Collaborating across Boundaries in a Global Economy: Do Organizational Boundaries and Country Contexts Matter?

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COLLABORATING ACROSS BOUNDARIES IN A GLOBAL ECONOMY: DO ORGANIZATIONAL BOUNDARIES AND COUNTRY CONTEXTS MATTER?

Global Information Technology Management

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Abstract

As firms spend a growing part of their budgets on offshore activities, they experience pressure to source increasingly more complex, less codified, and more strategic IT projects abroad. Successfully completing such projects requires close collaboration among all participants. It has been argued that firms are better off keeping such projects within their organizational boundaries by setting up captive offshore development centers, especially if these firms have sufficient scale. This paper presents a qualitative case study of a large financial services organization that used both captive centers and third-party vendors in multiple global locations to deliver its IT projects. Using a grounded theory approach, it highlights the kinds of organizational practices that helped the firm accomplish global collaboration. Surprisingly, the data indicates that achieving effective collaboration did not depend on whether the project was kept within the firm’s boundaries, nor did it depend on choosing a specific offshore location. Instead, effective collaboration was facilitated by specific middle managers who engaged in boundary-spanning practices across countries and firms.

Keywords: Offshore software development, outsourcing, collaboration, qualitative methods, boundary spanning, communities of practice

Introduction

In recent years, cost-cutting pressures and a proven track record of success with mundane IT projects have prompted IT departments to start moving increasingly more complex and high-impact work offshore. High-technology firms such as Microsoft, Yahoo!, Google, Nortel, Cisco, and others have been successful in moving parts of their strategic R&D activities in new software development to India, China, and Russia. An innovative application like “Google Finance,” for example, was for the most part developed by the Google’s Indian subsidiary (Anonymous 2006b). As firms in high-tech and other sectors are migrating such complex, poorly codifiable, and even strategic IT projects offshore, they are also realizing that such work relies on organizational capabilities to collaborate effectively across country borders. In this paper, I draw on the findings from an in-depth qualitative case study to address the question of which organizational practices facilitate effective collaboration in such settings.

Background

The literature on multi-party collaboration informs our understanding of practices that may be helpful in facilitating effective collaboration on offshore software development projects. Hardy and colleagues define “effective
collaboration” as that which (1) leverages the differences among participants to produce innovative, synergistic solutions and (2) balances divergent stakeholders’ concerns (2005: 58). Such collaboration is more likely to ensue when participants engage in a joint discourse and develop a collective identity, for example, referring to each other as “we” rather than “us versus them” (Kilker 1999; Hinds and Bailey 2003; Maguire et al. 2004; Hardy et al. 2005). Joint identification and positive history of interaction help people from diverse backgrounds overcome their differences and build trust (Walsham 2002; Sarker and Sahay 2003).

Recent work on cross-boundary collaboration in IS Development (ISD) suggests that joint identification, while necessary, is not sufficient for enabling effective collaboration. Levina and Vaast (2005), for example, argue that effective collaboration within and across organizational communities occurs when actors create joint fields of practice, which go beyond sharing an identity. In such fields, agents have common stakes, engage in joint practice production and co-invest in joint artifacts. This research also points to the crucial role of certain individuals who engage in boundary spanning to build such joint fields (Levina and Vaast 2005). Even these conditions, however, do not guarantee innovative, synergistic solutions that balance divergent stakeholders’ concerns. Such solutions evolve only when actors are empowered to challenge each other and when their creative challenging is reflected upon and incorporated in subsequent IS development (Levina 2005).

Establishing collaborative ISD practices is a difficult both process (Kraut and Streeter 1995; Faraj and Sproull 2000; Levina 2005). It may be particularly difficult when the work is done offshore for three key reasons. First, the mere presence of distance and country differences suggests an “us versus them” mentality (Carmel and Tjia 2005). Second, limited communication channels may inhibit participants’ ability to engage in joint discourse and lead to team conflicts (Hinds and Bailey 2003). Third, imbalance of power among participants is particularly pronounced in offshore projects, inhibiting creative challenging and dialogue. For one, pay differences among IT professionals may create a perception of inequality (Pfeffer and Langton 1993). Also, being far from a wider organizational context (such as business users, architecture and infrastructure teams, and senior IT management), offshore developers have a limited knowledge base from which to make persuasive challenges. In such situations, not only are they less likely to challenge their partners onshore, but also their ideas can be easily dismissed as being uninformed. Thus, what was conceived of as a collaborative project may easily turn into a market-like transaction (Levina and Vaast 2006), where offshore developers are waiting for specific directions from their onshore counterparts and then simply follow them.

In alleviating these challenges, practitioners may turn to two specific approaches: 1) conducting projects in captive centers (offshore business units of an onshore firm) and 2) choosing a global location where challenges to effective collaboration are minimized (Aron and Singh 2005). First, organizational literature suggests that collaboration is more likely to ensue among members belonging to the same organization. In fact, a knowledge-based view of the firm argues that the establishment of a collective identity may be among the key competitive resources that organizations have and markets do not (Kogut and Zander 1996). Knowledge-based organizations often achieve strategic advantages by developing an ability to effectively engage their members in shared practices across boundaries of diverse settings (Orlikowski 2002; Majchrzak et al. 2004; Levina and Vaast 2005). Moreover, the modes of control may differ on in-house versus outsourced projects, with more formal modes of control dominating outsourced projects (Kirsch 1997; Choudhury and Sabherwal 2003). If formal modes of control are likely to inhibit collaboration, then in-house development has additional benefits. Overall, we would expect that effective collaboration in offshore development projects is more likely to occur if work is carried out by developers in offshore captive units of the same organization rather than by third-party vendors.

