22 HOW INFORMATION SYSTEMS PROVIDERS DEVELOP AND MANAGE EXPERTISE AND LEVERAGE THEIR CLIENT RELATIONSHIPS FOR COMPETITIVE ADVANTAGE

Robert Gregory
Michael Prifling
Institute for Information Systems
University of Frankfurt, E-Finance Lab
Frankfurt am Main, Germany

Abstract   *Information technology vendors are continuously growing into global service providers. To reap the benefits of the changing global economy and gain a competitive advantage, providers need to see their client relationships as strategic assets and leverage them for expertise development and knowledge integration. How do IS service providers absorb knowledge from client relationships over multiple projects at multiple levels? How do IS service providers transfer and disseminate knowledge internally at and across multiple levels and integrate it to generate value-creating competencies? These questions are investigated in a longitudinal qualitative study employing interpretive case-study methods. The case included in the analysis is a 4-year IS outsourcing project between a large European bank and one of the largest Asian service providers. Services were delivered through a global virtual team, including offshore and onshore locations, and a particular strategy was employed to transfer knowledge cross-functionally, integrate this knowledge internally within the organization, and utilize it effectively in the global service delivery system. However, our initial analysis of the first interviews reveals that there was a discrepancy between the expected and actual performance of the service provider. Accordingly, the knowledge transfer and management processes need to be analyzed in more detail. With this research study, we aim at contributing to the domain of IS offshore outsourcing and services science as well as to the theory on vendor capabilities and knowledge management.*

1   INTRODUCTION, MOTIVATION, AND RESEARCH QUESTION

While information systems vendors aspire transforming themselves into global service providers and the economy evolves toward a global service economy, new strategies are needed by firms to reap the benefits of the emerging opportunities. Firms are continuously focusing on their extended enterprise to enhance their customer relationships, their product and service offerings, and their revenue growth in order to gain a competitive advantage (Krishnan et al. 2007). The challenge for firms in the new globalized economy is to leverage resources, exploit competencies, manage partner relationships, and explore opportunities (Krishnan et al. 2007). Currently, we have a limited understanding of how organizations develop and deploy the necessary capabilities to position themselves in the global service economy in order to harvest the value-adding benefits, being the product of successfully orchestrated interorganizational relationships (Krishnan et al. 2007). Therefore, further research is needed that addresses these issues and helps explain how interorganizational relationships—buyer–supplier relations are one possible form (Uzzi 1997)—can be leveraged for value creation and be converted into competitive advantage. Empirical investigations are needed to examine the value of strong customer ties and how they can be realized across multiple relationships (Saraf et al. 2007).

Buyer–supplier relations must be studied at multiple levels (Hitt et al. 2007; Uzzi 1997). The same is true for organizational knowledge management which occurs at and across different organizational levels (Nonaka and Takeuchi 1995). However, multilevel research in management is scarce, which holds particularly true for IS research (Hitt et al. 2007). Therefore, this research study will make a theoretical contribution by analyzing knowledge-sharing in client–vendor outsourcing relationships as well as knowledge management and dissemination at multiple levels.

While the client's strategic motives for IS outsourcing and the client–vendor relationship as such have been examined, there are only a few studies on the vendor's perspective (Dibbern et al. 2004). More empirical studies are needed to explain precisely how IS service providers interchange knowledge with their clients and generate value-creating competencies (Dibbern et al. 2008; Ethiraj et al. 2005; Levina and Ross 2003). Therefore, our research questions are

(1) How do IS service providers absorb knowledge from client relationships over multiple projects at multiple levels?
(2) How do IS service providers transfer and disseminate knowledge internally at and across multiple levels and integrate it to create value-creating competencies?

2   RESEARCH METHODOLOGY

The research methodology chosen for this research project is an exploratory and interpretive case study design (Walsham 1993). The epistemological position we draw upon is the interpretive research paradigm implicating, among other things, that we did not start our investigations with any predefined propositions or hypotheses as would have been the case for a positivist research methodology (Dubé and Paré 2003). Rather, the theoretical basis of our study evolves over time as we gain a deeper understanding of the relevant issues that play a role in our research context (Walsham and Sahay 1999). Qualitative research methodologies seem especially opportune for revealing processes and mechanisms of how service providers develop and manage expertise gained from their client relationships, as they avoid the distance employed by their counterparts through quantitative measures and the like (Walsham et al. 2007). In order to analyze processes in detail, investigators have to immerse deeply into the phenomenon and capture information from the object of study, the process, as well as the context (Cappelli and Sherer 1991).

Interviews so far have been conducted with 12 people from the client and 3 people from the vendor organization. In addition to the primary data, secondary data has been collected for the purposes of data triangulation. Also, with the active participation of at least two researchers in the collection and analysis of the data, the requirements for investigator triangulation were met (Yin 2003). In the second interview round (April to July 2008), we will conduct an additional 10 interviews with onshore project workers from the Indian service provider as well as 10 interviews with the client organization. Interviews with offshore project members in India are scheduled for the second half of 2008.

