Innovating or Doing as Told?

Status Differences and Overlapping Boundaries

in Offshore Collaboration

by

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ABSTRACT

Increasingly, firms source more complex and strategic as well as harder to codify IT projects to low cost offshore locations. Completing such projects successfully requires close collaboration among all participants. Yet, achieving such collaboration is extremely difficult because of the complexity of the context – multiple and overlapping boundaries associated with diverse organizational and national contexts separate the participants. These boundaries also lead to a pronounced imbalance of resources among onshore and offshore participants giving rise to status differences and inhibiting collaboration. This research adopts a practice perspective to investigate how differences in country and organizational contexts give rise to boundaries and associated status differences in offshore application development projects and how these boundaries and status differences can be renegotiated in practice to establish effective collaboration. To illustrate and refine the theory, a qualitative case study of a large financial services firm, which sourced a variety of "high-end" IT work to its wholly owned subsidiaries ("captive centers") and to third party vendors in multiple global locations (e.g., India and Russia), is presented. Using a grounded theory approach, the paper finds that differences in country contexts gave rise to a number of boundaries that inhibited collaboration effectiveness, while differences in organizational contexts were largely mediated through organizational practices that treated vendor centers and captive units similarly. It also shows that some key onshore managers were able to alleviate status differences and facilitate effective collaboration across diverse country contexts by drawing on their position and resources. Implications are drawn for the theory and practice of global software development and multi-party collaboration.

Keywords: Offshore Software Development, Outsourcing, Collaboration, Qualitative Methods, Boundaries, Status, Power, Bourdieu, Practice Theory, Cross-cultural Teams, Distributed Teams, Virtual Teams, Middle Managers

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INTRODUCTION

Companies are sourcing increasingly complex parts of their software development process to their *own* subsidiaries in low-cost countries (sometimes called "offshore captive units") or to 3rd party offshore vendors (referred to as "offshore outsourcing") (Stack and Downing 2005). High-technology firms like Microsoft, Yahoo!, Google, and IBM have moved parts of their strategic R&D activities to India, China, and Russia. An innovative software application like "Google Finance," for example, was, for the most part, developed by Google's Indian subsidiary (Anonymous 2006). Whether or not firms find actual cost savings in offshoring complex and poorly codifiable work has been the subject of intense debate (e.g., Pallatto 2005). Whatever the case may be, this practice is on the rise and firms are realizing that it requires an organizational capability to undertake multi-party collaboration spanning geographic and temporal distances as well as organizational, national, and professional boundaries (Couto et al. 2006).

Multi-party collaboration ("co-laboring") occurs when parties with different practices, interests, and competences engage in joint work. However, because of complex internal and external dynamics, effective collaboration cannot be measured by objective outcomes alone (e.g. whether the project was completed on time or on budget). Rather, Hardy's et al. work defines effective collaboration as a *process* that (1) leverages the differences among participants to produce innovative, synergistic solutions and (2) balances divergent stakeholders' concerns (2005, p. 58). This process is facilitated by the existence of shared identity and practices (Hardy et al. 2005; Levina and Vaast 2005) but is impeded by status differences among participants which inhibit open dialogue (Hoegl and Gemuenden 2001; Levina 2005; Metiu 2006). Social

boundaries and physical distance separate participants on multi-party projects and make it difficult to establish shared identity and practices (Levina and Vaast 2005). Boundaries can also be used by participants as sources of distinction thus creating status inequalities (Levina 2005).

Effective collaboration is difficult to achieve in global offshoring projects as there are often multiple boundaries that must be bridged simultaneously (Espinosa et al. 2003; Hinds and Bailey 2003). Some of these boundaries have been studied separately in the past. For example, researchers looked at how cultural (Lam 1997; Krishna et al. 2004; Cramton and Hinds 2007), organizational (Lam 1997; Espinosa et al. 2003; Srikanth 2007), and functional (Espinosa et al. 2003; Birnholtz and Finholt 2007) boundaries each pose challenges to distributed teams. It remains to be seen, though, which of these or other boundaries become salient in affecting the collaboration and how different boundaries interrelate (Espinosa et al. 2003).

While, to date, researchers have tended to focus on physical distance (temporal or spatial) or institutionalized social boundaries (cultural, organizational, or functional), it has been argued that the most salient boundaries are often *situated* in the practices of collaborating parties (Walsham 2002; Cramton and Hinds 2007). It is well known that one of the key obstacles in achieving effective collaboration in distributed teams is the embeddedness of knowledge in local, situated practice and the resulting difficulty of establishing a common ground (Lam 1997; Cramton 2001; Hinds and Mortensen 2004; Kumar et al. 2004; Metiu 2006). Research also shows that status differences arising from the context of collaboration itself (e.g., who owns the code) may become key impediments for effective collaboration (Metiu 2006).

Practice theory has shed much light on how obstacles for effective collaboration and related power relations emerge in organizations (Carlile 2004; Levina and Vaast 2005). Boundaries set agents apart on the basis of their practices and thus become salient *or stop mattering* as practices

evolve (Bourdieu 1977). Status differences are seen as a result of differential access to resources, which, in turn, are produced or recognized as relevant or irrelevant through the everyday actions of actors (Bourdieu 1977). Thus, on the basis of practice theory we can address the following research questions: how do differences in country and organizational contexts give rise to boundaries and associated status differences in offshore software development projects, and how can boundaries and status differences be renegotiated in practice to establish effective collaboration? Drawing on Bourdieu's writings we use an in-depth case study of one firm's offshore Information Systems Development (ISD) projects to address these questions.

This paper is organized as follows. First, we introduce our theoretical perspective. Next follows the details about the case study method and the research site. Then, the findings section identifies and describes the salient boundaries, explores how specific boundaries gave rise to, and were reinforced by, status differences and discusses how certain actors helped alleviate these differences. The discussion section then expands our theoretical model on the basis of these findings. We conclude with the implications of our study for the theory and practice of global distributed teams and sourcing management.

BACKGROUND: BOUNDARIES AND STATUS DIFFERENCES IN OFFSHORE COLLABORATION

A Practice Perspective on Offshore Collaboration

Practice theory attributes the emergence, institutionalization, and transformation of socio-structural properties to the micro social interactions of people within the context of their

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everyday practices (Certeau 1984; Giddens 1984; Bourdieu and Wacquant 1992)[1]. Enacted structural properties constrain social activity, but they can also be transformed through agents' actions. Status differences arise as agents do not share equal access to three fundamental types of capital (resources), including: economic capital (money, time, access to technology), intellectual[2] capital (professional expertise, education, ownership of information), and social capital (networks of interpersonal relations which an agent can draw upon). There is also symbolic capital which refers to agents' differential ability to classify any other resource as valuable (Bourdieu and Wacquant 1992).

Through their practices, agents are constantly engaged in shaping *fields of practices* as well as the *boundaries* that separate these fields. Boundaries delimit fields and arise from differences in practices that are differentially recognized and rewarded across fields (Levina and Vaast 2006). Simultaneously, fields of practice emerge as constellations of agents who share unique sets of practices and interests while producing their own unique forms of capital (Bourdieu and Wacquant 1992). Agents within fields have different accumulations of relevant types of capital, and, hence, are divided into "haves" and "have-nots"—a distinction often differentiating newcomers from old-timers within a field. Fields of practice may become institutionalized, fragmented and/or overlap according to the changing practices of agents and the resources they acquire in the process (Abbott 1995). Thus, practices, boundaries, and fields are mutually constructing; none is given theoretical dominance (Silber 1995).

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[1] See Orlikowski (2000; 2002) for a more in-depth discussion on the relevance of practice theory for the organization and information systems fields. The scholars we cite have developed different theories based on the practice perspective, but all agree on its fundamental tenets.

[2] According to Bourdieu, cultural capital refers to the ability to produce new representations of practice or information. In organizational theory, this kind of resource is typically termed "intellectual capital." We will use this term to avoid the confusion between "cultural" capital of specific nations (Indian or US) and Bourdieu's notion of cultural capital which can exist within societies, organizations, industries, professions, etc.

These fields are dynamic and their boundaries can be renegotiated in practice. In the context of ISD projects, the pre-existing differences in backgrounds of project participants will become more or less salient in producing status differences depending on the composition of the team and the context of work (Levina 2005). Moreover, because the practices surrounding the development of a new Information System (IS) can produce a unique distinction between agents who know and control the design and those who do not, the situated development effort may give rise to a new field and associated boundaries (Levina 2005; Levina and Vaast 2005). Together, pre-existing and emergent fields and boundaries will unite agents on the basis of their joint interests and practices and set them apart when those differ.