The second practice that organizations may pursue is to pick a location that minimizes the three challenges that inhibit effective collaboration. For example, picking a country that is closer to the home country (onshore location) geographically may enable more frequent communication. Offshore consultants and the business press often argue that geographically proximate locations in Eastern Europe and Russia are particularly well suited for “high-end” work coming out of Western Europe and the U.S. (Anonymous 2006a; Cusumano 2006). They also argue that the culture of these countries encourages more open dialogue and creative challenging as compared to Asia (ibid). Moreover, such countries as the Czech Republic, Hungary, Poland, and Russia are considered to be “transition economies” with higher levels of per capita income than developing countries like India. Given higher salaries and living standards, software developers in these countries may feel more empowered to engage in collaboration as compared to their Asian counterparts (Pfeffer and Langton 1993).

Our understanding of whether and how organizational and country boundaries matter in enabling better collaboration on ISD projects is quite limited. Although differences in ISD processes on outsourced versus in-house
projects have been observed (Sabherwal and Robey 1993; Choudhury and Sabherwal 2003), to the best of my knowledge, prior studies have not contrasted in-house versus outsourced ISD projects in terms of achieving collaboration effectiveness. Research contrasting country contexts in ISD projects is even scarcer. Practitioner-oriented anecdotal accounts have suggested that differences in country contexts affect ISD outcomes (Carmel and Tjia 2005; Cusumano 2006), but researchers have not investigated this question systematically.

This research takes advantage of studying a firm that sourced its application development work to Asia and Europe using both captive centers and third-party providers in each of these locations. This set of sourcing policies rarely used together allows us to better understand which organizational practices foster effective collaboration and whether and how the country context and the organizational boundary matter.

**Methods**

While there has been some research concerning the practices involved in effective multi-party collaborations (e.g. Levina 2005), very little is known about effective collaboration on off-shored software development projects because the phenomenon itself is quite new. Moreover, this phenomenon is deeply embedded in subjective understandings of organizational actors pertaining to the nature of their work and their judgment of outcomes. Thus, I adopted a qualitative case study approach aiming to generate novel insights from data in an inductive, grounded fashion (Glaser and Strauss 1967; Eisenhardt 1989). As already mentioned, the case study itself represented a rare opportunity (Yin 1984) to address the research question through a multi-location design represented in Table 1.

Theoretically, the study adopts a practice perspective following practice-based theorizing regarding multi-party collaboration and global knowledge work (Carlile 2002; Orlikowski 2002; Walsham 2002; Levina and Vaast 2005). This perspective implies that structure is produced, reproduced, and transformed through practices (what people do). It aims at describing work practices that produce certain collaborative structures, which, in turn, shape these practices. A practice perspective also implies that institutionalized structures, such as differences in national cultures and organizational boundaries, shape, but do not determine, structures enacted on specific ISD projects (Walsham 2002).

**Site Description**

The study was conducted at “Global Bank” (pseudonym), a large, multi-national financial services firm. Starting in 1989, the bank established relationships with several Indian vendors for providing onshore staff in what is known as a “staff augmentation model,” as well as offshore support for the bank’s operations in local (offshore) markets. Subsequent to that, in 1996, the bank started offshoring its application maintenance and development projects to its newly established Indian captive center and to several vendors due to IT labor shortages and cost-cutting pressure. The scale of offshoring, primarily to India, picked up in 2001 during the downturn in Western financial markets and because of increasing cost pressures. The first venture into Russia also 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) is estimated to be a quarter of a billion U.S. dollars a year. The bank plans to grow this number to 1 billion U.S. dollars in the next several years. This is in addition to IT work sourced by Global Bank to large and small IT services vendors in its “onshore” locations in the U.S., Western Europe, Australia, Singapore, and Japan.

In terms of the size of the operations, the captive unit in Russia reached 200 people in 2005, while the size of the offshore development center (ODC) set up by the Russian vendor was about 150 people. In India, the size of the ODC with one of the top tier vendors was over 2,000 people (henceforth “Primary Indian ODC”), while operations with the other local and global vendors ranged from 30 to 500 people. The Primary Indian ODC used to be a captive center, which was later sold off. There was another large captive facility in India used primarily for the offshoring of financial services operations rather than IT work.

Importantly for this study’s design, by 2005, Global Bank was sourcing a variety of IT work to all of these locations and providers. This was largely due to the independent decision making regarding sourcing by middle managers at the bank: for many years (until 2004), they could choose where and how to source with relative autonomy. As a result, the so-called, “high-end” 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. This situation allowed for the comparison necessary to address the research question. Also, in the projects covered
by this study, there was almost no interaction between the Russian and the Indian offshore staff, largely because different middle managers sourced their projects independently to either Russia or India and not both.

**Data Collection and Analysis**

Data collection started in May 2005 and wrapped up in May 2006. The entry to the firm was gained through the CIO of one of the bank’s divisions, which allowed for the wide access necessary for the study. In-depth, semi-structured interviews lasting from 40 minutes to two hours constitute the majority of the data (averaging 1.5 hours). The data was collected in the U.S., Western Europe, India, and Russia, mostly through face-to-face interviews. A handful of interviews were conducted over the phone due to travel restrictions and the participants’ availability. A total of 67 interviews were conducted and recorded, except that the recorder was turned off at the end of the interview to solicit further (potentially more open) remarks. A key strength of the data collection effort was the involvement of participants from both onshore and offshore locations including client and vendor organizations in data collections. The study was limited in scope to the practices concerning offshore and nearshore vendors, and excluded onshore vendors. Interview data was supplemented through archival data such as vendors’ slide presentations and public accounts of the relationships in the business press.