Data collection and analysis for this study follows a two-step approach. In the first data collection phase, following the recommendations of Glaser and Strauss (1967) interviews were conducted in an open-ended fashion for the identification of categories and patterns. In the second data collection phase, we will elaborate in more detail upon the identified categories. Also, for the following interview rounds, the extant literature (i.e., client–vendor relationships, relational capital, absorptive capacity, organizational and individual learning, knowledge management, IS outsourcing) will be included as additional data to compare with the empirical data (Glaser 1998) and guide the theory-building process (Eisenhardt 1989).

3   THEORETICAL FOUNDATIONS

As the world is becoming "flat," the nature of competition is changing and leveraged on a global level (Friedman 2005). More services are being disaggregated globally and delivered from multiple places around the world (Apte and Mason 1995; Mithas and Whitaker 2007). Firms are competing through their extended enterprise and according to Kanter (1999), a firm's strategic relationships—nurtured by collaboration—are one of the main sources for competitiveness in the 21st century. According to the relational view of the firm, which is an extension of the resource-based theory, interorganizational relationships can be a source of competitive advantage, arising from interfirm business processes, routines, or interfirm specialization (Dyer and Singh 1998). Applied to the IS

context, service providers can generate unique capabilities through knowledge sharing routines with their clients that are enabled by relational capital. Relational capital in this context consists of trust, information transfer, and joint problem-solving in the client–vendor relationship (Uzzi 1997). It enables the formation of interfirm knowledge sharing routines, which are defined as regular patterns of interfirm interactions that permit the transfer, recombination, or creation of specialized knowledge (Dyer and Singh 1998; Grant 1996). These routines are built up over time, as the parties develop a mutual understanding and shared knowledge space through the sharing of information (Hitt et al. 2006). Furthermore, as IS service providers gain more knowledge about their clients they augment their partner-specific absorptive capacity, which refers to the ability acquire knowledge, assimilate it, and use it for commercial ends (Cohen and Levinthal 1990). Partner-specific absorptive capacity is a further enabler of interfirm knowledge-sharing routines (Mowery et al. 2002). Interfirm knowledge-sharing routines and repeated exchange with clients translate into client-specific capabilities (e.g., business knowledge, application domain knowledge) which leverage the service quality and expertise of IS service providers (Ethiraj et al. 2005). An additional benefit for IS service providers resulting from client-specific capabilities and client relationships, characterized through stability, trust, and reciprocity, is the generation of new client relationships through reputation-based mechanisms, which enables the further extension of its knowledge base (Levina and Ross 2003).

The literature review above shows us that IS service providers develop unique capabilities and expertise through knowledge-sharing routines with their clients that are enabled by relational capital (i.e., trust, information transfer, and joint problem-solving) and partner-specific absorptive capacity. Relational capital in the client–vendor relationship emerges and evolves as a consequence of multiple individual activities (Ring and Van de Ven 1994). These individual activities take place on multiple levels upon which the interorganizational relationship develops and emerges (Klein et al. 2001; Koh et al. 2004). Furthermore, various scholars have argued that interorganizational relationships are inherently multilevel (Barden and Mitchell 2007; Brass 2001; Hitt et al. 2007; Klein et al. 2001). To acknowledge the multilevel nature of client–vendor relationships in IS, our analysis focuses on project manager relationships (individual level) and collective exchange experiences on the organizational level (Barden and Mitchell 2007; Koh et al. 2004). Representative for organization-level ties between client and vendor firm are boundary-spanning members with little decision-making authority such as sales personnel (Barden and Mitchell 2007). Additionally, organization-level structures and routines developed during past exchange relationships can give a deeper insight into knowledge-sharing on an organizational level (Barden and Mitchell 2007; Gulati 1995). Similar to relational capital and client–vendor relationships, analysis of absorptive capacity must be conducted on multiple levels. For example, Dibbern et al. (2008) analyzed the IS vendor's absorptive capacity on the team member level, focusing on their prior experiences and creativity skills. Similarly, Cohen and Levinthal (1990) argued that a firm's absorptive capacity depends on the individuals who stand at the interface of the firm or subunits within the firm. They continue to argue that some key individuals may have boundary-spanning roles, similar to Barden and Mitchell (2007).

Ensuring that knowledge is transferred from multiple client relationships is not sufficient for IS service providers to develop a competitive advantage. Besides external