Thus, fields and boundaries produce both sharedness and differences. The sharedness is a necessary condition for achieving effective collaboration as without joint engagement and, at least a minimal, common understanding collaboration is not possible (Cramton 2001; Carlile 2002; Levina and Vaast 2005). However, even when people share some interests and practices, differences among them can be used as status markers and impede collaboration (Metiu 2006). They can impact whether participating parties' knowledge is "transformed" to become an integrated part of a synergistic solution (Carlile 2004) or whether it is merely combined or even completely ignored (Levina 2005).

Prior literature has discussed how the differences in interests, identities, knowledge, and language create impediments for effective collaboration and how they can be mediated in practice in some cases (Carlile 2002; Orlikowski 2002; Levina and Vaast 2005). In this paper, we focus on the status differences as those are particularly pronounced in offshoring contexts.

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Situated Boundaries in Offshore Collaboration

The challenges of offshore collaboration can be interpreted using a practice perspective. For example, it has been argued that differences in national culture are among the key challenges to offshore collaboration (Carmel and Agarwal 2001; Carmel and Tjia 2005; Cusumano 2006; Cramton and Hinds 2007; Dibbern et al. 2007). From a practice perspective, societal characteristics (such as the distribution of educational degrees and economic resources as well as taste, communicative patterns, treatment of authority, etc.) are institutionalized practices that have emerged over time from interactions among unequal agents (Bourdieu 1984). Every society is characterized by its own relative distribution of economic, cultural, social, and symbolic capital as well as by its relation to other nations (Bourdieu 1998). Different cultural norms that are usually discussed in cross-cultural research such as attitude towards authority (Hofstede 1980) are produced and reproduced through actions and reinforced through the symbolic interpretations of these actions. In turn, they alter how agents work and interact (e.g., the degree of formalism in business communications). Indeed, these symbolic resources are frequently used by high-status agents to maintain their positions of power.

A priori differences in status, however, do not entirely determine how collaboration unfolds on any given project: human agency is not negated and often facilitates the renegotiation of differences. Walsham (2002), for example, shows how differences in cultural norms (a symbolic difference) were renegotiated on a cross-cultural project to arrive at a *shared* set of norms. Cramton and Hinds (2007) have illustrated how a personnel selection practice helped render traditional differences in norms and expectations between German and Indian cultures (e.g., attitude to authority) less relevant.

Using practice theory to understand the role of the organizational boundaries, we can see that differences in organizational affiliations set agents apart on the basis of their identities, interests, and practices (Jarzabkowski 2004; Levina and Vaast 2005). Scholars have argued that organizations exist, in part, to create institutionalized practices which are easily spread internally but hard to copy externally (Kogut and Zander 1993). This is achieved by building capital within organizations that facilitates the creation of network ties, interpersonal relations, and shared systems of meaning (Nahapiet and Ghoshal 1998). Also, using economic perspectives such as property rights theory (Hart and Moore 1990), boundaries of the firm are used to align interests and facilitate particular investment patterns in shared economic capital. When organizations come to work together in an outsourced relationship, the lack of shared economic, intellectual, social, and symbolic resources may define the organizational boundaries between them, leading to power dynamics that undermine collaboration (Allen et al. 2002; Nicholson et al. 2006).

Yet, these sorts of difficulties are not insurmountable, as prior accounts of successful alliances (Dyer and Singh 1998) and outsourcing relationships (Helper et al. 2000) attest. Moreover, it is still unclear if the lack of organizational boundaries plays *any role* in facilitating effective collaboration or the concomitant creation of knowledge (Grandori and Kogut 2002; Merali 2002). Even inside the boundaries of globally operating firms geographically dispersed units may become isolated and fail to gain or share knowledge with other units (Moteiro et al. 2007).

In the offshore context, the role of organizational boundaries are even less clear as internal and external (outsourced) relationships often have relatively little history (3-4 years). Thus, little shared capital (economic, intellectual, and/or social) is accumulated in internal or external relationships *alike*. To confound things further, given the high status of large Western client firms (their higher symbolic significance and economic wealth) vendor employees may identify

more readily with the client organization as opposed to the offshore vendor company (Ravishankar and Pan 2006). Also, the usual model of outsourced relationships assumes the vendor has greater technical expertise (Goles 2003). In offshoring, however, onshore clients often have more advanced technical skills than vendors (Dibbern et al. 2007).

Differences in professional and industry practices may form other important boundaries. Professional and industry fields have been studied as examples *par excellence* of social spaces with highly institutionalized practices, significant boundaries precluding easy socialization of new members, and strong power relations differentiating participants (Bourdieu 1984; DiMaggio 1991; Carlile 2004; Montgomery and Oliver 2007). In the offshore context, these boundaries may be particularly pronounced, at least initially. For example there are significant differences in professional training (e.g., more mathematically trained IS developers in Russia vs. US), vendor practices (e.g., more CMM-5 certified[3] vendor firms in India than in Western Europe), and vendor industry age (younger in offshore countries as compared to the onshore countries according to Arora and Gambardella 2006). Differences in IT staff's professional training may result in knowledge hording by high status parties (Espinosa et al. 2003; Metiu 2006), thereby reinforcing institutionalized boundaries. Yet, for projects like Google Finance (Anonymous 2006) and other stories of effective offshore collaboration (Helper and Khambete 2005) to be realized, some renegotiation and transformation of these status differences must have occurred.

Next we present the method we used to undertake the investigation of how status differences were established and renegotiated in practice on projects offshored to India and Russia, describing our research site and data analysis approach.

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[3] CMM-5 refers to the high level of standardization and maturity in software development practices (Paulk et al. 1993)

METHODS

We used an interpretive case study approach (Walsham 1995) to understand which boundaries produced status differences and which practices helped alleviate those differences. An interpretive approach was essential in so far as collaborative processes and the emergence of relevant boundaries are deeply embedded in actors' subjective understanding of their work.

This research analyzes a firm that sourced its application development work to Asia and Eastern Europe while making use of captive centers and third-party providers in each of these locations. Rarely used together, this set of sourcing policies allowed for a unique opportunity to better understand the role of national and organizational contexts in collaboration.

Site Description

The study was conducted by this paper's first author (henceforth, "the field researcher") at "Global Bank" (pseudonym) – a large, multi-national financial services firm with various divisional headquarters in the US and Western Europe. Starting in 1989, the bank established relationships with several Indian vendors for providing onshore sub-contractors for the bank's operations in local (offshore) markets. In 1996, the bank started offshoring its application maintenance projects to its newly established Indian captive center and to several vendors due to IT labor shortages. Offshoring picked up in 2001 during the downturn in US financial markets.

The first venture into Russia dates back to 2001. By 2005 (the beginning of the study), Global Bank had captive centers in both India and Russia and long-term relationships with a number of local and global vendors in both regions. The amount of money spent on off-shored projects (in IT and other business processes) was estimated to be a quarter of a billion US dollars in 2005. This was in addition to IT work sourced by Global Bank to IT services vendors in its "onshore" locations which included the US, Western Europe, Australia, Singapore, and Japan (Figure 1).

In terms of size, the captive unit in Russia reached 230 people in 2005 and Global Bank's dedicated offshore development center (ODC) set up by the primary Russian vendor (henceforth "Russian Vendor ODC") reached approximately 150 people. In India, the size of the ODC with one of the top tier vendors (the one who purchased the captive center established earlier) was over 2,000 people (henceforth "Primary Indian ODC"). Operations with the other local and global vendors ranged from 30 to 500 people. There was also a large captive facility in India used primarily for financial services operations. In ODCs, the contracts were typically two year, renewable, billed as times and material with a capped budget. Fixed price contracts became more popular in recent years but were still delivered by ODC's dedicated employees.

By 2005, Global Bank was sourcing a variety of IT work to all of these locations. This was largely due to independent decision making by middle managers with respect to sourcing. For many years, they were able to choose where and how to source with relative autonomy. Providers were chosen for a variety of reasons including Global Bank's prior relationship with the provider, the provider's prior experience with a given type of application, or attractive rates. New geographies were added when they offered qualified developers at competitive rates. As a result, the so-called, "high-end" projects (application development or migration projects that involved complex design, hard to specify requirements, and a fair degree of business knowledge) were sourced throughout these diverse settings. The breakdown of functions between the onshore and offshore locations was also very similar across settings (see Appendix A for the description of some projects and Appendix B for the breakdown of work activities). Finally, there was almost no interaction between the Russian and the Indian offshore staff because different middle managers sourced their projects independently to either Russia or India.

