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Abstract:

Global outsourcing of IT and IT-enabled services (ITES) has now become an accepted corporate strategy of a vast majority of firms around the world. The functions being offshored have increased in scope and magnitude and have climbed the value chain ladder. However, the literature has overwhelmingly focused on client-centric issues to the neglect of vendor concerns. There is a rich tradition of ranking critical issues confronting Information Systems executives, and some studies have even explored critical issues of outsourcing clients. These rankings have significant implications for both researchers and practitioners. Our study focuses on the nascent area of IT outsourcing vendors. We examine the issues from the standpoint of IT outsourcing vendors in India, currently the primary destination for IT offshoring. The results suggest that for the Indian vendors, the most critical issues are not related to cultural, language, and time-zone differences as suggested in many writings. Rather, the most critical concerns are issues dealing with work arrangements and relationships with the client, and issues related to the client's organizational readiness for offshoring. Clearly the understanding of such issues is important to the vendors, but also to the clients in order to maintain an effective dyadic relationship.

Keywords: off-shoring, organization, success, empirical, survey, international

I. INTRODUCTION

The outsourcing of Information Technology (IT) functions to far-away countries has become important components of IT strategy for firms in the developed world, including the U.S., Japan, and many Western European countries. The phenomenon has now extended to IT-enabled services (ITES), also called business process outsourcing (BPO). Increasingly, IT activities which were once performed in-house are now outsourced to offshore vendors who are specialists in some phases of IT, such as programming, help-desk operations, and data center operations [King, 2007]. Simultaneously, vendors are "moving up the value chain" to offer ever-more-sophisticated services.

Offshore outsourcing exemplifies the essence of true globalization, with services being provided where they can be most efficiently and effectively produced and delivered at the time and place where they are most needed and valued. Offshoring of both IT and ITES has reached new heights and continues to climb. According to the Global Insight report, by 2008, IT offshoring had accounted for roughly $125 billion in additional U.S. GDP annually, a $9 billion jump in real U.S. exports and a net increase of 317,000 jobs. By 2015, the amount is expected to increase to $250 billion. A McKinsey and NASSCOM (India-based: National Association of Software and Service Companies) study estimated that the Information Technology and enterprise solutions (ITES) market in India had reached $142 billion in 2009. This estimate contrasts with the price tag of $532 billion to provide these services in the United States. The difference of $390 billion is the net savings due to offshoring, which cannot be scoffed at. By 2015, Forrester Research estimates that as many as 3.3 million U.S. jobs and $136 billion in wages could be moved to such countries as India, China, and Russia.

In the past decade, much has been written in the academic and practitioner literature about the factors that lead to successful results in offshoring arrangements; however, most work is from the *client's* perspective [Dibbern et al., 2004; Carmel and Agarwal, 2002; Lacity and Willcocks 1998). Ilie and Parikh [2004] conducted an extensive literature survey of outsourcing based on 118 articles from 1991 to 2003 published in nineteen IS journals, including *Management Information Systems Quarterly*, *Journal of MIS*, and *Information Systems Research*. While they traced many findings related to the client group, they noted the limitation that most studies have focused on the client rather than vendor perspectives. Given the paucity of such research, our focus is on the vendor perspective, and we specifically examine critical issues of IT vendors from India. It is well-established that India is the primary destination for IT offshoring contracts, capturing more than 85 percent of the market.

Note that since the early 1980s, many studies have been conducted by both academic researchers and industry groups to determine critical issues confronting IS managers in the U.S. and other parts of the world. Such studies help practitioners in allocating scarce resources to competing IT priorities and help researchers in identifying promising lines of research. In a similar vein, we expect our research to accomplish the same for the IT offshoring industry.

II. LITERATURE REVIEW

While there are no systematic studies of critical issues of offshore vendors, we review a few that are related.

Oza and Palvia [2007] identified critical success factors for effectively managing offshore software outsourcing relationships. The critical success factors common to both clients and vendors are managing constant communication, having in place a structured process-driven approach, doing appropriate resource allocations, and managing outsourcing projects' expectations. Additional critical success factors identified by clients are spending time together by visits to each other's sites and making regular payments. Vendors also identified these other factors as important—cooperation, transparency, consistency, and proactive stance.

EFunds corporation [Beath and Ross, 2005], the third largest BPO provider in 2005 based in India, specializes in financial services, retail, and telecommunication industries. It offers financial services, customer services, and transaction intensive applications. As reported in the article, it focused on honing four distinctive competencies (i.e., critical success factors): robust IT support, business process expertise, unique customer qualification methodology, nurturing customer strength by promoting BPO.

Jennex and Adelakun [2003] conducted an exploratory analysis of success factors of small to medium organizations providing offshore software development to companies in the United States. However, they included vendors from the United States as well as from outside. Their mix of offshore vendors represented many countries and did not

Communications of the Association for Information Systems

focus on any particular country, such as India. The critical success factors (CSFs) that they identified included workers' skills, client knowledge, and trust in the client-vendor relationship.

There is related literature on vendors, some of which is reviewed here. As Ilie and Parikh [2004] reported, the overwhelming majority of literature focuses on large-client and large-vendor companies. A recent issue of *MIS Quarterly* [2008, issue 2] was devoted entirely to the issues and challenges of offshoring. In this issue, Vlaar et al. [2008] focused on how members of onsite and offshore IS development vendor teams give, make, demand, and break sense. Olsson et al. [2008] investigated two-stage software development offshoring as experienced by the Irish sites of two large global companies headquartered in the U.S. Ramasubbu et al. [2008] emphasized the importance of learning from structured software processes in improving offshore software development performance. There is very little literature on small clients and small vendors. Jennex and Adelakun [2003] found that the critical success factors for small- to medium-sized outsourcing vendors are workers' skills, client knowledge, trust in the client-vendor relationship, telecommunications, and intellectual property protection. Al-Qirim [2003] identified the pattern of IT and EC outsourcing issues of SMEs in New Zealand. According to Murthy [2007], many off-shore niche small size providers are highly qualified to meet the demand of small clients, but do not have the reach or the budget to market their services. Gefen and Carmel [2008] analyzed the entire history of transactions at an online offshoring programming marketplace for small IT projects. The study by Agerfalk and Fitzerald [2008] focuses on how small and medium-sized companies can avail themselves of the global sourcing phenomenon by being part of the Open Source Sourcing community.

