Unknown Workforce: Exploring Opensourcing as a Global Sourcing Strategy", *MIS Quarterly*, 32(2), 2008, 385-409.
- [2] S. Ang and S.A. Slaughter, "Organizational Psychology and Performance in IS Employment Outsourcing and Insourcing", *Hawaii International Conference on System Sciences*, Hawaii, USA, 1998.
- [3] C. Argyris, "Understanding Organizational Behavior", Dorsey Press, Homewood, 1960.
- [4] V. Choudhury and R. Sabherwal, "Portfolios of Control in Outsourced Software Development Projects", *Information Systems Research*, 15(3), 2003,
- [5] J. Dibbern, J. Winkler and A. Heinzl, "Explaining Variations in Client Extra Costs Between Software Projects Offshored to India", *MIS Quarterly*, 32(Special Issue on Information Systems Offshoring), 2008, 333-366.
- [6] K.M. Eisenhardt, "Control: Organizational and Economic Approaches", *Management Science*, 31(2), 1985, 134-149.
- [7] J.A. Espinosa, S.A. Slaughter, R.E. Kraut and J.D. Herbsleb, "Familiarity, Complexity, and Team Performance in Geographically Distributed Software Development", *Organization Science*, 18(4), 2007, 613-630.
- [8] B.G. Glaser, "Doing Grounded Theory: Issues and Discussions", *Sociology Press*, Mill Valley, CA, 1998.
- [9] B.G. Glaser and A.L. Strauss, "The Discovery of Grounded Theory: Strategies for Qualitative Research", *Aldine Publishing Company*, Chicago, 1967.
- [10] V. Ho and S. Ang, "When Employees Become Contract Labor: Persistent Expectations of the Principal in an

Outsourcing Context", Division of Organizational Behavior Academy of Management Meeting, San Diego, 1998.

[11] W.R. King and G. Torkzadeh, "Information Systems Offshoring: Research Status and Issues", *MIS Quarterly*, 32(2), 2008, 205-225.

[12] L.J. Kirsch, "The Management of Complex Tasks in Organizations: Controlling the Systems Development Process", *Organization Science*, 7(1), 1996, 1-21.

[13] L.J. Kirsch, "Portfolios of Control Modes and IS Project Management", *Information Systems Research*, 8(3), 1997, 215-239.

[14] C. Koh, S. Ang and D. Straub, "IT Outsourcing Success: A Psychological Contract Perspective", *Information Systems Research*, 15(4), 2004, 356-373.

[15] P. Legris and P. Colletette, "A Roadmap for IT Project Implementation: Integrating Stakeholders and Change Management Issues", *Project Management Journal*, 37(5), 2006, 64-75.

[16] I. Macneil, "The New Social Contract: An Inquiry into Modern Contractual Relationships", Yale University Press, New Haven, 1980.

[17] E.W. Morrison and S.L. Robinson, "When Employees Feel Betrayed: A Model of How Psychological Contract Violation Develops", *The Academy of Management Review*, 22(1), 1997, 226-256.

[18] R.R. Nelson, "IT Project Management: Infamous Failures, Classic Mistakes, and Best Practices", *MIS Quarterly Executive*, 6(2), 2007, 67-78.

[19] W.J. Orlikowski and J.J. Baroudi, "Studying Information Technology in Organizations: Research Approaches and Assumptions", *Information Systems Research*, 2(1), 1991, 1-28.

[20] W.G. Ouchi, "A conceptual framework for the design of organizational control mechanisms", *Management Science*, 25(9), 1979, 833-848.

[21] P.A. Pavlou and D. Gefen, "Psychological Contract Violation in Online Marketplaces: Antecedents, Consequences, and Moderating Role", *Information Systems Research*, 16(4), 2005, 372-399.

[22] A. Powell, G. Piccoli and B. Ives, "Virtual Teams: A Review of Current Literature and Directions for Future Research", *The DATA BASE for Advances in Information Systems*, 35(1), 2004, 6-36.

[23] M.T. Rao, "Key Issues for Global IT Sourcing: Country and Individual Factors", *Information Systems Management*, 32(4), 2004, 1-11.

[24] D.M. Rousseau, "Psychological and Implied Contracts in Organization", *Employee Responsibilities Rights Journal*, 2(2), 1989, 121-139.

[25] D.M. Rousseau, "Psychological Contracts in Organizations: Understanding Written and Unwritten Agreements", Sage Publications, Inc., Thousand Oaks, 1995.

[26] S. Rustagi, W.R. King and L.J. Kirsch, "Predictors of Formal Control Usage in IT Outsourcing Partnerships", *Information Systems Research*, 19(2), 2008, 126-143.

[27] R. Sabherwal, "The Role of Trust in Outsourced IS Development Projects", *Communications of the ACM*, 42(2), 1999, 80-86.

[28] R.A. Stebbins, "Exploratory research in the social sciences", Sage Publications, Thousand Oaks, USA, 2001.

[29] G. Walsham, "Interpretive Case Studies in IS Research: Nature and Method", *European Journal of Information Systems*, 4(1), 1995, 74-81.

[30] G. Walsham, "Doing interpretive research", *European Journal of Information Systems*, 15(3), 2006, 320-330.

[31] G. Walsham and S. Sahay, "GIS for District-Level Administration in India: Problems and Opportunities", *MIS Quarterly*, 23(1), 1999, 39-65.

[32] R. Yin, "Case Study Research - Design and Methods", Sage Publications, Thousand Oaks, California, USA, 2003.