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Data Collection and Analysis

Data collection spanned May 2005 to May 2006, with some follow-up interviews conducted until May 2007. The CIO of one of the bank's divisions provided entry and widespread access to the firm. The CIOs and the participants were told that the focus of the study was on understanding collaborative practices on offshored projects. Participants were motivated to contribute because they felt it was difficult to collaborate effectively and wanted to reflect on their frustrations and/or successes. In-depth, semi-structured interviews lasting from 40 minutes to two hours constitute the majority of the data, supplemented by business press accounts. The data was collected in the US, Western Europe, India, and Russia, mostly through face-to-face interviews. A total of 69 interviews were conducted and recorded. Over 40 projects (ranging in size from five to 80 participants and averaging 15) were discussed. The study was limited to the practices concerning offshore and nearshore vendors, and excluded onshore vendors.

Table 1. Interview Participants[4]		
Location of interviews	**Internal Staff Working for Global Bank**	**External Staff Working for 3rd party vendors**
West Europe & US (onshore)	*20 people* (2 CIOs, 1 COO, 4 Sourcing Office Members, 4 Program Managers, 9 Project Managers/Technical Leads)	*5 people* (3 US-based Relationship Managers working for Indian vendors, 2 US-based Marketing/Strategy Manager working for the Russian vendor)
Russia	*16 people* (1 Unit Head, 7 Delivery Manager, 7 Technical Leads/Developers, HR Head)	*6 people from the Russian vendor* (CEO, HR Head, Marketing/Strategy Manager, ODC Head, 3 Project Managers)
India	*1 person* (CIO)	*20 from 4 vendors* (2 ODC Heads, 4 HR and Training Managers, 2 Logistics and Infrastructure, 5 Delivery Managers, 5 Project Managers/Technical Leads)

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[4] The interviews in Russia and India involved staff working for the offshore vendor or Captive Center. All western staff were interviewed in their own offices in Western Europe or the US (except for three phone interviews). No developers from Russia or India who were currently on onshore assignments were interviewed, but many people in offshore locations have been on such assignments in the past. Interviews were conducted in English or Russian depending on participants' preferences.

Interview questions (available from authors upon request) focused on understanding, through participants' eyes, the history of offshored IT projects, challenges experienced, status differences, management and communication practices, project outcomes (i.e., process effectiveness, realized or anticipated cost savings[5], delivery times, and quality), and career outcomes. Data collection and analysis techniques were informed by the principles of grounded theory (Glaser and Strauss 1967). First, data collection and analysis were intertwined. After each interview, the field researcher took analytical notes pertaining to what was learned. These notes constituted emergent conceptual themes and propositions. On the basis of these notes, new interview questions were added to see if the next informant could confirm, further explain, or deny the emergent propositions. Using theoretical sampling, new informants were chosen so as to either confirm or challenge the emerging patterns in the data. Finally, the data collection stopped when it reached a state of theoretical saturation with respect to a particular issue.

A second stage of data analysis was conducted on the already collected data. First, the field researcher wrote short descriptions for each project. (Appendix A summarizes some of them). The rewriting and comparing of each project narrative helped generate the initial set of high level theoretical themes (Pettigrew 1990). Second, the field researcher went through interview data coding quotes on the bases of initial themes while generating new ones. The concept of "effective collaboration" was coded as a description of a process that showed that: 1) diverse participants expressed their divergent opinions (their own new ideas or challenges to other people's ideas), 2) that their opinions were heard and understood, 3) their opinions were incorporated into the development process if appropriate, and 4) they felt they benefited from the

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[5] While the respondents reported huge (up to four times) cost savings from "successful" projects, accurate cost comparisons were not possible as 1) the scope of work has increased as projects moved offshore and 2) labor cost savings did not take into account extra costs of offshoring such as rework (Carmel and Tjia 2005).

collaboration. To improve inductive theory (Klein and Myers 1999), the results of the initial analysis were shared with key informants at Global Bank, the second author, and academic colleagues. Based on their feedback, further data collection and analysis were conducted.

FINDINGS

An inductive examination of data revealed that a number of boundaries affected collaboration in Global Bank's projects. National contexts set agents apart on the basis competencies in the financial services industry, software development discipline, the specific IS being developed, English language, computer science, as well as economic, social, and symbolic differences. Differences in organizational contexts were less salient as compared to country differences. Yet even most critical differences were permeable: in each of the settings there were agents who helped others renegotiate boundaries leading to effective collaboration on some select projects.

Differences in the National Contexts

Differences with respect to the country context – encompassing Russia, India, and the onshore countries specifically – gave rise to status differences which undermined effective collaboration. Salient differences in country contexts (as of 2005) are summarized in Table 2, which is compiled on the bases of case evidence as well as archival industry reports.

Each country attracted high-end development work requiring effective collaboration, but they did so for different reasons. While Russian developers were technically stronger and exhibited lower levels of staff attrition, they could not handle large scale projects due to a tight labor market for English proficient IT workers and smaller firm sizes. Indian vendors won a variety of high-end development contracts especially when such work was tied to the prior maintenance work they were already performing for the Global Bank or for other clients.

Table 2. Salient Differences in National Contexts Exhibited on Global Bank's Projects (as of 2005)			
Salient Differences	**Global Bank in Onshore Countries**	**Providers in India**	**Providers in Russia**
Differences in Competencies			
Competence in Financial Services	Managers and developers have significant experience in financial services industry.	Senior managers with 5+ years of experience; hardly any experience among developers	Hardly any experience with financial services industry before Global Bank
Competence in Business Software Development	Modern software development methods following best practices. Practices for ensuring security and reliability of software. No CMM certification.	Top Indian vendors are CMMI-5 certified. In large ODCs, clients are heavily involved in dictating which practices are followed on projects.	Top Russian vendors are CMMI-5 or CMMI-3 or above certified. Clients are heavily involved in dictating which practices are followed on projects.
Competence in Global Bank's IS	Several decades of experience with Global Bank's systems.	Experience with other clients in financial services; gained experience in some Global Bank's IS	New to the Western financial services industry; gained experience in some Global Bank's systems.
English Proficiency	English proficiency on all levels	English proficient; some issues with accents	English proficiency among managers; limited proficiency among developers.
Competence in Computer Science (Education + Experience)	- Most developers with Bachelor's degrees from diverse colleges. - Less than 15% with less than 3 years of experience.	- Most developers with Bachelor's degrees from diverse colleges - Over 50% with less than 3 years of experience.	- Most developers with Master's degrees from top Russian universities; some PhDs. - Less than 15% with less than 3 years of experience.
Differences in Economic Resources			
Money Flow	Paid the salaries and bills	Received salaries and other resources	Received salaries and other resources
Staff Turnover	Varied by year.	About 20%.	Less than 10%.
Average Salaries	$80,000 (technical lead)	$9,000 Annually (technical lead)	$18,000 Annually (technical lead)
Speed of Hiring New People	Depends on the specific onshore country (generally not tight in 2005). Can use current employees.	Any number of people can be hired in 2 weeks. Junior people will be provided with 3 month long training.	Maximum 2-3 people a month of the required quality, due to the tight IT labor market in Moscow.
Onshore Presence	All onshore	Started with at least 20% onshore	Started with hardly any onshore
Company Sizes	Tens of thousands of employees, several thousand in IT.	Most vendors – over 20,000 people. Largest GB ODC – 2,000 people.	Handful of large vendors (1,000 people) Largest GB ODC/Captive – 230 people
Differences in Interpersonal Connections (Social Networks)			
Access to Business Users and Senior Managers	Developed over many years	Negotiated on some projects for some participants	Negotiated on some projects for some participants
Symbolic Differences			
Attitudes to Authority	Low power distance in US and Western Europe	High power distance especially among line developers	Low power distance among developers educated in elite schools
Authority to Judge Results	Judgers of outcomes (process and product)	Rarely asked to judge outcomes	Rarely asked to judge outcomes

Competence in Financial Services Industry

With respect to offshore and onshore countries, the boundaries that emerged as a function of varying levels of expertise in financial services were the most pronounced. In fact, knowledge of the financial services industry was mentioned in almost every interview on the client side as something that set offshore and onshore participants apart. For example, in choosing the destination for the first major complex application development project (offshored in 2001), one of the program managers (middle managers leading several projects and reporting to the divisional CIO) commented:

> *We interviewed a few Indian vendors and they had these arrogant-trained MBA-types talking to you about CMM this and CMM, but when you get down to people level you see that they are not well qualified. They have never done a complex financial system before. Even my Indian colleague on the provider selection team agreed with that... Russian vendors were even worse. They were small, linguistically challenged [laughs], and not competent enough.... Smart programmers, but they know nothing about trading.*

The issues pertaining to the lack of business knowledge continued throughout the years:

> *I have this business analyst working with [the Russian vendor]. Yes, she has a PhD in Computer Science, but then several months into the project, I learn that she and others over there do not know what the term "financial security" ("stock") means [Global Bank's Project Manager working with Russia].*

Global Bank's developers and managers working onshore acquired their knowledge of the financial services industry through years of experience and close interaction with business users. This experience was largely lacking offshore, especially in Russia, but also even among Indian vendors. As a result, offshore developers often stumbled when it came to developing new systems or re-engineering those already in existence. On two projects conducted with two different Indian vendors, Global Bank's managers reported that nothing was delivered over a one year period. In both cases the managers argued that offshore developers could not understand the complex business knowledge:

On [this system] after 15 months we had nothing delivered. There was a lot of business knowledge required to understand the grown system with fair amount of complexity, understand the project requirements, and translate them. They were unable to do it. … It would take 8 weeks to do the migration here [onshore], after half a year nothing countable was delivered. After 15 months and many warnings, we pulled the plug on that. [Global Bank's Program Manager working with Indian 3rd party vendor].