The interview guide focused on understanding, through participants’ eyes, the history of offshore IT projects, challenges experienced, management practices, the strength of the relationship, and project outcomes. The latter was assessed in terms of achieving effective collaboration as well as realizing anticipated cost savings, delivery times, and quality. Triangulation of data sources (especially across different organizational levels) helped establish a more accurate account of the events and mitigate recall biases and biases due to my presence in the field.

| Table 1. Interview Participants
<table>
<thead>
<tr>
<th>Location of interviews</th>
<th>Internal Staff Working for Global Bank</th>
<th>External Staff Working for 3rd party vendors</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Europe &amp; US (onshore)</td>
<td>18 people (2 CIOs, 3 Sourcing Office Members, 5 Program Managers, 8 Project Managers)</td>
<td>5 people (3 US-based Relationship Managers working for Indian vendors, 2 US-based Marketing/Strategy Manager working for the Russian vendor)</td>
</tr>
<tr>
<td>Russia</td>
<td>16 people (1 Unit Head, 7 Project Manager, 7 Technical Leads/Developers, HR Head)</td>
<td>7 people from 2 vendors (CEO, HR Head, Marketing/Strategy Manager, ODC Head, 3 Project Managers)</td>
</tr>
<tr>
<td>India</td>
<td>1 person (CIO)</td>
<td>20 from 4 vendors (2 ODC Heads, 4 HR and Training Managers, 2 Logistics and Infrastructure, 5 Delivery Managers, 5 Project Managers, Technical Lead)</td>
</tr>
</tbody>
</table>

Data collection and analysis techniques advocated by grounded theory were used in the study (Glaser and Strauss 1967). First, data collection and analysis were intertwined. After each interview, I took analytical notes pertaining to what I learned regarding the research question. These notes constituted emergent conceptual themes and propositions. I then used these notes to add new interview questions so as to see if the next informant could confirm, further explain, or deny the emergent proposition. For example, if an informant said that it was much easier to collaborate with a Global Bank captive unit because there were no disputes pertaining to project scope likely to be encountered on fixed price outsourced projects, I would then ask informants working with third party vendors on such projects if and how often they got into such disputes, and, if not, why not. Secondly, I chose informants

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1 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 U.S. I did not interview anybody from Russia or India who was currently on assignment in Western Europe or the U.S., but many people in offshore locations have been on such assignments in the past.
opportunistically so as to either confirm or challenge the patterns in data that emerged thus far. For example, as I heard about a number of successful projects with India (or Russia), I asked to speak to people with less positive experiences. Finally, the data collection stopped only when it reached the state of theoretical saturation on a particular issue. For example, when several interviewees in a row from diverse settings described exactly the same traits of the middle managers who facilitated effective collaboration, I no longer interviewed people about these traits.

A second stage of data analysis was conducted on the already collected data. First, I wrote short descriptions for each project on which the data was collected, describing the setting in which it took place, its history, and its perceived outcomes. The rewriting and comparing of each project story helped generate the initial set of high-level theoretical themes (Pettigrew 1990). Second, various qualitative analysis techniques (Miles and Huberman 1984) and principles of grounded theory development (Glaser and Strauss 1967) were used to address and interpret linked stages of data reduction. The results of the initial analysis were shared with key informants at Global Bank and with academic colleagues during the winter of 2006. Based on their feedback, further data collection and analysis were conducted.

Findings

In comparing the interview data from all the settings described in Table 1 and the experiences of Global Bank’s managers working with diverse settings, it appears that effective collaboration was or was not achieved irrespective of the sourcing structure (within the firm or outside the firm) or the country of sourcing. Instead, effective collaboration depended on efforts of specific middle managers who engaged in building joint fields of practice.

The Organizational Boundary

Looking at the organizational boundary first, IT projects sourced to Russia provide the most revealing comparison, as both the third party vendor and the captive were involved in a large number of projects with poorly understood and frequently changing requirements and complex software architectures.

The largest success story was the first large project sourced to the Russian Captive center, which encompassed developing a complex and high-risk system entirely in Russia. The new application was delivered before the estimated deadline and ended up being orders of magnitude faster than the existing application, which was at the time sourced from a third-party, U.S.-based vendor. Moreover, it scaled well and ended up being deployed not only in the original business area but also in other business areas at the bank. One of the key developers commented on the development process, discussing how the two parties collaborated:

If I got very specific requirements for the system, I would be developing exactly what he [the business analyst] wanted. The situation was the opposite: he gave me high level specs, and I had to further specify while developing. It worked out well, in that I managed to guess in the right direction. ... I do not quite know how I managed to get this right. 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. ... Before, they [the Western managers] would insist on their opinions and solutions because they considered Moscow to be a young project. Eventually, we had to redo things. Time showed that our approach was more successful. ... If we argued, we argued in a reasonable way about multiple options and discussed various risks. After an open discussion, we chose the solution with a lower risk for the system. ... I recall a situation in which they insisted on their solution. I accepted their solution as reasonable given the timeframe. The solution we were proposing was seen as too complex and could lead to system instability. Later, we realized that the simpler solution actually took a lot of [system] resources and we ended up doing it in the complex way that I initially proposed. By then, however, we learned better how to test our systems [to ensure stability]. [Russian Captive, Technical Architect]

The Western Program Manager who started the project explained how the requirements solicitation worked:

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There is no difference between the U.S. and London and the U.S. and Moscow. Requirements are done here, but not necessarily by locals. Moscow covers a larger segment of the product cycle than a traditional offshore place. There are business analysts from Moscow who come here to work on requirements directly with traders. It is not like a business person writes requirements and sends it over the board for development. It does not work like this. The way this usually works: they build a prototype and show it to a user and ask: “Is this what you want?” – “No, it is all wrong” – “Show me what is wrong.” It is done by repeated mistakes. [Global Bank’s Program Manager].