knowledge integration where knowledge is absorbed from external sources and blended with internal resources, internal knowledge integration, combination, and configuration is important, too (Grant 1996; Henderson and Clark 1990; Kogut and Zander 1992; Okhuysen and Eisenhardt 2002; Tiwana et al. 2003). The management of knowledge internally needs to occur at and across different organizational levels, similar to the way knowledge is absorbed from client relationships at multiple levels (Nonaka and Takeuchi 1995). Applying a systems view (e.g., Weick 1969) to organizational knowledge management, Garud and Kumaraswamy (2005) found out that there are at least three essential elements to building an organizational knowledge system. First, knowledge is created at the individual level through learning mechanisms. Second, communities of practice are based on informal relationships, shared language, and thought-worlds. Third, repositories enable the codification and central storage of organizational knowledge. A systems perspective further emphasizes the importance of virtuous circles (Masuch 1985; Nonaka and Takeuchi 1995) where the above mentioned elements interact with each other to enable that knowledge spirals up from the individual to the collective levels of the organization (Garud and Kumaraswamy 2005). The authors, however, leave the exploration of the precise interaction between these elements for further research. An interesting issue in the context of knowledge management at large IS service providers is the high rate of personnel turnover (Arora et al. 2001; Fairell, Kaka and Stürze 2005; Oshri et al. 2007), which can cause severe disruptions in the formation of team mental models or shared thought-worlds (Hsu et al. 2007). Another challenge is to assure that individuals in the organization contribute valuable knowledge to repositories and contribute actively to internal knowledge transfer (Garud and Kumaraswamy 2005). Furthermore, if IS service providers develop strategic expertise out of multiple projects with different client organizations (Ethiraj et al. 2005; Levina and Ross 2003), service providers need to assure that knowledge accumulated from one client project is reused for other clients (Ravishankar and Pan 2008). However, the provider also needs to take into account confidentiality agreements with clients.

4 THE CASE STUDY AND PRELIMINARY FINDINGS

The case study on which we base our analysis consists of a large and technically complex IT reengineering and integration project. A large European retail and investment bank had two separate IT systems to handle all of the bank's current accounts up and running for several years. These two systems had to be integrated with each other to create a new, common current-account platform. To master the technically complex reengineering and integration tasks, a large Indian service provider was contracted. Originally, the plan was to outsource approximately 60 percent of the technical work to the Indian provider and keep 40 percent within the retained organization. Due to the difficulties of understanding the customer's business processes and supporting IT functions in detail, the distribution of work had to be changed so that 50 percent was conducted by each of the parties. A client-side project manager said, "Later, we actually had a distribution of 60-60 percent, as there were so many unforeseen expectations, requirements, and hidden functionality, so that every party had to invest extra resources for the project to succeed." Many client project members were unsatisfied with the competence level

of the service provider even though the initial vendor selection was carried out in a careful manner according to CMMI certification guidelines. Some of our interview partners explained the lack of knowledge transfer from vendor to client with the high rate of personnel turnover in India. However, our Indian interview partners explained to us the effective their knowledge transfer methodology. According to them, knowledge gained from various client relationships is accumulated and transferred by different means. On the one hand, part of the knowledge is made explicit and stored in a central file sharing database with online access from around the globe. Project team members from the vendor firm working from onshore or offshore locations can access the database and get information about functional, business, and technical issues. However, project documentation on these issues are not always sufficient for effective knowledge transfer. Therefore, on the other hand, knowledge is transferred through so-called knowledge transfer sessions. To initiate such a session, any project team member can contact an author of some documentation from the online database or senior project workers specialized in a particular area and ask for personal advice. A personal meeting will then be arranged so that the implicit knowledge that cannot be transmitted by the means of any documentation can be effectively transferred to the project team members that need advice.

The analysis of the first interview round yields conflicting results. The reasons for a lack of knowledge transfer and the knowledge transfer and integration strategy at the vendor organization need to be investigated in greater detail. The question is how IS service providers accumulate knowledge over multiple client relationships and then integrate this knowledge internally. Furthermore, how do IS service providers cope with high rates of personnel turnover? How do they assure that knowledge accumulated from one client project is reused in a new client project without disrupting the confidentiality of the former client? How do they actively manage their project staff to collectively contribute to the generation of organizational knowledge? How do different knowledge management elements (i.e., individual-level learning, communities of practice, and knowledge repositories) interact with each other to enable that knowledge spirals up from the individual to the collective levels of the organization? These questions will be investigated in the next interview rounds over the following 12 to 15 months in both India and Germany. Qualitative interviews with one of the largest IS service providers in India are scheduled for the second half of 2008. Additionally, further interviews will be conducted with clients from the European banking industry.

5   EXPECTED CONTRIBUTIONS OF THE STUDY

The expected contributions of this study are to find some answers to the questions mentioned above. We therefore aim at contributing to the domain of IS offshore outsourcing as well as to the theory on vendor capabilities and knowledge management. Through an interpretive, exploratory, and longitudinal research design, we aim at generating new concepts in line with the theory-building guidelines offered by the grounded theory development methodology (Glaser and Strauss 1967; Walsham 2006).

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About the Authors

Robert Gregory is a Ph.D. candidate at the Institute of Information Systems at Johann Wolfgang Goethe University, E-Finance Lab, Frankfurt, Germany. His research interests focus on strategic issues of information systems outsourcing and information technology project management. Robert can be contacted at gregory@wiwi.uni-frankfurt.de.

Michael Prifling is a Ph.D. candidate at the Institute of Information Systems at Johann Wolfgang Goethe University, E-Finance Lab, Frankfurt, Germany. His research interests focus on information technology project management and vendor-related issues in outsourcing. Michael can be contacted at Prifling@wiwi.uni-frankfurt.de.