In some other cases, the plug was not pulled, but useful design suggestions were ignored as offshore developers were thought to be uninformed about the business.

Competence in Business Software Development

Another key boundary setting onshore and offshore developers apart stemmed from different levels of familiarity with business software development practices. Of course, all developers had training in specific software languages; yet, the actual practices of building a working business application were new, especially to the Russians. One of the infrastructure team members who worked with the Russian Vendor ODC explained:

We had to teach Russian developers how a bank's IT functions: … to make sure controls are in places, to fix build and deployment procedures, etc. … Initially we did not know what they did not know. They did not get such things as the importance of security, that we have auditors, that the data may be corrupted…. Things would crash all the time. …We had to repeat every rule multiple times or they would not adhere [Onshore Infrastructure Team Member]

In the Russian Captive, Global Bank's program manager had to introduce such practices as nightly builds of the software code, automated testing, and quality assurance as well as such vocabulary terms as major releases, minor releases, and patches.

On Indian projects, the level of process maturity was somewhat higher. Nevertheless, even when working with CMMI-5 certified companies, *all* Global Bank managers interviewed felt the processes were not on the par with their expectations:

It is funny, right, when any Indian provider comes in the first thing they talk about is their CMM level, which is hysterical, cause they don't even know what that means. … Then when you move work there and try to look for a repeatable process

or documentation, it is not existent [Program Manager, working with several top tier Indian vendors].

Responding to these comments, Indian vendor representatives noted that "we adjust our processes to what the client wants." Thus, again, Global Bank's software development practices dominated how joint work would be conducted.

Emergent Competence in Global Bank's IS

At the beginning of offshored projects, the competence with the existing Global Bank's systems lay squarely with onshore participants. A large part of the "knowledge transfer" phase focused on understanding the specific system, not just the jargon of the financial service industry. If offshore participants had suggestions as to how things could be implemented differently, they were not likely to be heard.

With time, however, offshore developers sometimes became the only developers with a working knowledge of the system, as Global Bank cut its onshore development staff to a bare minimum. Over the years, it was the offshore staff that was maintaining, architecting, upgrading, and testing these systems while becoming more competent:

> *I may know of a way of fixing the problem or doing things differently than what they [in US] know. … This is because I do not have anybody [users] yelling at me for immediate support. I have more time and I do more testing and analysis of specs. I have experience from prior deployments of our system in Europe. … We can provide them with advice. Other times we can show them how to do it a different way [Client Liaison, Russian Captive].*

In India, many of Global Bank's systems were offshored in a "low-end" maintenance mode for years, allowing developers to learn them over time, especially on projects with low turnover. Also, two large Indian vendors were contracted on the basis of systems they had delivered to other clients with the idea to reuse vendors' experience

and software code. In such cases, Indian developers brought relevant competence of the specific system and were thus able to alleviate their status.

Competence in Onshore Countries' Business Language: English Proficiency

Given that business communication was conducted in English, this competence clearly privileging onshore staff. The disadvantage was more pronounced amongst Russian participants. English fluency was a requirement for project managers and those above, but developers could be hired with limited oral and basic written English skills. Russian developers were clearly at some disadvantage in learning the business skills they were missing due to this communication barrier.

Competence in Computer Science: Education and Experience

The professional background and training of Russian and Indian developers perpetuated status differences differently. Because most Russian developers working for the Global Bank had prestigious technical educations (see Table 2), they felt very confident in their technical opinions regarding software design decisions. They also felt they did not need to know all the business rules to make sound technical decisions:

> *In fact, I did not try to learn the business better from manuals. I was just guided by simple logic. For example, if the spec asked me to create a "Buy" function [for securities], I would ask myself, "What would happen if somebody needed to sell? Aha, this is how it needs to be architected to accommodate both." If, instead, I started learning everything about how they currently do buying, we would not have had the easy-to-implement "Sell" functionality. … When the client did not approve my suggestion, which happened on occasion, I would try to architect the system to be able to accommodate it in the future anyway. Later, when they had gotten to their senses and said, "Yes, this is what we wanted," I would be ready. [Russian Captive, Technical Architect]*

Soon, onshore participants started acknowledging Russian developers' expertise ("Frankly, I could not get people of this caliber to work in mere technical developer

positions in the US" or "Sergey is a brilliant manager and Alex is a brilliant technical leader. They both have close to photographic memory").

While Russian developers offered design suggestions, the state of the IT services industry in India by 2005 was such that Indian line developers were typically novice in their training and experience and did not assert their technical opinions strongly.

Economic Differences associated with IT Services Industries

Differences in control over economic resources between vendors and clients characteristic of IT services industries was a key contributor to status differences. First, like any consulting arrangement, the financial resources were controlled by the onshore "client." This was also the case for the Captive Center where onshore managers controlled the budget. The small size of the Russian vendor and of the Russian Captive made them particularly dependent on their huge client for resources. While the dependence was generally less severe in India, for the Primary Indian Vendor, a 2,000 person engagement with Global Bank was of great financial and symbolic importance.

Second, pay scale differences perpetuated status inequality. While Indian and Russian salaries were relatively high in comparison with average salaries earned by college trained workers in these countries and helped the offshore people acquire higher status in their home country, they were still miniscule compared to the salaries of onshore people. In the perception of onshore participants, low pay was associated with low status (Pfeffer and Langton 1993). Thus, initially onshore participants viewed offshore participants as cheap, low quality worker-bees who could be ordered around:

> *When we launched [Russian Captive] we were allowed to hire a few programmers who were working for pennies at the time. The idea was that they will be given small insignificant tasks ... But, of course, you are not supposed to treat adult*

professionals like that [Global Bank Middle Manager involved in launching the Russian Captive].

For Indian developers, the pay scale differences were even more severe, and the tendency to treat them as cheap worker-bees even more pronounced.

In addition, Russian providers (both captive and 3rd party) initially decided they could minimize their onshore presence to reduce costs because Russia was easier to visit for Western European and US clients than India and because they felt they could do the work with fewer onsite resources by relying on their raw "brain power" (Carmel and Eisenberg 2006). Thus, Russians had an even harder time getting access to the "onshore" knowledge they needed. Indian developers had a different economic disadvantage inhibiting their competence development -- high personnel turnover.

Differences in Accessing Business Users and Senior Management

The importance of access to business stakeholders was almost universally recognized as a critical enabler of effective collaboration by offshore participants. This access was taken for granted by onshore IT managers, but had to be negotiated by offshore staff who were new to Global Bank and physically removed from the business (in the Captive Center and vendor ODCs alike):

> *We do experience problems in getting direct access to business users … It is inconvenient for the [Western] manager to have a person with an alternative viewpoint, especially if there is no prior understanding between the two, no trust, no shared history. [Russian Captive, Delivery Manager].*

A lack of this resource accentuated other boundaries. For instance, it made it difficult for offshore developers to gain knowledge about the financial industry and to negotiate support for what providers saw as development priorities.

National Differences in Attitudes to Authority

Finally, norms and expectations associated with national cultures also played a role in establishing status differences. Indian culture is often viewed as having a high power distance, implying an acceptance of hierarchical authority and associated work behaviors (Hofstede 1980; Krishna et al. 2004). Indeed, Indian developers were perceived by their onshore counterparts as being "too hierarchical":

> *At the end of the day, in India they are very hierarchical. … A 10 people team has 2-3 hierarchy levels. Then, with strict hierarchy, from the personality perspective, when you have a few people in the room, lower ranks would not say a lot, if anything, and the more senior people will say everything. Yet for technical solutions, the most valuable contribution will come from the doer on the ground. [Western Program Manager].*

This attitude reinforced the status differences between Indian developers and their onshore counterparts as Indian *line* developers seem to be more willing to accept direction from onshore. The attitude, however, did not seem to apply to Indian vendor's senior sales people, who had more elite training and backgrounds, and were likely to be seen as pushy rather than as obedient.