On the Russian ODC vendor side, all project managers described their work as being characterized by frequently changing and poorly understood business requirements, with frequent releases. One of them explained how the ODC kept proposing architectural solutions to deal with frequent requirement changes:

We created an architecture team that allows for scalable and modular design to be implemented on my projects. Then, other projects within the ODC started using our architecture team’s solutions. Before, the architect was on the bank’s side, but now we have this function. My set of projects is such that we have extremely tight release deadlines, often weekly. Thus, we have to use maximum modularity that allows us to build new reusable components. Before, at the bank, there was no such approach for our system. We standardized and created an architecture that allowed us to write “open-source-like” components for the U.S.e within the bank. We proposed to re-write a system from Visual Basic to .NET because there were four years of patched legacy code creating ripple effects with every change. They [the bank] agreed. We are very lucky to have a technically capable project manager [at Global Bank]. He specifies what needs to be done, but we make decisions about the architecture. He listens to us. Sometimes, we can suggest what to do. We see two applications doing similar things, we suggest to consolidate them together, or change to a shared platform, or to create some reusable code. They react positively. We earned trust. We deliver what we promised and on time. Our proposed solutions have been proven to work several times by now [Russian ODC, Project Manager].

These two stories reveal that developers in both settings felt that they engaged in challenging their Western collaborators and were eventually heard. Many people from these and other projects reported that they had an easy time getting access to their collaborators.

There were others, however, who expressed their concerns regarding gaining access to business users or being ignored by their Western collaborators. This happened on several projects within the Russian captive unit.

We do experience problems in getting direct access to business users. First, it is a territorial question – a known psychological problem. Second, 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. I noticed that a real business user is always interested in looking into developers’ eyes and saying what they really think and need. The third factor is the fear of losing power and influence, losing their position. If they are doing their job worse than somebody from outside or are lacking skills, then [letting us talk to users] is a real threat. The official reason for their refusal is that “You will be in the way of communicating with the U.S.er” or “It is too costly to get you here.” [Russian Captive, Delivery Manager].

Similarly, the sense of joint identification (shared organizational identity) was not a given even within the Russian captive. For example, a third-level technical support person working for Global Bank in Moscow and providing offshore application fixes would refer to their Global Bank’s IT colleagues as clients: “We make sure that the client responsible for the delivery [referring to the 2nd level technical support person in US or Europe] does not have to worry about people here – things like hiring, motivation, rewards.”

Even on multi-year projects within the captive unit, issues of “us versus them” still exhibited themselves. Some program managers continued to assign blame for the code quality on their Russian counterparts: “Every bug is Moscow’s fault.” A business analyst (with the formal title of “Account Manager”) working for this program manager complained:

In their [U.S.] bourgeoisie tradition, the account manager is responsible for the client’s account. After a year of working here, I figured out that this person [the account manager] is supposed to always be on the client’s side. There was a snafu about it. Because I have almost no communication with the client [referring to Global Bank developers in US] other than the phone or email, my position and attitude was on the side of people here [in Moscow]. I may know of a way of fixing the problem or doing things differently than what they [in the U.S.] 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. What happened, for example, was that they formulated a problem in an Indian style. “Send us this!” Then developers came to me and said “We understand the problem, but we do not understand the meaning behind why we do it this way.” I then asked the U.S. person about why. He explained the best he could. I answered him as follows: “We can do it all, but according to my modest opinion, in reality, we can do it much simpler if we do it this way. We will improve modularity of the system this way, etc.” He did not like it. He thought an account manager is the person who has no right and should not be giving technical advice, ..., or any other type of advice. The issue with me was that I was not behaving positively enough towards the client to accept their request and put pressure on developers. Instead, I opposed their opinion. It was my mistake [sarcastically]. I am pretty sure it will come back to bite me here still.” [Russian Captive, Business Analyst]

When asked to share their thoughts on whether working for a third party vendor was different than working for the captive unit, most respondents at the vendor ODC said that the differences were minor and pertained mostly to data protection and security issues, and even then that such restrictions were reasonable:

Even inside the bank, to get access to the production and client data, you have to have special clearance and sign special papers. Just the idea that people in Moscow will get access to these systems would raise eyebrows with compliance departments. ... For example, we here [at the ODC] do not have restrictions on personal trading, but people who have access to such systems within the bank do. ... It would be easier to work if we had this access, but there is nothing critical about it. ... 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 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 colleague.” Interestingly, these people did not have first-hand experience of providing outsourced services, basing their judgments primarily on stereotypes. Some other delivery managers, however, had several years of prior experience working for third party vendors and, consequently, a different opinion. One of them remarked:

It was possible to do complex projects with lots of risks in a vendor environment [referring to his old job]. It was possible to get direct access to users if system risks were high. ... Eventually, my organization started to represent the client’s organization. It did happen. It did happen. [gives examples of two successful complex projects from his prior work]. There are certain risks, but if you talk about them professionally and convince your staff about handling them, then the staff can work at any level of hierarchy among clients and there are rarely any problems. ... It is a question of [mediating] fear in making a decision to have such an open relationship and a question of building trust and long-term relationships. ... The work we currently do at Global Bank’s [captive] center 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]

Among Indian sites, some evidence regarding this issue came from those members of Global Bank ODC who started working for Global Bank back when it had an Indian captive center (in 1996). They agreed overwhelmingly that the transformation to working for a third party vendor was, if anything, conducive to improved collaboration. The work that they were getting in early days of outsourcing was rather mundane and there was no managerial structure in place to solicit more challenging work. As a small group of offshore coders they were expected to follow orders from the specialists onshore (much like the stereotype expressed by the Russian account manager). As these people became part of a more mature company, they felt that there was both an incentive and a capability supporting them in obtaining and carrying out more sophisticated work. They felt that they could draw on the vendors’ CMM-5 certified methodologies to make more persuasive arguments about their needs and be heard by Global Bank’s onshore managers:

Before, mainly it was application support. As we grew and developed more business knowledge, different projects started coming in – migration, testing. ...Once we moved to [the vendor], there was more aggressive...
growth, more aggressive targets, and much more learning than before. ... Before, you were waiting for projects to come. Now, you have to proactively look for providing better solutions and propose more. It was never done earlier. [Indian ODC, Delivery Manager]

All in all, the evidence suggests that the lack of the organizational boundary had a marginal influence (through easy access to sensitive data and systems) on the establishment of joint identities and practices necessary for effective collaboration. Moreover, creative challenging and dialogue that characterizes effective collaboration either took or did not take place irrespective of the presence of the boundary.

The Country Context

I found limited evidence suggesting that sourcing projects to Russia enabled more effective collaboration than sourcing projects to India. While Russian providers and some U.S.-based respondents believed that such differences existed, their perceptions are better understood if we consider the differences between the two settings in more detail as summarized in Table 2.

| Table 2. Country Context Differences in 2005 (from the case data) |
|-----------------|-----------------|-----------------|-----------------|
|                 | India           | Russia          |
| Staff Education | Mostly with Bachelor’s degrees from diverse colleges | Mostly with Master’s degrees from top Russian universities and institutes |
| Staff Work Experience | Over 50% with less than 3 years of experience | Less than 15% with less than 3 years of experience |
| Staff Turnover | About 20% | Less than 10% |
| Staff Experience in Financial Services | Many managers with 5+ years of experience in financial services industry in the West | Hardly any experience with financial services industry before Global Bank’s engagement |
| Average Salaries | $9,000 Annually (technical lead) | $18,000 Annually (technical lead) |
| Speed of Hiring New People | 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/Offshore Presence | Started with at least 20% onshore developers (used to be even higher percentage during dotcom times) | Started with hardly any onshore developers until the end of 2005 (need to save costs given higher salaries) |
| Provider’s Experience | Vendors started working for financial services industry in mid 90s or earlier. | Most vendors and captives new to the financial services industry. |
| Company Sizes | Most vendors over 20,000 people | Handful of large vendors (1,000 people) |

These factors influenced the kind of work that was sourced to each location but not necessarily whether effective collaboration was achieved. For example, Russian providers tended to get very little COBOL maintenance work as compared to the Indian vendors. They were unable and uninterested in hiring a large number of people with COBOL skills, as such people were not readily available in Russia and people with these skills would have had a hard time fitting with the organizational culture of Global Bank’s Russian providers. Thus, most of the work that was done in Russia was new development or support of newer platforms, which required a higher degree of collaboration on projects. At the same time, two of the four Indian providers involved in the study were able to offer Global Bank an almost ready-to-deploy application (“solution”) that addressed Global Bank’s business needs. These solutions were developed by the vendors working with other clients in the banking industry. They were developed on modern platforms, and their deployment clearly relied on the intellectual and creative input from the vendor. Finally, some of the complex new development work with poorly specified requirements, which in theory could have gone to the Russian providers, ended up in India, either because it was related to the work that Indian providers were already doing for the bank in the maintenance area or because the Russian providers could not hire the required number of
people within a reasonable timeframe. Thus, Global Bank’s employees had to learn how to effectively collaborate with Indian providers to accomplish their work.

Most participants believed that they were able to collaborate effectively in both settings. For example, on a new application development project where a legacy platform was replaced by a Java-based application, Global Bank involved the services of a multinational vendor with facilities in India. The vendor choice was made because the vendor was doing some nearshore work in the same business area. On this Indian project, both the client’s and the vendor’s employees believed that they openly shared ideas and provided feedback to each other. The project was rolled out on time and deployed successfully at the bank:

*We had direct access to business users. I asked for it and it was imperative for the success of this project. ... Also we gave up the idea of exact requirement definition. Instead we used a “wiki” to keep documenting requirement changes on both sides. ... 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* [Global Vendor Delivery Manager, India].

The main challenge on this project, according to the head of the client’s team, was to get Indian providers to openly share their ideas with their U.S.-based counterparts. It also helped matters that the manager in charge of the project on the Indian side had years of experience in the West in the financial services industry and could engage in discussing business requirements. Finally, bringing in Indian onshore coordinators for temporary assignments in the U.S. helped both with knowledge transfer and with building a joint understanding.