While not in the outsourcing or offshoring context, Luftman and Kempaiah's [2007] study on business-IT alignment within a firm provides valuable insights into the client-vendor relationship. They described six interrelated capabilities to achieve alignment: communications, value, governance, partnership, scope and architecture of IT, and skills. The vendor issues identified in this study are generally consistent with these concerns. The commonality lies in the fact that the external vendors take on many of the same IT activities that were previously in the domain of the internal IT department. The difference lies in the fact that in the offshoring context, the external vendors are in a contractual relationship as opposed to being an integral part of the client organization.

III. RESEARCH METHODOLOGY

Critical Issues Instrument

The mainstream Information Systems literature has a long history of eliciting critical issues, called "key IS issues" studies dating back to the early 1980s [Ball and Harris, 1982; Dickson et al., 1984]. In the past few years, Luftman and his colleagues have conducted several studies on key IS issues and published in the *MIS Quarterly Executive* [e.g., Luftman and Ben-Zvi, 2010]. At the time of the conduct of this research and to the best of our knowledge, no such compiled lists were available for IT vendor issues. Nevertheless, several critical issues are listed in the outsourcing literature, which informed our study and provided items for our instrument. Note that many of the issues came from the context of client, given the dominance of such studies. Because of the paucity of research in vendor issues, several Indian vendors were contacted to elicit more issues and to comment on the ones we had from the literature. Some new issues came directly from the vendors; thus our compilation is well-grounded in field experiences as well as the extant literature. After pretesting with professional colleagues, the instrument included a total of twenty-one issues as shown in Table 1. We offer the following support from the literature for many of the issues.

Lack of communication with the client is cited by Rottman and Lacity [2006] as part of workforce risk. Kern and Willcocks [2000] suggest issues such as communication and exchange of information as critical in managing client/vendor relationships. Brereton's [2004] study on software supply chain indicates that willingness to share information transparently is critical for successful client-vendor relationships. Cramton and Webber [2005] suggest lack of informal interpersonal communications as a challenge in globally distributed teams. Oza and Palvia [2007] found that maintaining constant communication with clients by the vendors was one of the two most important critical success factors. The communication aspect is further exacerbated by the availability of multiple communication channels, such as e-mail, phone, Internet chat, video chat, Web interface, and face-to-face, and their appropriate use depending on the context. Cramton and Webber [2005] point out to the loss of communication richness and Espinosa et al. [2007] suggest the use of leaner communications media as the challenges facing globally distributed teams. Luftman and Kempaiah [2007] cite the importance of communication of ideas, knowledge, and information between business and IT in order to understand mutual strategies and plans.

Attrition of vendor or client staff is an important issue in the literature. For example, Rottman and Lacity [2006] have cited supplier–employee turnover and burnout as part of workforce risk. Lewin and Peeters [2006] refer to weakening employee morale and employee turnover in offshore service center as perceived risks of offshoring. The cross-fertilization of client and vendor employees is important as well. In this regard, Oza and Palvia [2007] found

that vendors perceived client presence on vendor site as critical to success of offshoring projects. In the same study, clients identified bringing some individuals from the vendors' side to their own site as a critical success factor. Under the "skills" component, Luftman and Kempaiah [2007] underscore human resource issues such as the importance of hiring, retention, training, and developing the skills of individuals.

Table 1: The Critical Issues Instrument	
Issue	Description
1.	Lack of communication with the client during critical phases of designing the processes.
2.	Gathering data to make a compelling proposal to the client.
3.	Availability of experts on the client's processes (or systems) during knowledge transfer.
4.	Attrition of our company's staff by the client before completion of knowledge transfer.
5.	Lack of documentation of client's existing processes (or systems).
6.	Unclear communication channels with the client.
7.	Reaching agreement with the client on the ROI (Return on Investment).
8.	Lack of involvement from the client's top management team.
9.	Attrition of the client staff before completion of knowledge transfer.
10.	Poorly designed network infrastructure at our own offshore site.
11.	Client's readiness to reengineer process before outsourcing.
12.	Unclear roles and responsibilities of the client's employees.
13.	Legal and regulatory concerns.
14.	Resistance from client's employees to outsourcing.
15.	Client's short-term objective focused only on cost savings (rather than long-term benefits).
16.	Inadequate staffing at the client end.
17.	Poorly designed network infrastructure at the client site.
18.	Language differences between our employees and the client's employees.
19.	Time differences between our country and the client's country.
20.	Organizational culture differences between our company and the client.
21.	National culture differences between our country and the client's country.

Reaching agreement with the client on return on investment can be considered as a subset of Expectations Management. Oza and Palvia [2007] consider this aspect as challenging and difficult—vendors report that both clients and vendor should know what they will get from an outsourcing project and all expectations should be clearly specified and mutually agreed to. This is a challenging governance issue in offshoring engagements.

Typically*, poorly designed network infrastructure* at the vendor site is a concern for the clients. For example, Lewis and Peeters [2006] mention infrastructure instability in the host country as a perceived risk of offshoring. However, some of our vendor participants pointed out that they are concerned not only about their own network infrastructure but also about the infrastructure at the client site because of compatibility issues. A flexible IT infrastructure is an important concern for most organizations in order to accommodate business process changes [Luftman and Kempaiah, 2007].

Another issue of importance is *resistance from client's employees*. Willcocks and Lacity [2006] describe "backlash from internal IT staff" as an offshore outsourcing risk. Lewin and Peetrs [2006] found "lack of client acceptance" as a perceived risk of offshoring. In addition, they found another employee-related risk of offshoring—weakening employee morale.

Several studies point to specific risks related to international barriers. These include *legal and regulatory concerns, language differences, time zone differences*, and *cultural issues*. For example, Willcocks and Lacity [2006] include legal risk as one of six risks, the other five being business, political, workforce, social, and logistical. Language barriers are frequently cited in the offshoring literature, for example by Sarker and Sahay [2003]. Difficulties and challenges in working across time zones have been recognized as outsourcing risks by Lee-Kelly and Sankey [2008] and Willcocks and Lacity [2006]. Culture differences as well as holiday and religious calendar differences were cited by Willcocks and Lacity [2006]. Lee-Kelly and Sankey [2008] describe specific cultural challenges in global teams such as different conversation styles and different subjective interpretations.

The study by Oshri, Kotlarsky and Willcocks [2007] found eight practices that TCS (Tata Consultancy Services) uses to manage dispersed expertise. Embedded in these practices are many of the critical issues included in our instrument. Two practices focus on knowledge transfer and knowledge retention; these are captured by the instrument items related to *documentation of existing process* and *readiness to reengineer processes*. The practices related to expertise development and retention have close ties to instrument items on *availability of experts*, *attrition*, and *roles and responsibilities of employees*.