Compared to the Indian experience, the role and importance of authority was quite different among well-educated Russian developers who appeared to exhibit less "power distance" (Naumov and Puffer 2000)[6]: they were quite forthcoming with their opinions. They were also less willing to accept their onshore counterparts' decision not to follow their suggestions, even when good reasons were given. This problem exhibited itself when developers would implement their ideas anyway, often jeopardizing project deadlines in the process. Russian managers tried to "mediate" such behavior through

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[6] Recent studies of Russian cultural values show that the power distance dimensions among college educated people in the business world is quite similar to that in the US; however, these results disagree with Hofstede's own estimates (Hofstede 1993).

personnel selection and the micromanagement of deliverables. If this failed, the "unmanageable" employee was asked to leave. Thus, again, agreement with onshore clients regarding development priorities was still privileged and therefore reinforced onshore participants' higher status.

Authority to Judge Results

While participants were aware of the differences in perceived cultural norms, a more subtle but universal status difference pertained to the observation that offshore participants were never asked to judge the quality of collaboration or the quality of the systems that were developed before this study was conducted. For example, in providing project status reports to senior management, Indian vendor managers residing onshore said they were never asked to report on the vendor's view of how the project was going, only on what they got as feedback from their onshore clients' project managers.

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The Organizational Boundary

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In understanding the role of the organizational boundary, IT projects sourced to Russia offer a unique opportunity for comparison since both the third party vendor and the Captive Center were involved in myriad projects with similar characteristics. Surprisingly, there were few significant differences between the settings with respect to attitudes or practices. Background literature reviewed in the theory section suggests that organizational boundary implies differences in identities, practices, and resources among vendors and clients that are less pronounced within the organization (i.e., in a Captive Center). Table 3 illustrates that along most of the dimensions suggested by the literature, managerial practices did not differ between the captive and the vendor.

In the Captive Center, just as with the 3rd party vendor, differences in country contexts had produced a separate identification and, at least initially, an "us vs. them" mentality (e.g., "*Every bug is Moscow's fault.*"). Notably, at the vendor ODC and in the Captive Center alike, everybody referred to their onshore IT colleagues as "clients."

Table 3. Dimensions of comparison between in-house and outsourced projects (2005)		
Dimension	**Russian Vendor**	**Russian Captive**
Assignment of Projects	• Many "high-end" projects with frequently changing and poorly understood business requirements • Several projects with high strategic importance and intellectual property value to the bank (e.g., potentially marketed to competitors)	
Joint Identification	• Initially: "us vs. them" mentality on most projects • All Russian participants refer to Global Bank employees as clients • Participants feel proud of working for the Global Bank • On collaborative projects, developers identified most directly with the specific Global Bank systems being jointly developed	
Shared Competencies	• Initially, no prior experience with financial services industry • Heavy travel to and from Russia (1/3 of Russians visited onshore) • Initially, limited access to business; later, negotiated on some projects • Business users (including the COO) visited each site • Global Bank uses a heavy hand in setting up software development processes that match its onshore practices • Over time some system design and architectural tasks migrate to Russia	
HR Issues and Practices	• Hard to recruit more than 2-3 employees per month (almost no bench) • Similar level of staff education and experience for captive and vendor • Onshore staff heavy involved in all initial hiring decisions and subsequent managerial promotions decisions • Low turnover initially at 5%, later 10% • Similar compensation structures dictated by the Russian IT labor market	
Economic Risks	• No contractual hold-ups reported • No IP, security, or privacy violations reported	
Sharing of Strategic Information	• Limited sharing of the strategic information	
Access to Production Systems	No such access granted	Relevant access granted on as needed basis
Client-specific Physical Assets	Hesitant in buying an additional high-speed internet line at vendor's expense	More luxurious office space
Project Costs	Total reported project costs comparable in the captive and with the vendor as salary structures and the additional charges (below) were similar	
	Vendor profits on top of labor costs	Administrative overhead on top of labor costs

One can suppose that while the starting point was the same inside and outside the organization, the process of socialization and learning would lead to significant differences over time. Yet, Global Bank managers *enacted a similar set of practices* in managing their vendor-owned offshore development centers in Russia (and India) as in managing their Captive Center. For example, in both settings, onshore staff was heavily involved in personnel selection and promotion. When an employee expressed dissatisfaction with his/her current task, managers in both settings tried to reassign them to another task within the Global Bank's engagement. In both cases, the employees could not be handcuffed to Global Bank and resigned at similar rates.

Access to business users was one of the most pressing concerns among offshore staff in the vendor ODC and inside the Captive Center alike. Similarly, in both settings the offshore staff wanted to know what was "coming down the pipeline" in terms of new projects, what the long term plans for the evolution of the offshore site were, and what the IT department's technical and business priorities were. Access to users and strategic information were not easily shared within or outside firm boundaries. Offshore managers at the Captive Center were not senior enough (they reported to program managers) and had limited access to strategic information. Thus, in both settings there was a similar level of concern among managers regarding their career growth within Global Bank.

Over time, joint identification, practices, and trust had developed on *some* projects in each setting. On such projects, Global Bank's staff helped their offshore colleagues and vendor employees learn onshore software development practices, acquire relevant business knowledge and gain access to business users. In such cases, even the vendor

employees tended to talk about themselves as working for "Global Bank" rather than emphasizing that they were working for the vendor firm.

When asked to share their thoughts on whether working for a third party vendor was different than working for the captive unit (both parties were well aware of the other offshore site's existence), most respondents at the vendor ODC said the differences were minor and pertained mostly to data protection and security:

> *We here [at the Vendor ODC] do not have restrictions on personal trading, but people who have access to such [production] systems within the bank do. … Over time, we built enough trust to mediate other kinds of access problems, like problems of accessing business users. The situation is such that once a person within Global Bank decided to use a vendor, their career is on the line based on how well we work. If we did not let the person down within the last two years, we have already built trust. … There are certain things we do not get to hear because we are not physically at the main locations of the bank and cannot respond to immediate needs, but this is because we are offshore not because we are a vendor [Russian Vendor ODC, Manager].*

On the captive side, the responses to this question also emphasized that, as Global Bank's employees, the captive unit members were able to access sensitive data and systems more easily. Some, however, also noted that working with a captive center must imply more openness in the relationship as both parties were "Global Bank's colleagues." People who made such statements did not have firsthand experience of providing outsourced services, basing their judgments primarily on stereotypes. The delivery managers at the Captive Center who had several years of experience working for third party vendors had different opinions. One of them remarked:

> *It was possible to do complex projects with lots of risks in a vendor environment.… The work we currently do at [Global Bank's Captive] could be taken outside [to a vendor], but only to a reputable large vendor. There is a lot of sensitive information around here and the vendor needs to make sure it does not leak and be liable if it does. This is, by and large, the only problem. Everything else regarding work coordination can be managed. [Russian Captive, Delivery Manager]*

Onshore participants pointed out additional differences between the two locations. Specifically, there was an issue of vendors' unwillingness to invest in physical capital at their own expense (for example a dedicated, high-speed internet connection). Overall, however, senior Global Bank's managers—who were the only ones who had interactions with different countries and organizational settings —stated that there were no significant differences between a captive center or a third party vendor. The pertinent question for them was: "where you can get good people and keep them?"

The evidence suggests that managerial practices mediated the expected impact of organizational boundary on differences in resources between 3rd party vendors and clients and did not produce significant status differences beyond those associated with country contexts. The organizational boundary's influence was primarily felt in economic terms pertaining to exposing Global Bank's assets to risk or investing in physical assets and was minor in this case.

Renegotiating Boundaries and Status Differences in Practice

National differences have given rise to some significant boundaries and status differences, but on some projects in each of the settings and with a variety of vendors effective collaboration was achieved nonetheless (see Appendix A). The data from these projects indicates that offshore participants felt safe in sharing their opinions and felt they were listened too; they also felt satisfied with the process. The following quotation is a typical example of how participants described achieving effective collaboration:

> *If we had technical disagreements on design decisions, we would present our case with pros and cons. [Our Global Bank program manager] wanted to hear about the disagreement on the highest level. He asked for our issues. … We now feel more as a part of the bank. Some people needed time, but the trust eventually evolved [3rd party vendor Delivery Manager, India].*

Some differences in national contexts served as an advantage and helped offshore staff alleviate the status differences (such as Russian developers' deeper knowledge of computer science or Indian developers' prior experience in delivering banking systems to other clients). By and large, however, effective collaboration could be more readily attributed to certain Global Bank program managers in onshore locations who helped others renegotiate status differences. Interviews conducted among offshore staff often pointed out that it was these program managers and not necessarily offshore providers' own capabilities that led to effective collaboration. Offshore participants often referred to these managers as "great people to work with" or "true visionaries of the offshore potential." Program managers typically reported directly to the divisional CIOs and had 6-12 project managers under their supervision. Their combined onshore and offshore staff ranged from 50-100 people and they had direct accountability to the bank's business directors. The sourcing practices at the bank were such that program managers were the ones who issued RFPs and ultimately chose their providers (within some limits). Thus, these managers had both the authority required to motivate the providers and the responsibility for the project's success.