When a project sourced to India failed to achieve effective collaboration, among the reasons given by the clients’ managers were: the lack of technical and business knowledge among Indian programmers (who were often too junior), the national culture that discouraged question asking and challenging, and the excessive hierarchical structure of Indian vendors:

*At the end of the day, in India they are very hierarchical. The labor market is hot in Bangalore. They want to be promoted in 10-12 months. Who can learn complex stuff in 10-12 months? 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. This is one aspect that we found made it hard to cooperate with them. ... Another aspect was the “make sure you cover your ass” attitude – you are not the one to be blamed if something goes wrong. If you work on something that is innovative, this [attitude] is a waste. You want it in the open and discuss it. ... There are elements that have less to do with offshoring, but more with working with the Asian environment. The same comment goes for our bank associates in Singapore, for example* [Western Program Manager].

In Russia, an ability to achieve effective collaboration was often attributed to the quality of Russian programmers who eventually won the respect of their onshore counterparts as technical experts. This respect occasionally spilled over into the business-related domains (as in the story relayed by the Russian technical architect above). At the same time, effective collaboration was often impeded in Russia due to the lack of business knowledge among Russian managers and technical professionals. Several managers reported that Global Bank’s Russian developers are still unable to fully understand what the “client” wants from them, not to mention making creative suggestions:

*I have this business analyst working with [the Russian provider]. 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].

Another significant issue in working with the Russian providers was that, unlike Indian providers, they were much more forthcoming with ideas and suggestions but less willing to accept their onshore counterparts’ decision not to follow such suggestions, even when good reasons were given. This problem exhibited itself when developers whose suggestions were declined would go ahead and implement their ideas anyway, jeopardizing project deadlines. Interestingly, both within the captive unit and in the third-party ODC, managers would try to “mediate” such behavior through micromanagement of deliverables. If this failed, the “unmanageable” employee was asked to leave.
Overall there were different reasons why Russian and Indian developers were or were not able to achieve effective collaboration, yet in both settings such collaboration was eventually achieved on some projects. Next, I will discuss the factors that did make a large difference in achieving effective collaboration.

**Practices Leading to Effective Collaboration**

One consistent finding in the data is that effective collaboration in all of the settings depended critically on certain Global Bank managers in onshore locations who were able to engage others in an effective global work production. Interviews conducted among offshore providers often pointed out that it was such managers, and not necessarily offshore providers’ own organizational capabilities or talent, that made ISD projects successful. They often referred to them as “great people to work with” or “true visionaries of the offshore potential.” These managers typically had an official title of “IT Director” at Global Bank. They reported directly to the divisional CIOs and had six to 12 project managers under their supervision. Their combined onshore and offshore staff ranged from 50 to 100 people. They were often referred to as “Program Managers” and had accountability to the bank’s business directors for the IT work they delivered. Most notably, the sourcing practices at the bank were such that program managers had a decent degree of freedom in choosing their offshore providers (they were the ones who issued RFPs and decided on the final provider choice). Thus, these managers had both the authority required to motivate the providers and the responsibility for the project’s success.

In talking to these managers and to their offshore counterparts and comparing what they said to what managers on projects that did not go so well said, I was able to identify the following practices that they engaged in to facilitate global collaboration:

1. **Treating service providers as equals and teaching others to do the same.** There was a great degree of humility in the way these program managers talked about their offshore providers. They often praised their offshore partners’ work ethics (“They work day and night to learn our business.”), technical capabilities (“Frankly, I could not get people of this caliber to work in mere technical developer positions in the U.S.”), and even managerial skills (“Sergey is a brilliant manager and Alex is a brilliant technical leader. They both have close to photographic memory.”). Moreover, they put special effort into explaining to their project managers onshore that this is how they should treat their offshore counterparts. In particular, they emphasized that when the project has problems, both parties should reflect on what is going on and avoid assigning blame.

   "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 managers and I have gone through a lot to make sure that it does not occur. If it occurs, you are shot 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. These guys will sit offshore and expect to be spoon-fed. It is not the kind of work they want and not the kind of people we want [Global Bank Project Manager working with multiple vendors in India]."

   My interviews with project managers who were effective in facilitating collaboration on specific projects under these program managers showed similar attitudes.

   "Let’s put it this way, if the relationship is supposed to be a partnership between [the vendor] and us, it is pretty rare that if we [US and Russian developers] are late with something it is solely the fault of [the vendor]. [Global Bank Project Manager working with the Russian ODC]."

2. **Teaching providers business domain understanding and Global Bank’s development practices.** With rare exceptions, offshoring new projects at Global Bank required teaching providers a great deal about financial services business, both in general and at Global Bank in particular. It was up to these program managers to ensure that such teaching took place. Often this involved a lot of travel to offshore locations, spending weeks at a time in seminars that gave an overview of the business domain. On occasion the managers brought in offshore staff onshore on a rotational basis to facilitate this process, but this involved risk that, once returned back offshore, the rotational staff would not be effective in educating others.
Here is the story of the program manager who launched the Russian captive branch. He first investigated the availability of providers with the required knowledge in the financial services domain offshore and concluded that none of them had the domain knowledge necessary to deliver the complex and strategic trading application that he had in mind. He then convinced the CIO to pilot a captive unit in Russia, arguing that if a small pilot did not work out, a more traditional approach with an Indian provider would be taken. The Russian providers did not have the required scale or capabilities at the time to source the project. With the CIO’s support and with a lot of skepticism on behalf of other directors at the bank, he launched the pilot project. He and another manager at the bank went to Russia and spent a few months hiring developers and local managers and teaching them about financial services. Within six months, they were able to deliver a successful complex (but small) application with just six developers. Subsequent development was given a green light, and the program manager started forcing his project managers to source their work to Moscow.