The Survey

As per the objectives of this study, IS vendors in India were surveyed. The "vendor firm" is the unit of analysis. IS vendors are defined as companies located in India that develop, maintain, and/or support IS functions and/or services to overseas clients.

Questionnaires were pre-tested with colleagues and graduate students. They were further pilot tested with select vendors from India before the full administration of the survey. Only minor changes were required as a result of these tests. In the questionnaire, each issue was to be rated on a 10-point Likert scale, where 1 represented "not important" and 10 represented "critically important."

Several options were considered for the data collection effort from the Indian vendors: snail-mail questionnaire, telephone interview, personal interview, e-mail questionnaire, and posting the questionnaire on a website. All options have pros and cons in terms of response rate, completeness of responses, reliability of responses, and time taken to achieve the desired response rate. Due to various priorities and authors' schedules, we wished to complete the data collection in no more than two months. Realizing the limitations of the five options listed above, and to overcome the geographical distance, cultural disparity, and cognitive distance [Mahanke et al., 2008] of collecting data from India, an innovative approach of offshoring the data collection effort to an Indian vendor was utilized. A reliable vendor known to one of the co-authors based on a long-term relationship with its CEO was selected after receiving a response to the following e-mail message.

> *Can your company in India help administer a questionnaire regarding Value Proposition for Indian Outsourcing Vendors? We need a minimum of 100 valid responses within 2 months. … The steps involved will be as follows: (1) direct the attention of a vendor respondent (CEO or his designee) to the survey website to fill out the attached questionnaire. (2) If the respondent does not want to fill out the questionnaire in this manner, then it can be downloaded and filled out by hand or one of your staff members can download and fill out the questionnaire based on answers provided over the telephone.*

A memorandum of understanding (MOU), including project cost, was reached within six days of initiating the enquiry. Careful instructions and specific guidelines were provided to assure quality as well as completeness of the responses. The vendor assigned a project manager in India who was in constant communication with the authors and provided periodic updates. Total resources used in this project over a two-month period were three full-time research associates and one part-time person supervised by an experienced team leader and the project manager. All questions were handled by e-mail on a 24/7 basis. After signing the MOU, progress was as follows: 6, 28, 62, 77, 102, 110 responses were received in 25, 31, 41, 45, 49, and 54 days respectively. A total of 700 companies were contacted resulting in valid responses from 110 companies, thus providing a 16 percent response rate. Ten more responses were obtained by one of the co-authors through his contacts. This made a sample size of 120 responses.

IV. ANALYSES AND RESULTS

Four sets of analyses were conducted: (1) sample characteristics, (2) overall issues rankings, (3) categorizing the issues using factor analysis, and (4) issues rankings segmented by key sample characteristics.

Sample Characteristics

The median number of total vendor employees was 235, and the median number of IT employees was 110, with an average of 501,138 billable hours per year and an average of eight years of outsourcing experience. The median sales were US $4 million, and the median income was US $1.45 million. Members of senior management were targeted for the study, as shown in Table 2.

Among the 119 vendors that reported headquarter countries, most companies (eighty-five) were headquartered in India, several were headquartered elsewhere, including twenty-nine in the U.S. (Table 3). Forty four were headquartered in Mumbai (previously known as Bombay) and thirteen in Bangalore.

In terms of the IS services provided by these vendors, the four most frequently provided services are consulting/training (101 or 84.2 percent), application/systems development (79 or 65.8 percent), application/systems maintenance (62 or 51.7 percent), and application/systems integration (59 or 49.2 percent) respectively (Table 4).

Interestingly, among the 120 Indian vendors, more than half (63 or 52.5 percent) either did not have CMM certification or did not report one. Equally interesting is that as many as 27 (22.5 percent) have reached CMM level 5 certification (Table 5). The Capability Maturity Model (CMM) [Paulk et al.,1993] developed by the Software Engineering Institute at Carnegie Mellon University has become a worldwide standard and has provided an objective basis for measuring progress and quality in software engineering and for comparing service providers. The goal is to

make the software development process more transparent to clients and help them explore objectively service providers in offshore destinations. CMM levels range from 1 (lowest) to 5 representing the best software development practices. India now has far more CMM Level 5 companies than any other country in the world.

Table 2: Respondent Profile		
Role	Frequency	Percent
Top Management (CEO/President/MD)	7	10%
Middle Management (VP/Director)	21	29%
Manager (IT, Functional)	32	42%
Project Manager	14	19%
Total Reported	74	100%
Not reported	46	
TOTAL	120	

Table 3: Vendor Headquarter Country		
Vendor HQ country	Frequency	Percent
India	85	71.4
US	29	24.4
UK	2	1.7
France	1	0.8
Australia	1	0.8
Canada	1	0.8
Total reporting	119	100.0

Table 4: Type of Vendor Services*		
Vendor Service	Frequency	Percent
Consulting/training	101	84.2
Application/system development	79	65.8
Application/systems maintenance	62	51.7
Application/systems integration	59	49.2
Technical staffing	53	44.2
Package software implementation	50	41.7
End-user support (e.g., help desks)	42	35.0
Customer service (call) center	32	26.7
Systems operations	23	19.2
Others	15	12.5
*Note: A vendor may provide multiple types of services. The percent is based on the total of 120 companies		

Table 5: Vendor CMM Level		
Vendor CMM Level	Frequency	Percent
5	27	22.5
4	11	9.2
3	14	11.7
2	3	2.5
1	2	1.7
No CMM or not reported	63	52.5

In terms of client country distribution, Table 6 shows that most of the clients were from the U.S. (94 or 78.3 percent), and UK had the second most (12 or 10 percent). Most of the clients are in the finance/banking/investment industry, with IT and software industry being second, and manufacturing third. The median annual sales of the client are US $10 million.

Also captured was the duration of the relationship of the vendor with its primary client. As shown in Table 7, for the 119 companies that reported the age of vendor-client relationship, the mean was five years and the median was slightly higher at 5.22 years.