Certain program managers recognized that status differences were the key obstacle to collaboration and that providers had to be treated with respect:

> *Our developers in India are more responsive now and are part of the team. ... Doing this stuff [complex development and redesign] in India is difficult because there are huge cultural differences and not in the way you think about it when you go to class on cultural differences. A lot of people want to treat Indians as second class citizens. ... My [project] managers and I have gone through a lot to make sure that it does not occur. If it occurs, you are shot in the foot as far as counting on innovation with these offshore guys. It just won't happen. .... Innovation is something we are constantly looking for, but you do not find it unless you create it, unless you sow the seeds. [Global Bank Project Manager working with multiple vendors in India].*

Once they recognized this, middle managers used their organizational position to influence others both onshore and offshore. They also used their expertise in financial services and in systems development to teach offshore staff the missing expertise. The managers drew on their financial resources or convinced the CIO to expand necessary resources to authorize travel, invest in relevant communication systems, hire and fire appropriate personnel offshore and onshore, and to source more interesting work offshore. They also tapped into their personal networks to convince others (e.g., business users, other IT managers, the COO) to engage with or travel to offshore sites.

As a result of their actions, onshore and offshore participants were able to understand each other better by understanding the differences in their competencies and the need to establish some shared practices. People on both sides of the globe started identifying more with each other and with their shared work. Offshore people commonly referred to themselves as working with a particular system or even a particular middle manager ("I work on the CRM system for Dave Z."). As offshore developers' competence in the specific bank's systems grew, they could draw on it as a source of power – providing suggestions and challenging their onshore counterparts[7].

DISCUSSION

In addressing the research questions, we have seen how differences in country and organizational contexts made some fields more salient than others in producing status differences and inhibiting and facilitating collaboration effectiveness. In this case, the key boundaries were associated with fields of practice defined by the financial services

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[7] Space limitations prohibit us from describing in more detail the specific practices that middle managers used to renegotiate status differences. A more detailed description can be found elsewhere (Levina 2006).

industry, business software development discipline, global IT services industry, computer science discipline, national societies, and the specific IS development project (see Figure 2).

-- Insert figure 2 around here --

To achieve effective collaboration participants had to establish shared practices (Levina and Vaast 2005) and attain enough status to fully contribute their expertise to the system they were developing. In cases of effective collaboration, shared practices were created around joint development work. These practices defined an emergent field associated with the competence in and control over the Global Bank's IS being developed (represented by "IS Being Developed" region in Figure 2). In order to join this field, project participants had to socialize into other overlapping fields. This required onshore participants (who controlled important resources in these related fields) to allow offshore participants at least peripheral access to practices in these fields (Levina and Vaast 2005). Depending on their role on the project, offshore participants had to access different amounts and types of resources in these related fields. For instance, a business analyst had to understand more about the financial services industry than a developer, while an offshore delivery manager had to have more control over the budget and be familiar with onshore senior managers. By and large, offshore participants remained low-status newcomers in larger overlapping fields, whose boundaries they had to penetrate, in order to collaborate on Global Bank's projects. However, they had to attain higher status within their joint project in order to make significant contributions of their talents.

Figure 3 summarizes our theoretical model.

-- Insert figure 3 around here --

Status differences resulting from different accumulations of various types of capital within and across fields formed key obstacles to collaboration. They were also accentuated by the time and space separation among actors. Status differences were either renegotiated or reinforced in practice. Occasionally offshore participants renegotiated them by drawing on their membership in fields that gave them an advantage. For instance, Russian developers' competence in computer science compensated partly for their lack of knowledge of the financial industry. Generally, though, the renegotiation was achieved through the actions of certain onshore managers who shared some of their resources in order to raise the status of offshore participants. In such cases, effective collaboration was achieved over time as offshore developers felt more willing and able to share their ideas while onshore partners were willing to listen.

In what follows, we first discuss how the context of the study influenced our findings. We then elaborate in more detail the theory that we believe can be generalized to other contexts. Finally, we examine why middle managers were especially well-suited to facilitate the emergence of shared practices and level status differences.

Boundaries Enacted in Context and in Practice

The boundaries that produced status differences were context specific. Had the offshoring taken place in a different country, or had it involved other organizations, some of these boundaries may not have mattered. For example, in nearshoring to Canada differences in knowledge of business software development may be insignificant. Similarly, over time, offshore participants may acquire deep expertise in some business domains which they have been continuously exposed to. Moreover, new generations of professionals in offshore locations such as India are starting to challenge the norms of

their national culture by becoming more assertive (Cramton and Hinds 2007). At the same time, even in onshore IS development efforts, status inequalities are important inhibitors of collaboration (Jasperson et al. 2002). In offshore contexts nowadays, however, most boundaries align to privilege onshore clients over offshore providers and time and space differences accentuate status inequality (see Table 4).

Contrary to the literature on outsourcing, in the Global Bank's case, organizational differences played a relatively *in*significant role in influencing collaborative processes and status differences. This observation is consistent with recent discussions in the strategic management literature that challenges the dichotomy between markets and hierarchies (Makadok and Coff 2007). It suggests the emergence of hybrid organizational forms associated with long-term, inter-organizational partnerships (Osborn et al. 1998). The notion of the "extended organizational forms" where vendors own the asset while the clients are heavily involved in operations management (Aron and Singh 2005) rings true for Global Bank. Managerial practices seen in extended organizational forms can successfully mediate many contractual issues (Aron and Singh 2005) and lead to joint practices and identification (Ravishankar and Pan 2006). At the same time, far from all outsourced relationships are managed as extended organizational forms. In such cases contractual issues may become more salient in differentiating clients from vendors (Nicholson et al. 2006; Srikanth 2007).

The Role of Capital Accumulation in the Production and Renegotiation of Boundaries and Status Differences

While the relevance of particular boundaries that we observed in this case may not generalize widely, we draw on practice theory to provide a more general interpretation

for how differential accumulation of particular types of capital (economic, intellectual, social, and symbolic) gave rise to boundaries in global ISD projects. This more general understanding of the nature of boundaries can be usefully applied to other contexts pertaining to offshoring knowledge work. Table 4 summarizes how differences emerged on the basis of differential accumulation of different types of capital between onshore and offshore participants.   It also shows how time and space separation made these differences more pronounced by accentuating differences in capital distribution and by making capital more difficult to share.

Table 4: Relations between Species of Capital and Salient Differences		
Types of capital	**Salient Differences and Fields**	**Impact of the time and space separation on boundaries**
Economic capital	- Onshore economic capital holders vs. offshore receivers (**Global IS Services Industry** and **Financial Services Industry**) - Onshore wages vs. offshore wages (**Global IS Services Industry**) - Onshore client's vs. offshore providers' size and resources (**Global IS Services Industry** and **Financial Services Industry**)	- Additional economic resources necessary for long-distance travel - Lack of access to shared physical facilities (conference rooms, whiteboards, water coolers, etc).
Intellectual capital	Different competence in specific fields: - Financial services industry (**Financial Services Industry**) - Business software development (**Business Software Development Discipline**) - Computer science (**Computer Science**) - English language (**Onshore Society**) - IS being developed (**IS Being Developed**)	- Delays in feedback cycles inhibiting learning and creative dialogue - Reduced ability to learn by observation and apprenticeship
Social capital	Onshore participants' access to business stakeholders and senior IT managers (**Financial Services Industry**)	Harder to form chance connections and interpersonal bonds
Symbolic capital	- Onshore participants' authority to judge outcomes (**Global IS Services Industry**) - Attitudes to authority among onshore and among offshore developers (**Onshore Society, Offshore Society**)	Reduced ability to engage in joint discourse that is necessary for joint identification

In considering the interplay between different types of capital, we see that participants associated many collaborative difficulties with intellectual capital disparities (lack of

competencies in various fields), which we would expect to be true of any knowledge work. Yet, the kind of intellectual capital that was deemed most salient (business knowledge, for example) was determined by the holders of the economic capital situated in onshore countries (onshore managers who paid the offshore salaries). Therefore, participants recognized offshore technical competence only when offshore developers demonstrated their competence could help onshore stakeholders accumulate more economic capital (proven track record of delivery).