In Russia, you hire people with good education from universities or other companies, but they know nothing about the equities business. Then you start going there and teaching them and giving lectures. You get them to do things, but they are making mistakes. It is a learning curve. It gets easier later, once you get the critical body of knowledge in the organization. It then becomes easier to onboard people into this process. If you have 20 people and you hire 2, they learn by osmosis. If you have 6 and hire 6, you have to go there to teach. The physical proximity and accessibility [of Moscow] became a key factor in people’s willingness to go there because you go there essentially educating, lecturing and then you do your normal Moscow stuff like restaurants, cafes, etc. So I had three traders, senior IT people, senior business people all just coming to Moscow because it was a lovely environment. Even the COO [the head of all CIOs at the bank, reporting directly to the CEO] went and was blown away.

[Global Banks’ Program Manager]

Over the three years since the captive unit’s launch, other program managers who used the facilities engaged in extensive travel to teach their partners the domain knowledge during project launch periods, as well as teaching them Western software development practices:

I go there every quarter. … Initially, I kind of acted as an advisor to [Moscow captive’s leaders] helping them to set up a development shop. They travel here. We travel there. We had many conversations over the years. Examples of some best practices are: we do nightly builds [of software], the way you organize code in libraries, the importance of automated testing – what I consider the basics of setting a development organization, which I have experience with. … I often teach them about Microsoft’s software development practices which are described in the IT press [another Global Bank’s Program Manager working with the Russian captive].

This kind of investment allowed Russian developers to challenge their Western counterparts when they saw a better technical or functional solution.

3. Facilitating frequent travel in both directions. Besides the need for frequent travel to enable teaching and learning across two locations, there were other reasons why it was important to keep face-to-face contacts. For example, a project manager in India commented that she felt that her program managers’ frequent trips were key to keeping her team dedicated to the client:

We deliver on schedule once committed to business. We don’t like to move the deadline because we do not want to embarrass our program manager with the business users. … We are currently in the partnership mode. We have good transparency. … [Our program manager] is giving all the right signals. He comes here [quarterly], he knows all the members of the group. … He understands what we are doing. He knows our realities here. Most of his team is here. … He rewards people individually. … We had no attrition among project managers in the last few years and almost no attrition, period. This is primarily due to the team bonding and spirit on our project [of about 100 people]. [Indian ODC, Delivery Manager]

Everybody emphasized the importance of forming informal social relations through personal visits (Carmel and Tjia 2005)

The critical success factor was that I brought my guys [Russian vendor’s employees] here for extended periods of time from two months to a year. … I’ve also been there at least three times [in a year and a half]. … The last time I went, we had a new analyst. … We also brought one of our business users over. I was there to facilitate that as well. I do not want to say that the whole thing was a “good will”
mission because it is oversimplifying, but it was not a specific task. ... It really matters that you can see people’s eyes and take them out to dinner. ... If we were not in a position where we would go over there a couple of times a year or they did not come here, we would be in far worse shape. [Global Bank’s Project Manager working with a Russian ODC].

Also, the onshore visits of offshore developers helped offshore developers understand the business pressures that their onshore counterparts were facing from business users. Moreover, many visits to both sides were crucial at the end of projects, when developers worked side by side to put the final touches on the application. Participants valued the opportunity to communicate frequently and work together without time zone differences and the need to rely on email or telephone.

4. Using technology to create and share boundary objects. Program managers and other participants also introduced the creative use of technical tools on projects that enabled the co-creation of shared design diagrams, pieces of code, schedules, and other boundary objects (Star 1989). For example, one program manager pioneered the U.S. use of wikis for keeping track of project issues and priorities. The offshore developers were very excited about this technology because its use allowed certain transparency in the onshore work that was often hidden from them. Other program managers used Source Forge (a code management tool) for regular code synchronization (Ramesh and Dennis 2002). Like the open source development practices where Source Forge is widely used, at Global Bank, this software allowed offshore developers to practice some independence in their work while staying synchronized with their partners. Other technology was used to facilitate a personal touch:

We are very big on personal contacts. First, it is travel, but it is also technology. We use EviStar [computer videoconferences], we use wikis, Global Groupware, billboards, etc. A lot of times with Russia, the language is not so great. They would rather write things down. So, we also use lots of chats and Instant Messaging. [Global Bank’s Program Manager].

Thus the U.S. use of electronic communication and repositories helped further empower offshore developers to express their ideas and to engage in creative challenging.

5. Evangelizing the success of the offshore initiative and off-shoring increasingly more challenging work. It was important that program managers not only succeeded in their own endeavors but also engaged in publicizing their success.

There was a lot of twisting people’s arms into working with Moscow. But then they were like my grandmother they saw that the medicine worked [Global Banks’ Program Manager working with the Russian Captive].

Such practices improved offshore staff motivation to do their best on projects. Moreover, such practices provided avenues for growth to offshore staff by encouraging more projects to come to the given provider. It is well known that a chief motivator for many IT professionals is the availability of challenging work tasks (Agarwal and Ferratt 2001). For IT managers, a key motivation is often the opportunity to climb the career ladder. Moreover, in both India and Russia, participants reported that career success is marked by the ability to be promoted every few years, with most successful professionals expecting to be project managers (or senior architects) by the age of 30. Thus, effective program managers also made sure that their offshore providers were receiving new and challenging projects as much as possible.