Table 6: Client Country (n = 120)					
Client Country	Frequency	Percentage	Client Country	Frequency	Percentage
U.S.	94	78.3	Taiwan	1	0.8
UK	12	10.0	New Zealand	1	0.8
India	4	3.3	Singapore	1	0.8
Germany	2	1.7	UAE	1	0.8
Australia	2	1.7	Malaysia	1	0.8
Saudi Arab	1	0.8	Japan	1	0.8
Turkey	1	0.8	Other	2	1.6
Dubai	1	0.8			

Table 7: Vendor-Client Relationship Duration		
Number of Years	Frequency	Percentage
<= 2	26	21.8
3–5	53	44.5
6–8	12	10.1
9–11	28	23.5

Overall Issues Rankings

The overall rankings of the twenty-one critical issues based on all respondents are shown in Table 8. The top ten critical issues reveal a common theme that deals with the core issues of client-vendor working relationship or arrangements. The Indian IS vendors have strong concerns when the needed information, documentation, or expertise from the client side become hard to obtain or are unavailable. Furthermore, these concerns may not be easily ameliorated if the communications or communication channels are not clearly established and the top management involvement from the client side is lacking. Among the top ten most critical issues, only the tenth one is related to the vendor's inadequate network infrastructure. The next seven critical issues, after the top ten, are related to client's internal readiness with the offshore arrangement. The Indian vendors have strong concerns when their client's short-term objectives are to cut costs and if the client's IT functions are not streamlined with their business processes. The situation can become even more difficult when the client's employees are not clear about their roles and responsibilities when working with the vendors. The last four issues deal with the typical offshore issues such as time zone differences, culture differences and languages. While these issues were not considered as critical or compelling, the academic and popular literature tends to dwell on these [e.g., Alami et al., 2008].

Factor Analysis

The above categorization of critical issues seems to suggest three groupings: client relationships and working arrangements, client capability and readiness, and culture and time barriers. In order to confirm these groupings, a factor analysis with varimax rotation was carried out on the twenty-one issues. The results of the factor analysis are reported in Table 9. There is strong support for the three-factor structure, with some minor exceptions. These three clusters of issues can be labeled as:

- Client relationships and working arrangements (factor 1)

- Client capability and readiness (factor 2)

- Culture, language and time zone barriers (factor 3)

Issues Rankings Based on Key Vendor Characteristics

To further examine how the rankings of the critical issues differ based on key vendor characteristics, the sample was segmented by the following characteristics: vendor size, vendor CMM level, vendor outsourcing experience, vendor relationship duration with the client, and the client's country. As shown in different columns in Tables 10 and 11, these factors have notable effects on the criticality of the issues facing the Indian IS vendors. We point out major differences among the rankings between sample subgroups.

The number of employees was used to represent vendor size. The sample was divided into two halves above and below the median size of 235 employees. The top two critical issues for the two groups are very similar, but smaller vendors consider the availability of experts on the client's processes during knowledge transfer as more critical than larger vendors. Smaller vendors also view the lack of client's top management involvement as more critical than the larger vendors. According to the smaller vendors, their clients' objectives are more focused on cost savings compared to the clients of large vendors; and the difference is also statistically significant. The larger vendors deem the attrition of the vendors' staff by the client before completion of knowledge transfer to be more critical than smaller vendors do.

Rank	Description of Issue	Mean	s.d.
**Table 8: Overall Ranking of the Critical Issues Based on All Respondents**			
1	Lack of communication with the client during critical phases of designing the processes.	6.73	2.71
2	Gathering data to make a compelling proposal to the client.	6.72	2.19
3	Availability of experts on the client's processes (or systems) during knowledge transfer.	6.53	2.28
4	Attrition of our company's staff by the client before completion of knowledge transfer.	6.47	2.49
5	Lack of documentation of client's existing processes (or systems).	6.40	2.54
6	Unclear communication channels with the client.	6.38	2.60
7	Reaching agreement with the client on the ROI (Return on Investment).	6.30	2.26
8	Lack of involvement from the client's top management team.	6.19	2.50
9	Attrition of the client staff before completion of knowledge transfer.	6.13	2.47
10	Poorly designed network infrastructure at our own offshore site.	5.98	2.81
11	Client's readiness to reengineer process before outsourcing.	5.97	2.26
12	Unclear roles and responsibilities of the client's employees.	5.93	2.46
13	Legal and regulatory concerns.	5.81	2.89
14	Resistance from client's employees to outsourcing.	5.69	2.61
15	Client's short term objective focused only on cost savings (rather than long-term benefits).	5.53	2.19
16	Inadequate staffing at the client end.	5.44	2.53
17	Poorly designed network infrastructure at the client site.	5.43	2.61
18	Language differences between our employees and the client's employees.	5.02	2.67
19	Time differences between our country and the client's country.	4.83	2.71
20	Organizational culture differences between our company and the client.	4.53	2.34
21	National culture differences between our country and the client's country.	4.42	2.50

Table 9: Factor Analysis Results of the Critical Issues

Description of Issue	Factor1	Factor2	Factor3
Lack of communication with the client during critical phases of designing the processes.	0.7742		
Lack of involvement from the client's top management team.	0.7460		
Poorly designed network infrastructure at our own offshore site.	0.7205		
Gathering data to make a compelling proposal to the client.	0.6923		
Lack of documentation of client's existing processes (or systems).	0.6734		
Attrition of our company's staff by the client before completion of knowledge transfer.	0.6733		
Unclear communication channels with the client.	0.5713	0.5577	
Attrition of the client staff before completion of knowledge transfer.	0.4733	0.4366	
Reaching agreement with the client on the ROI (Return on Investment).	0.4204		
Availability of experts on the client's processes (or systems) during knowledge transfer.		0.6992	
Legal and regulatory concerns.		0.6599	
Client's readiness to reengineer process before outsourcing.		0.6529	
Inadequate staffing at the client end.		0.6032	
Unclear roles and responsibilities of the client's employees.		0.5841	
Poorly designed network infrastructure at the client site.	0.4970	0.5326	
Client's short term objective focused only on cost savings (rather than long-term benefits).		0.4464	
National culture differences between our country and the client's country.			0.8420
Organizational culture differences between our company and the client.			0.8100
Time differences between our country and the client's country.			0.7426
Language differences between our employees and the client's employees.			0.6529
Resistance from client's employees to outsourcing.	0.4297		0.5785

Table 10: Ranking of Critical Issues by Vendor Characteristics* Size and CMM Level				
	Vendor Size		CMM Level	
Description of Issue	Small n = 46	Large n = 46	1–3 n = 19	4–5 n = 38
Lack of communication with the client during critical phases of designing the processes.	2	1	4	1
Gathering data to make a compelling proposal to the client.	1	2	5	3
Availability of experts on the client's processes (or systems) during knowledge transfer.	3	6	10	4
Attrition of our company's staff by the client before completion of knowledge transfer.	10	5	2	5
Lack of documentation of client's existing processes (or systems).	4	3	1	8
Unclear communication channels with the client.	6	4	13	7
Reaching agreement with the client on the ROI (Return on Investment).	8	7	7	2
Lack of involvement from the client's top management team.	5	10	3	9
Attrition of the client staff before completion of knowledge transfer.	11	9	6	12
Poorly designed network infrastructure at our own offshore site.	12	8	11	10
Client's readiness to reengineer process before outsourcing.	7	13	8	11
Unclear roles and responsibilities of the client's employees.	9	12	9	13
Legal and regulatory concerns.	13	15	14	17
Resistance from client's employees to outsourcing.	16	11	17	6
Client's short term objective focused only on cost savings (rather than long-term benefits).	14	17	16	14
Inadequate staffing at the client end.	15	14	12	18
Poorly designed network infrastructure at the client site.	17	16	15	16
Language differences between our employees and the client's employees.	19	18	18	15
Time differences between our country and the client's country.	18	20	19	19
Organizational culture differences between our company and the client.	20	19	20	21
National culture differences between our country and the client's country.	21	21	21	20
Note: * The effective sample size is reduced in each case to account for missing data in either of the subgroups.				