Symbolic differences were also directly tied to the other types of capital. For example, pay differences between offshore and onshore developers affected the perceptions of their respective expectations, competences, and contributions (Pfeffer and Langton 1993). Ironically, *better paid* offshore workers may have an easier time being perceived as serious collaborative partners.

Similarly, access to business users (social capital) was a privilege that differented onshore participants from offshore participants, but also later more senior onshore participants from others. This distinction was situated in the financial services industry, as only developers who could talk proper business language were granted it.

Symbolic capital was engaged in the most obvious way in promoting cultural stereotypes, especially concerning attitude toward authority. It was easy for onshore developers to say their Indian colleagues failed to collaborate because "they were expected to be spoon-fed specifications" and for the Indian participants to blame failure on poorly specified requirements from onshore "higher-ups." A less visible symbolic difference had to do with the onshore participants' prerogative to judge the outcomes of

the project (hence, the label "client" applied to them so universally). Some managers used that power to assign blame on providers, while others took joint responsibility.

Status differences were renegotiated as agents shared their capital with others. The use of symbolic capital – the power to name things and institute an order among things – was the key means for renegotiating status differences (consistant with Bourdieu 1977). For example, stereotypical descriptions of attitudes to authority in India and Russia exhibited themselves when the individuals in question insisted on maintaining them rather than reflecting upon them to arrive at joint norms (Brannen and Salk 2000; Walsham 2002; Krishna et al. 2004). Over time, collaborative projects led to the accumulation of shared symbolic capital. Project participants started identifying with such joint stakes as "building the best trading platform out there." Also, having Global Bank's name on their resumes became a descriptor used by offshore developers to distinguish themselves positively from others in their countries. Similarly "doing innovative work offshore" eventually became a positive descriptor inside Global Bank. Thus, people took on new identities within project teams, which made them more like their counterparts.

Middle Managers Use of Capital to Alleviate Offshore Developers' Status

Onshore middle managers played a key role in renegotiating boundaries and status differences by engaging others in shared practices surrounding a joint software development projects. The literature on global virtual teams has already highlighted the crucial role of team leaders or project managers in achieving effective performance (Weisband 2007). Studies have shown that effective leaders can mediate the negative consequences of distance in collaboration by becoming "straddlers" (Sahay et al. 2003; Nicholson and Sahay 2004) frequently communicating with team members (Cummings

2007), using technology to highlight dependencies among distributed subteams (Bradner and Mark 2007), and establishing a constructive interaction style (Balthazard et al. 2007).

Drawing on Bourdieu's practice theory, we conceptualize middle managers as agents both willing and able to use the economic, intellectual, social, and symbolic capital they have accumulated to renegotiate status hierarchies. First, middle managers used the symbolic significance of their managerial position to influence their subordinates and offshore participants to change attitudes. Due to their educational and professional backgrounds, they have accumulated relevant competencies in the financial services industry and business software development and could draw on them to teach others. They could also tap into the financial resources necessary to authorize travel, share technological infrastructure, bring offshore staff onshore, and control personnel selection and promotion. Finally, they could draw on their connections (social capital) at the bank to engage other relevant parties. They also had the proper incentives as making these projects work could help them advance in their organizational (e.g. promotion, greater responsibilities) and professional fields (e.g., recognition such as interviews with trade press, talks in professional conferences on outsourcing, etc.).

Compared with other managers at Global Bank, middle managers had a unique combination of resources and positions that allowed them to renegotiate boundaries and status. Higher-level managers had more symbolic and economic capital, but were positioned too far away from the project practices and related competencies. Lower level onshore managers had relevant competencies but lacked economic and symbolic capital. Finally, offshore managers did not have enough capital along many of these dimensions.

CONCLUSIONS AND IMPLICATIONS

This paper contributes to the literature on global IT sourcing by 1) providing an in-depth examination of the multiple, overlapping boundaries that can impact collaboration in offshore ISD, 2) proposing a practice theory-based framework for understanding how such boundaries and related status differences limit collaboration effectiveness, especially in the context of offshore ISD, and 3) highlighting how middle managers can use various types of capital to help others renegotiate these boundaries and alleviate status differences. By adopting a practice-based perspective it challenges conventional notions about the role of organizational and national contexts in enabling or impeding collaboration. The paper also contributes to the discussion of the nature of boundaries in global distributed teams (Espinosa et al. 2003) by distinguishing the institutionalized and emergent social boundaries from time and space distance and by relating them to the allocation of various types of capital. It also shows that spatial and temporal distance accentuated boundaries and status differences by making it more difficult to share capital and established joint practices among parties even when there is a will.

This work also contributes to studies of multi-party collaboration that use practice perspectives. The practice perspective offered a theoretical grounding for understanding status differences and the methods for renegotiating power relations. By drawing on some intricate aspects of Bourdieu's practice theory, we were able to show how the use of economic, intellectual, social and, especially, symbolic capital helped participants renegotiate these differences. Moreover, in this paper we go beyond the organizational and professional differences addressed by prior literature (Carlile 2002; Levina and Vaast 2005) to consider the role of multiple, overlapping fields of practice in various

organizational and country contexts. Future research should examine more deeply how specific managerial practices, and the use of IT in particular, can help participants socialize into existing fields and produce new joint fields of practice.

In speaking to practitioners, this research puts into question IT sourcing policies that emphasize the need for internal sourcing of projects with vague requirements and strategic implications (Nam et al. 1996). These projects could be successfully sourced externally, even when they are targeted at innovative collaborative outcomes. Similarly, a lot more factors are involved in the choice of geography than typically advocated by offshore consultants (Heatley and Nelson 2007). In making sourcing decisions, sourcing managers should consider such factors pertaining to providers and location as a) the provider's ability to attract and retain qualified people in a given location with enough expertise to engage in creative dialogue, b) the provider's existing business knowledge, and c) internal managers' willingness to engage in collaborating with a particular provider. Future research may want to examine the role of cultural stereotypes and managers' identities in facilitating or inhibiting collaboration.

Finally, the case study revealed that effective collaboration relies not only on "getting good people and keeping them," but also on managing them effectively. Recent literature on outsourced ISD emphasized the need to build organizational capabilities to manage complex and strategic projects in outsourced environments (Goles 2003). This study suggests that such capabilities are built via the efforts of dedicated middle managers who engage in boundary-spanning activities with their offshore providers. IT managers always had to engage in boundary spanning with the business users and corporate stakeholders (Baroudi 1985; Pawlowski and Robey 2005). Today, however, this need is multiplied by

the growth of offshoring and outsourcing. The key challenge for IT organizations then becomes to grow IT personnel to be effective in their new boundary-spanning roles and to support individuals in such roles with proper authority and resources.

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Figure 1. Global Bank's Provider Relationships