6. Teaching offshore vendors to voice their opinions and to understand why they are not always followed. As earlier quotes indicate, Russian and Indian IT professionals had different attitudes toward voicing their opinions and engaging in creating challenging. Program managers tried to create a culture of psychological safety (Edmondson 1999), asking Indian providers to voice their opinions and provide input as noted in the quote above. The situation was often the opposite in Russia, where program managers had a hard time with Russian developers who insisted on their ways of doing things:

We had to let go of one person on the project. He was a bright guy and knew a lot about technology, but he was not very pragmatic. He ended up over-designing things. Adequacy was never sufficient. Sometimes you just have to get the solution out. Things change so rapidly that it is more important to meet immediate needs. He had difficult time with that. [Global Bank Project Manager working with the Russian ODC].

The staff that remained was typically characterized as good collaborators:
The [leading] individuals that we ended up hiring [in Moscow] were two of the most bright, brilliant, and objective people that I have ever met. We never had problems with them unreasonably insisting on their opinions. [Global Bank Program Manager working with the Russian captive].

This list of practices is not exhaustive, but it appears that the practices worked in unison to facilitate effective collaboration on offshored ISD projects conducted in either India or Russia, in-house or outsourced.

Discussion

The case study reveals an interesting phenomenon concerning achieving effective collaboration on globally sourced IT projects. Unlike the theoretical predisposition towards greater collaboration effectiveness within firm boundaries, the study revealed no such pattern. In fact, “extended organizational forms” (Aron and Singh 2005) realized through long-term close relationships with offshore suppliers were quite indistinguishable from the U.S. use of captive centers with regard to enabling collaboration. Moreover, integration of activities within firm boundaries was no guarantee of effective collaboration (Grandori and Kogut 2002): collaboration problems among development teams exhibit themselves inside organizational boundaries as well.

The data reveals how institutionalized boundaries separating countries and organizations were re-negotiated through work practices on specific projects (Levina and Vaast 2005). In some cases, they were re-enforced. In others, they were transformed through the creation of a new boundary around the project team on both sides of the Atlantic. This boundary united project participants in pursuit of joint stakes such as “building the best trading platform out there.” It also separated project participants from others in their organizations or countries. “Working for Global Bank” became a descriptor used by offshore developers to distinguish themselves positively from other developers in their countries. Similarly “working with Russia” or “doing innovative work in India” became a positive descriptor inside Global Bank. Thus, people took on new identities within project teams, which made them more like their counterparts. Eventually, shared “team” identities and the sense of “we” emerged on some projects. Overall effective collaboration was facilitated through the creation of new joint fields of practice, which united agents in joint pursuits and also separated them from others (Levina and Vaast 2005).

The six practices listed above helped in building new joint fields. Levina and Vaast (2005) discussed the crucial role of boundary spanners-in-practice and boundary objects-in-use in facilitating the development of new joint fields. Certain middle managers at the bank became such boundary spanners-in-practices, while others, who were nominated to play such roles, did not. According to Levina and Vaast (2005), new joint fields are characterized by joint interests and practices. Boundary spanners-in-practice helped develop joint interests and practices by teaching project participants to respect their counterparts (Practice #1), sharing business knowledge with offshore staff (Practice #2), building interpersonal ties and enabling learning of tacit skills through face-to-face contact (Practice #3), facilitating the creation and wide adoption of boundary objects-in-use (Practice #4), and evangelizing project success (Practice #5). For example, shared practices were created by teaching providers about the bank’s requirements for quality and compliance and orchestrating the same set of code check processes on both sides. Finally, within the new joint fields, Practice #6 was used for engaging offshore providers in creative challenging and creating a climate of respect for such challenging among onshore staff.

Conclusions and Implications

The findings of this case study puts in question IT sourcing policies that emphasize the need for internal sourcing of “high-end” projects with complex and vague requirements (Nam et al. 1996). These projects could be successfully sourced externally, even when they are targeted at innovative collaborative outcomes. In making sourcing decisions, sourcing managers should consider other factors. At Global Bank, the managers considered such factors as a) internal versus vendors’ ability to attract qualified people who would have enough expertise to engage in creative challenging; b) vendor’s existing business knowledge; c) internal managers’ willingness to engage in teaching internal offshore staff versus vendor’s staff, and d) the possibility for a financial value creation in a captive business unit or joint venture with an eye for a future spin-off (as was the case with Global Bank’s Indian captive, which later became a third party vendor’s ODC). Future research should investigate whether sourcing practices at other firms are similar to that of the Global Bank and whether collaborative outcomes are achieved irrespective of institutionalized organizational boundary.
In terms of project location, there is no question that the two countries examined had a great degree of difference in their culture, economic situation, and geographical position, as indicated in Table 2. Moreover, the maturity and size of vendors in each country differed significantly. At the same time, cultural stereotypes only exhibited themselves when the individuals in question insisted on maintaining them rather than creating a collaborative culture and identity on projects (Walsham 2002). The U.S. use of derogatory phrases like “Indian-style development” came more from the developers and managers in Russia and people working with them in the West than from the people working directly with Indian providers. Also, the stereotypes were reinforced by a handful of managers who had negative experiences with providers in a particular country. Among the managers who worked with both countries and among those who had established effective collaboration on their projects even within a single country, the prevailing sentiment was that the key to geography selection is not a country’s culture but “where we can get good people and keep them.”

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 through efforts of dedicated mid- to senior-level 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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