Receiving CMM certification is considered a major investment by many IS vendors. Fifty-seven vendors in our sample have obtained various levels of CMM certifications. Among these fifty-seven vendors, group 1 represents vendors who have received CMM 1 to CMM 3 levels, and group 2 represents vendors who have obtained CMM levels 4 or 5. Typically these two groups are associated with low-to-medium and high levels of process maturity, respectively [Paulk et al., 1993]. Many differences were found using CMM as a comparing criterion. For example, IS vendors with CMM levels 4 or 5 view the lack of communication with the client during the critical phases of designing the processes, reaching agreement with the client on the ROI (Return on Investment) and gathering data to make a compelling proposal to the client as the three most critical issues; in other words they emphasize many of the process issues. Vendors with CMM 1 to 3 levels consider the lack of documentation of client's existing processes (or systems), attrition of our company's staff by the client before completion of knowledge transfer and lack of involvement from the client's top management team as the three most critical issues. Interestingly, these two groups share no common issues among their top three critical issues.

For analyzing the effect of vendor outsourcing experience, vendors were split into two groups using five years as the dividing line. Group one had fifty vendors with less than or equal to five years of experience and group two has fifty-two vendors with more than five years of experience. Although the first two top critical issues remain similar between these two groups, vendors with more outsourcing experience consider the action of the client to prematurely remove a vendor's staff as more critical while vendors with less outsourcing experience consider the lack of documentation of client's existing processes as more critical. Furthermore, vendors with less outsourcing experience view the lack of top management's involvement from the clients as more critical than their counterparts. The less experienced vendors regard cultural differences more critical than the experienced vendors, and the difference is statistically significant. Apparently, the experienced vendors have devised strategies and processes to address the cultural disparities. Many Indian vendors have long-term relationships with their clients. About half of the vendors that were surveyed have more than five years of relationship with some of their clients. Vendors having less duration with their

Table 11: More Ranking of Critical Issues by Vendor Characteristics* Experience, Duration of Relationship, and Client Country						
	Experience		Duration of Relationship		Client Country	
Description of Issue	<= 5yr n = 50	> 5yr n = 52	<= 5yr n = 57	> 5yr n = 63	USA n = 94	Others n = 26
Lack of communication with the client during critical phases of designing the processes	1	2	1	3	1	3
Gathering data to make a compelling proposal to the client	3	1	4	1	2	2
Availability of experts on the client's processes (or systems) during knowledge transfer	4	4	7	2	3	6
Attrition of our company's staff by the client before completion of knowledge transfer	9	3	2	4	7	1
Lack of documentation of client's existing processes (or systems)	2	7	3	7	4	12
Unclear communication channels with the client	8	6	5	6	6	4
Reaching agreement with the client on the ROI (Return on Investment)	10	5	9	5	5	10
Lack of involvement from the client's top management team	5	9	6	11	8	8
Attrition of the client staff before completion of knowledge transfer	6	14	10	9	10	5
Poorly designed network infrastructure at our own offshore site	7	12	8	13	11	11
Client's readiness to reengineer process before outsourcing	11	8	11	12	9	13
Unclear roles and responsibilities of the client's employees	13	10	12	10	12	9
Legal and regulatory concerns	12	15	16	8	13	14
Resistance from client's employees to outsourcing	14	13	13	14	15	7
Client's short term objective focused only on cost savings (rather than long-term benefits)	17	11	14	15	14	18
Inadequate staffing at the client end	15	17	17	16	17	15
Poorly designed network infrastructure at the client site	16	16	15	17	16	17
Language differences between our employees and the client's employees	19	18	18	18	18	16
Time differences between our country and the client's country	18	20	19	19	19	21
Organizational culture differences between our company and the client	21	19	20	21	20	19
National culture differences between our country and the client's country	20	21	21	20	21	20
* The effective sample size is reduced in each case to account for missing data in either of the subgroups.						

clients view lack of communication with the client during the critical phases of designing the processes as most critical while vendors having longer relationship with their clients believe that gathering data to make a compelling proposal to the client is most critical. Furthermore, vendors with shorter relationship consider the lack of involvement from the client's top management team significantly more critical than their counterparts. The majority of the clients (78 percent) for the Indian vendors are from the U.S., and 22 percent are from other countries. The most significant observation is that the vendors of U.S. clients perceive reaching an agreement on ROI (Return on Investment) as more critical than vendors with non-U.S. clients. This finding may be related to the short-term and cultural orientation of the U.S. based companies [Hofstede,1991]. Furthermore, Indian vendors with U.S. based clients believe that the lack of communication with the client during the critical phases of designing the processes and lack of documentation of client's existing processes are more critical; vendors with clients from other countries view attrition of vendor's staff by the client before completion of knowledge transfer as most critical.