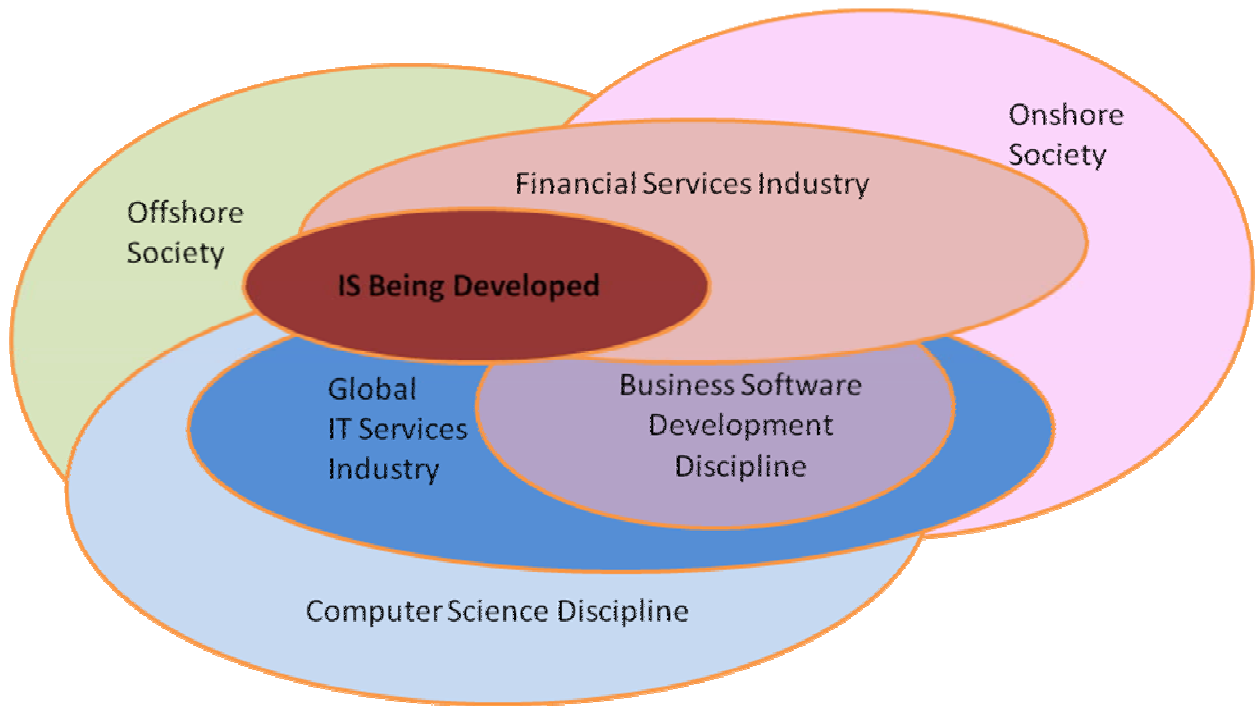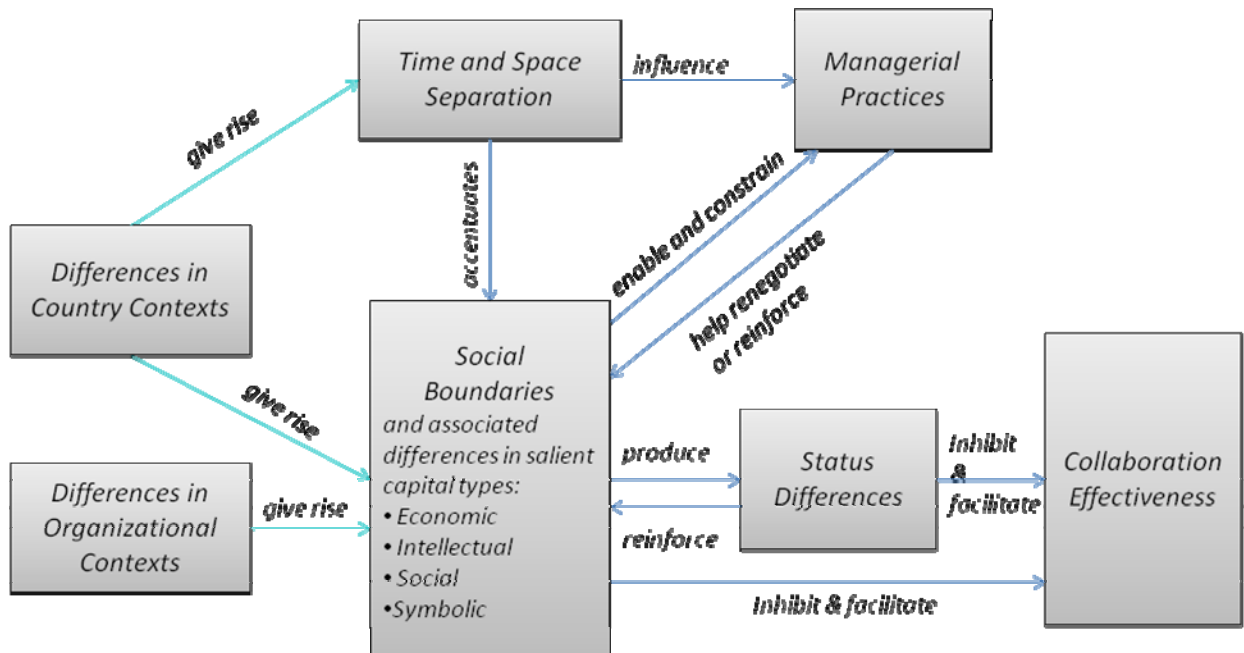## Figure 2: Salient Fields and Boundaries in The Global Bank Case

Offshore Society

Financial Services Industry

Onshore Society

IS Being Developed

Global IT Services Industry

Business Software Development Discipline

Computer Science Discipline

Figure 3: Impact of Social Boundaries on Collaboration Effectiveness

Time and Space Separation

influence

Managerial Practices

give rise

Differences in Country Contexts

accentuates

enable and constrain

help renegotiate or reinforce

Social Boundaries and associated differences in salient capital types:
• Economic
• Intellectual
• Social
• Symbolic

give rise

Differences in Organizational Contexts

give rise

produce

reinforce

Status Differences

Inhibit & facilitate

Collaboration Effectiveness

Inhibit & facilitate

Appendix A

This appendix gives examples of some projects that were involved in the study. All the projects involved in the study cannot be described due to the space limitation (over four dozen major system development and support efforts were discussed in total). Further details are omitted to protect research site anonymity and confidentiality.

Offshore Location	Project Code Name	Nature of the Project	Reported Results
Russian Captive	**Trading System**	Task: Design and build a new system to replace a system currently used but that was purchased by a competitor. Platforms: C++, JAVA, Oracle	• The quality (design and speed) of the initial system delivered surpassed onshore managers' expectations • System has won industry awards in competing with the competitor system being replaced • Subsequent functionality expanded; implemented bank wide • Occasional issues with reliability
Russian Captive	**Derivatives Systems**	Task: Take over maintenance and enhancements of a system developed and maintained by independent contractors Platforms: C++, JAVA, Oracle	• Major difficulties with initial knowledge transfer due to the lack of subject matter experts or documentation • Eventually, smooth delivery and satisfaction with quality and speed
Russian Vendor ODC	**Customer Management**	Task: Design and implement a state-of-the-art customer management system, replace existing "silo" systems and integrate previously disparate data Platforms: .NET, Documentum, WebLogic	• Industry award winning system implemented throughout the bank • Ongoing issues with business requirements understanding and adherence to bank's development practices
Russian Vendor ODC	**Loan Trading Risk Management**	Task: Enhancement and then redesign semi-automated risk management previously done in Excel. Included 20 separate applications Platforms: .NET, Visual Basic, WebLogic	• Offshore developers proposed the idea of moving to .NET platform • Due to proven design skills offshore, architecture function was migrated offshore despite CIO's plan to keep it onshore • Weekly releases delivered on time and rolled out to divisional users
3rd Party Vendor A in India	**Corporate Trust**	Task: Initially maintenance of legacy systems, then reengineering and migration of 22 applications to .NET Platforms: COBOL, .NET	• Smooth maintenance without deep business knowledge • Successful re-engineering and roll out • The project showcased in a number of industry conferences as example of successful offshoring of high-end work

Offshore Location	Project Code Name	Nature of the Project	Reported Results
3rd Party Vendor A in India	Risk Management	Background: an existing risk-management system Task: incorporate new data feeds, integrate interfaces with other systems Platform: C++, JAVA, Oracle	• Staff on the project increased 2 fold as compared to the plan to address delivery issues • No substantial deliverable after 1 year
3rd Party Vendor B in India	Sales and Settlement	Task: Large home grown application developed onshore over a period of 15 years. Initially, needed ongoing maintenance. Next, needed to be migrated to a new platform. Platform: Old – DB2, COBOL; New – C++, JAVA, Oracle	• Initial maintenance of the system in COBOL went smoothly • For the migration project, after 15 months nothing substantial was delivered • System pulled back onshore and given to an onshore 3rd party vendor
3rd Party Vendor C in India	Middle Office Migration	Task: Migration to a modern platform and development of a new web-based interface. Platform: WebLogic, Oracle, JAVA, HTML	• Smooth delivery and implementation of an innovative system • System rolled out on-time to a wide set of users

Appendix B

This appendix reviews the breakdown of work activities on the projects.

	Offshored Functions	Onshore Functions
Typically Duplicated	• Project Management	• Project Management
Typical Breakdown	• Functional Requirements Analysis • Architecture/Design • Development • Functional Testing • Secondary User Support • Maintenance	• Program Management • Business Requirements Solicitation • User Acceptance Testing (UAT) • Deployment • Immediate User Support
Intentionally Duplicated on Some Projects	• Business Requirement Solicitations	• Architecture/Design
Duplicated on Some Projects		• Development

Table Note: Some senior and middle managers strategically decided to keep major architecture/design work onshore, while others were comfortable sourcing it entirely offshore. Also, on some projects offshore staff was heavily involved in business requirements solicitations, while on others it was only involved in functional requirements development. Finally, the development work often had to be kept onshore while offshore developers were gaining competence, and, on occasion, continued being done onshore due to offshore developer's inability to perform certain user-centered or advanced tasks. The variations in the breakdown did not co-vary with a particular country/organization setting, but rather varied from project to project.