V. DISCUSSION

This study conducted an in-depth examination of the critical issues facing IS vendors, something which is lacking in the literature. We captured these issues from India, the primary destination of IT outsourcing for almost two decades. Twenty-one issues were developed to investigate their degree of criticality among IS vendors. Our findings suggest that the most critical issues are not related to cultural, language, and time zone differences as publicized by the popular press; rather, the most critical concerns IS vendors experienced can be categorized as issues dealing with relationships and work arrangements with the client and issues related to the client's organizational readiness for offshoring IS activities. There are three levels of issues critical to Indian vendors. The pyramid in Figure 1 aptly represents the nature of the vendor issues and their relative importance.
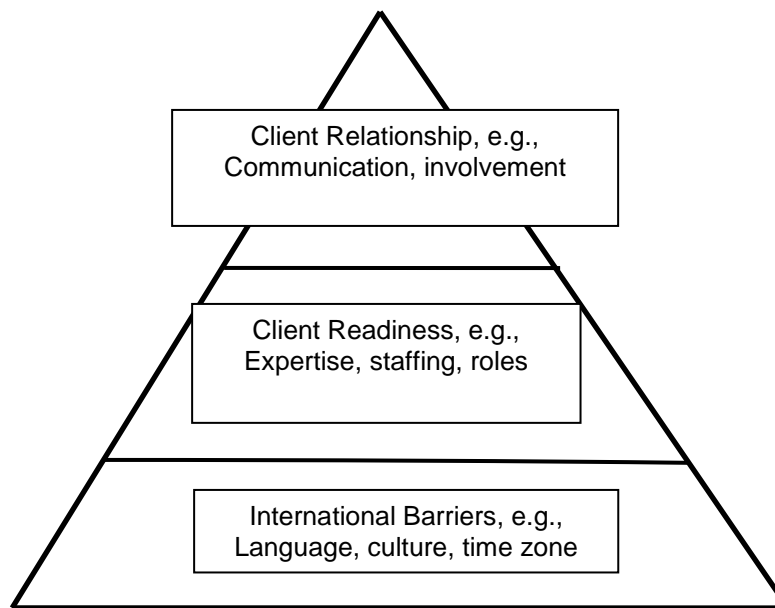
Figure 1. Relative Importance of Critical Vendor Issues

Client Relationship (Most Important)

First, the quality of client relationship is most important to the vendors. Several authors have emphasized the importance of shared goals and relationship quality for a successful outsourcing engagement [Levina and Ross, 2003; Lee, 2001]. Relationship and partnership behavior between the vendor and the client are characterized by integrative interactions and cooperation by Grover et al. [1996]. In their study, partnership was composed of such dimensions as communication, trust, and cooperation. Lee and Kim [1999] in their comprehensive analysis examined the components of partnership quality, its antecedents and its impact on outsourcing success. As reflective measures of partnership, they included trust, business understanding, benefit and risk sharing, conflict, and commitment. Given the strategic and long-term relationship between the vendor and the client, the metaphor "*outsourcing is similar to marriage*" has been used by many to describe outsourcing relationships [e.g., Goles and Chin , 2005]. In fact, the association between partnership quality and performance has been empirically verified in previous studies, e.g., on the client side by Grover et al. [1996] and Lee and Kim [1999], and on the vendor side by Palvia et al. [2010].

The importance of communication with the client was emphasized by many vendor executives in their qualitative comments. One executive said:

Lack of clear unambiguous communication / improper communications (incorrect assumptions on both client as well as ours) with client at time of designing process, in our experience has resulted in incorrect deliverables which has had a cascading effect on the entire project leading to costly rework—both in terms of actual effects on costs—time taken to deliver product.

Another manager made the following observation about the role of senior management in developing a successful partnership:

Lack of senior leadership support/sponsorship can be devastating for offshoring. It's by far the most critical element to ensure successful offshoring. This perhaps is a cliché but communication is vital for offshoring since it cuts across language/culture barriers. It's better to have every action documented than assume anything.

It is worth noting that several of the relationships issues listed above are either directly related to offshoring governance or can be ameliorated by having proper governance structures in place, e.g., delineating the role of top management and explicitly defining communication channels.

Client Readiness (Next in Importance)

Second, the vendors view the readiness and the capabilities of the client important for their own success. If the client is not genuinely interested and committed to the outsourcing contract, the vendor would feel crippled and would not be able to deliver the promised level of software and service. Among the concerns related to the client are the client's level of staffing, clear delineation of roles and responsibilities, good business understanding, and having their processes in order. It appears that the vendor's performance is dependent on the client's preparedness, and success is a two-way street. It is interesting to note that the literature is quick to point out the vendors' shortcomings [e.g., Murthy, 2007; Jennex and Adelakun, 2003], but it rarely examines where the client may be deficient.

The following comment by one of the responding managers captures the importance of this dimension:

I have observed project deadline gets directly affected due to lack of trained professionals or lack of skilled professionals and infrastructure setup, like Internet, communication network (VOIP or conferencing tools). I strongly believe communication and skilled workers are two critical factors for project success. If you have these things in control, you can manage any deadline and slips.

Another manager expressed the frustration as:

Client's culture of communication process and standards are different than ours. For example, it is difficult to find out the proficiency level of the client's contact person we are dealing with, and they mind if we over-explain or under-explain the issues.

Culture, Language, and Time Zone Barriers (Least Important)

The cultural, language, and time barriers are listed last by the vendors, but apparently they feel that they can address these issues adequately as long as they are able to work effectively with competent and capable clients. In case of India vendors and client countries (90 percent are from U.S. and UK), English language is definitely not an issue. Cultural differences cannot be insurmountable since these three countries have similar political and legal/judicial regimes. Communication difficulties with respect to time zone differences can be mitigated by taking advantage of "follow-the-sun" productivity enhancements and "overlap window" synchronous communications.

An example of how language and culture issues are addressed by leadership and communication is expressed in the following comment by a manager:

Lack of senior leadership support/sponsorship can be devastating for offshoring. It's by far the most critical element to ensure successful offshoring. This perhaps is a cliché but communication is vital for offshoring since it cuts across language/culture barriers. It's better to have every action documented then assume anything.

Other Observations

Another important finding is that almost all of the vendor critical issues are externally oriented. They either refer to the relationships with the client, client readiness, or barriers due to culture or time zone. It appears that vendors seem to think that they have good control over internal factors, such as human resources, process quality, and technological capability. This perception of vendors is suspect or at least one-sided, since clients feel the same way about vendors in previous literature [Iacovou and Nakatsu, 2008; Murthy, 2007], citing lack of vendors' lack of business knowledge and technical know-how.

Our findings reveal that when analyzing these issues by vendor's outsourcing experience, vendor size, CMM level, relationship duration, and the client's country, there are several differences. For example, large vendors with more outsourcing experience and longer relationship with their clients seem to have many different concerns than vendors who are smaller and have less outsourcing experience and shorter relationships with their clients. As a case in point, small vendors are more worried because their clients are too focused on cost savings. In the same vein, vendors with higher CMM levels do not share the same concerns with vendors who are large or more experienced. Vendors with lower CMM certificates seem to be more concerned about the lack of documentation of clients' existing processes, attrition of the client staff before completion of knowledge transfer, and lack of involvement from the client's top management team. Lack of communication with the client, unclear communication channels, availability of experts on the client's processes, and reaching agreement with the client on the ROI are of much higher importance to vendors with high CMM level than those with low CMM level. Clearly, vendors with higher CMM levels can address the readiness and competence issues but are more concerned about relationship and governance challenges. On the other hand, vendors with low CMM level are more dependent on the clients for documentation and expertise. Should the CMM level of a vendor affect the building strategies of the client firm? CMM serves more as a necessary basis for process structure and discipline and may not be appropriate for processes involving

unstructured work such as strategic engagements. To the extent that the work required by the client firm is structured, CMM level should be taken into account for appropriate building strategies.

The less-experienced vendors are more affected by cultural differences, apparently because they have not developed coping strategies. Vendors whose clients are U.S.-based also have different critical issues than vendors whose clients are not U.S.-based. While vendors who have U.S.-based clients are concerned about return on investment, communication, and process documentation issues; vendors who have non-U.S.-based clients are concerned whether their clients may prematurely release vendor's staff.

We did not explicitly focus on the type of outsourcing engagement in our study, i.e., strategic, tactical, or operational, Nonetheless, it is conceivable that this factor will have significant implications for the type of client-vendor affiliation and the governance utilized. We anticipate that a strategic engagement will have a greater need for the "relationship" aspects of the engagement than the "readiness" component. Anecdotally, one manager observed:

> In custom development, it is important for the customer to be involved in the entire process. Sometimes, customers tend to switch off during critical phases only to wake up and complain vigorously during the later parts of the project. It is difficult to get the customer to be involved right through—this hampers communication.

It is noteworthy that many of the vendor issues identified in our study are consistent with issues related to IT-business alignment [Luftman and Kempaiah, 2007]. In other words, many of the general principles in IT management also apply to the offshoring context. Reiterating, issues such as communications and client's top management involvement were expected as per the general IT literature. However, our findings also revealed a few surprises. For example, gathering data to make a compelling proposal, attrition of vendor staff by the client, and lack of documentation of clients' existing processes are some of the most critical concerns Indian vendors have faced. These issues have generally not appeared in previous studies. On the other hand, the commonly cited concerns for offshore outsourcing expressed by the popular press and textbooks, such as language barriers, time differences, and cultural clashes, are not considered critical from the vendor's perspective. The only technology barrier listed as moderately important was the network infrastructure. We expect that technology barriers will become even less consequential, especially with the emergence of technologies such as robust networks and cloud computing.

While not within the scope of this article, several best practices have emerged to address the issues discussed above. For example, Lacity and Willcocks [2009] recommend several best practices. To address communication challenges, they recommend that businesses cross-examine, or even replace vendor's employees, to overcome cultural communication barriers and let the project team members meet face-to-face to foster camaraderie. For infrastructural risks, they recommend the use of secure information links and redundant lines. They also recommend hiring a legal expert to mitigate legal risks. Regarding ROI, they recommend the explicit consideration of transaction costs over and beyond production costs. To be able to retain subject matter experts on both sides of outsourcing, they recommend developing meaningful career paths. In order to facilitate knowledge transfer, the blog "Offshore Outsourcing Best Practices" advocates the development of several documents, including a design document, coding guidelines, problem and resolution options, installation instructions, and architectural documents [Blog-1, August 23, 2007].

An Emergent Theory

Examining the three-level model shown in Figure 2 and interpreting the critical issues in the context of the various contingency factors, there appears to be a hierarchical *four-stage* theory emerging for offshoring IS vendor performance. We outline the basic elements of the theory here; it should be the subject of further exploration and verification in subsequent research. As none of the internal factors were deemed critical, the first stage is *developing capability* whereby the vendor needs to align its resources and capabilities (human resources, process quality, and technological capability) adequately for the initial offshore IS projects. Given that the less-experienced vendors face cultural barriers, in the second stage, *coping with barriers*, the vendor needs to have appropriate strategies, tactics, and tools in place to cope with various barriers in an offshoring relationship, e.g., culture, distance, and time zone barriers. Once these barriers have been crossed, the vendor has the necessary wherewithal to build long-term relationships with offshore clients. Then in the third stage, *assessing client readiness*, the vendors need to assess the competence level and readiness of their clients and develop effective strategies to meet their requirements. Finally, in the fourth and final stage, *building partnership,* the vendor can perform optimally by developing an effective partnership relationship with the client, based on trust, communication, and cooperation. These four stages are shown in Figure 2.
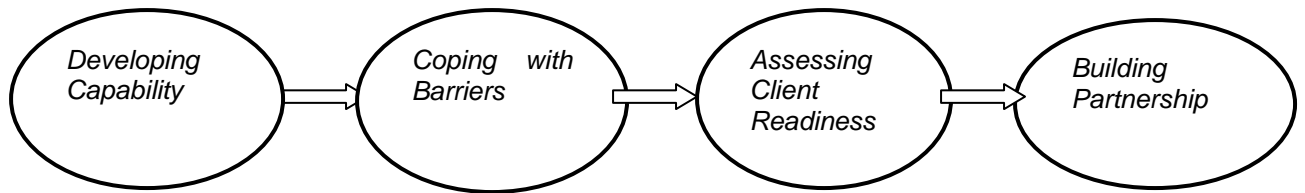
Figure 2. Emergent Four Stage Theory for Offshore Vendor Evolution

VI. LIMITATIONS

As for the limitations of the study, the issues common to the survey methodology apply, e.g., sample size and representativeness. Although the sample could not be randomized because of the obvious difficulties in doing so, we achieved representation from different types of vendors (by location, size, expertise, and client-base). While the sample size is fairly large for an overall assessment, it becomes a concern when segmenting the sample by different contingency factors, as we have done in this study. Thus, we recommend focusing more on the overall results and exercising caution in interpreting the segmented results. Furthermore, the sample is made up of mostly large- and some medium-size vendors. Therefore, the results need to be applied carefully to small and start-up vendors. Furthermore, it should be noted that our respondents were senior managers, not just CEOs; thus they represent the collective views of the senior management of the vendor. Another limitation is the vendor survival bias. Only those vendors are in the sample who have survived since start-up and are generally successful. It would be insightful to find out what factors led to the demise of companies which could not survive in the global offshoring market. Also we are not making any claims on the relationship of the highlighted issues with any metrics related to the success of the outsourcing engagement, although it will be interesting to investigate the relationship in future research. Finally, an important criterion that may distinguish vendor issues is the type of outsourcing engagement, i.e., strategic, tactical, or operational. This is something we did not address explicitly, but which should be included as a moderating variable in future research.

This study focused exclusively on the vendors, given the paucity of such research. Client issues have been examined frequently in the literature, as alluded to earlier in the article. Nevertheless, an investigation of client and vendor concerns on a common set of issues and using a common methodology would reveal interesting insights and point to gaps and commonalities between them.

VII. IMPLICATIONS FOR RESEARCH AND PRACTICE

These results have important implications for researchers. While much work has been done to examine the various aspects of outsourcing and offshoring, most of the contemporary research has focused on the client's perspective. In order to enhance our understanding of the critical problems that cause outsourcing and offshoring engagements to succeed or fail, it is crucial to study both the clients' and the vendors' perspectives and concerns. Our study serves as a starting point to develop frameworks and theories that address the critical issues that IS offshoring vendors are confronted with.

The issues ranking results provide much needed guidance to researchers in choosing research problems that are relevant and timely. While it is still necessary to understand the basic barriers caused by culture, language, and time zones, researchers need to draw topics related to improving client-vendor relationships, particularly in areas concerning agreements, ongoing communications, data gathering, and sharing in critical phases of system and service lifecycles. One promising direction is to anchor this stream of research to the strategic alignment maturity model of Luftman [2000]. While this model was developed in the context of the internal organization, it can be modified to address the relationship between the client and the vendor [Gilin, 2009]. Needing further exploration are the preparedness of the vendor and the client to initiate and carry out offshoring engagement, as they are crucial to the client-vendor relationship and ultimately to the success of the offshore engagements. Capability readiness in terms of the technology infrastructure and staffing are important readiness factors that researchers should investigate. Additionally, organizational factors such as clients' readiness to reengineer business processes, clear roles, and goals of clients' employees in the offshoring engagements, resolving legal and regulatory challenges, and employee resistance to offshoring are important success factors that have not been fully studied in the literature. Our issue rankings by vendor characteristics suggest that one size does not fit all. Researchers must take into consideration important contingency factors such as vendor size, location, CMM level, outsourcing experience, and vendor-client relationship history. There might also exist relationships between the various critical issues or the three categories of critical issues identified in this research. In fact, an argument can be made that cultural and physical barriers may impede the development of the client-vendor relationship or at least influence the nature of the relationship, and may be a worthwhile investigation.

Earlier, we listed several limitations of our study. Future research can overcome these and advance our line of research directly. For example, the type of engagement (i.e., strategic, tactical, or operational) can be used as a moderating variable to further hone the nature of the vendor issues. Metrics may be captured for the outsourcing engagement to provide greater focus and depth in the understanding of the issues. Another line of inquiry is to investigate the depth of issues based on the CMM level (although we made some preliminary observations). An insightful exploration will be the interaction between CMM level and the type of sourcing engagement. Finally, an investigation of client and vendor concerns on a common set of issues using a common methodology would reveal interesting insights and point to gaps and commonalities among their perspectives.

Our results have important implications for practitioners as well, particularly CEOs and CIOs of offshore vendor companies. In a recent article by Luftman and Ben-Zvi [2010], globalization was ranked tenth among U.S. organizations in 2010 (up from fifteenth in 2009); it was ranked first in Asia/Australia and fifteenth in Europe. The implication is that global IT outsourcing has become an irreversible phenomenon in almost every market and economy today in some way, shape, or form. In this context, our research is very timely. While outsourcing and offshoring have been much discussed in the literature, both vendors and clients have had mixed experiences. Our discussions with executives suggest that successful engagements cannot be achieved without understanding and attending the needs of both the clients and the vendors. Many engagements were doomed to fail because there was a lack of mutual understanding and agreement on the needs and goals of both sides to begin with. The client's readiness to start the offshoring engagements is an important condition for setting up the necessary foundation for successful offshoring. The vendor management must make every effort, either explicitly or implicitly, to assess client strengths and weaknesses and take appropriate measures. Once the relationship starts, the vendor and the client both must invest in and maintain effective mechanisms to nurture ongoing communications and resolve conflicts. While the culture, language, and time zone differences are barriers that both must address, overcoming these differences has become a necessity. They are necessary, but not sufficient and differentiating, factors. What differentiates successful offshoring engagements from those that fail are the abilities of the vendors and the clients to reach mutual understanding and develop win-win partnerships. This requires taking time and effort to build readiness and, more importantly, the ongoing effort to nurture and sustain the ongoing relationship, development of proper levels of communication, and effective resolution of issues as they surface. By providing a prioritized list, our results help companies to be aware of the critical issues and attend to and invest appropriate resources to address them in a timely manner. For example, smaller vendors, compared to the larger ones, should give more importance to the availability of experts on the client's processes during knowledge transfer, client's top management involvement, and cost savings for the clients. Further, since critical issues differ between experienced and inexperienced vendors, we recommend that the smaller and inexperienced vendors learn from the established vendors through some form of knowledge transfer channels, e.g., by way of participation in industry conferences, seminars, and workshops.

Note that our research is cast largely in the context of offshoring and is focused on the Indian vendors. In the context of outsourcing to onshore or near-shore vendors, we conjecture that several of the twenty-one issues will still be important. However, some factors will have reduced or no impact. In the case of onshore outsourcing within the U.S. or U.K., language will cease to be an issue; cultural differences will be significantly less and, as such, their impact will be much less; and time zone differences will still exist, but with a much reduced impact (after all, there are four time zones within the contiguous U.S.). It should be noted that time zones may be irrelevant in some offshore outsourcing situations as well, e.g., a U.S. client outsourcing to a vendor in Argentina or Brazil. Of course, issues related to movement of people and face-to-face interactions (e.g., during knowledge sharing and transfer) between the client country and vendor country would assume less criticality in onshore and near-shore engagements.

VIII. CONCLUSIONS

Past IS outsourcing research has focused on client concerns and has largely neglected vendor issues. This study focuses exclusively on IS vendors from India and elicits their areas of critical concern. The results suggest that for the Indian vendors, the most critical issues are not related to cultural, language, and time zone differences, as the popular press seems to suggest. Rather, the most critical concerns IS vendors experience are issues dealing with work arrangements and relationships with the client and issues related to the client's organizational readiness for offshoring. Past studies [Iacovou and Nakatsu, 2008; Oza and Palvia, 2007] have shown that client issues are concerned with such issues as vendor capabilities, cost effectiveness, managing change, training issues, security threats, culture and distance barriers, and managing failure of outsourcing. Clearly, there are differences between client and vendor concerns. Any theories or recommendations that reflect on offshoring or outsourcing performance must, of necessity, include both perspectives in this dyadic affiliation; otherwise they will be incomplete and inadequate.

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Editor's Note: The following reference list contains hyperlinks to World Wide Web pages. Readers who have the ability to access the Web directly from their word processor or are reading the article on the Web, can gain direct access to these linked references. Readers are warned, however, that:

1. These links existed as of the date of publication but are not guaranteed to be working thereafter.
2. The contents of Web pages may change over time. Where version information is provided in the References, different versions may not contain the information or the conclusions referenced.
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