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Biswadip Ghosh, Ph.D.
Computer Information Systems Metropolitan State College of Denver, bghosh@mscd.edu

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Biswadip Ghosh, Ph.D.
Assistant Professor
Computer Information Systems
Metropolitan State College of Denver
bghosh@mscd.edu

ABSTRACT

Many organizations are pursuing knowledge process outsourcing (KPO) to offshore locations. Successful KPO requires developing robust inter organizational knowledge management capabilities (KMC). However, "organizational gaps" that originate from (i) structural differences between the client and vendor's operating procedures and (ii) cultural differences in the cultural proclivity of the individual workers can hinder building this KMC. To close these gaps and build robust KMC, effective organizational practices are needed that build social capital. Using a field study of a set of knowledge intensive support processes that were outsourced by an US based client to an Indian vendor, this research finds the benefits of building social capital in the form of norms, trust and identity among the workers in the organization through three types of organizational practices –bridging, bonding and linking. These practices helped reduce the organizational gaps and created social capital that was found to increase KMC.

Keywords

Knowledge Process Outsourcing, Social Capital Theory, Knowledge Management Capability, Bonding, Bridging, Linking.

INTRODUCTION

Outsourcing that involves high-end knowledge work is known as knowledge process outsourcing (KPO). What differentiates knowledge processes from ordinary business processes are the need for advanced capabilities and skills to exploit the knowledge inherent in the process (Currie, Mitchel and Abanishe, 2008). KPO[1] areas include sophisticated work such as research and development, education and training, systems and network design and consulting (Gupta, 2009). In offshore KPO, the vendor organization is located in a different country (e.g. India), from the client organization (e.g. USA) that is seeking to outsource. Currie, et al. (2008) describe knowledge based work as consisting of unstructured inputs, judgment and selection and the production of often original outputs. Such "low modularity" knowledge based processes require the development of bi–directional knowledge management capabilities (KMC) over time and the application of the same (Tanriverdi, Konana and Ge, 2007). Specifically, product design knowledge may reside on the client side, while local customer and infrastructure knowledge may reside with the vendor. Knowledge exchanges may be needed for several situations, such as – (1) learning to understand the complexity and interdependency of various support scenarios – ie, becoming fully mindful of the undocumented "ripple effect" of various technical approaches or (2) enhancing the client worker's understanding of the offshore infrastructure and customer environment. Cha, Pingry and Thatcher (2008) found that the outsourcing of knowledge intensive work requires an underlying knowledge supply chain between the client and vendor without which overall costs can rise particularly in the long term when the knowledge transfer between the client and vendor is disrupted.   While current research finds the need to build robust inter-organizational KMC in KPO arrangements, yet the phenomena remains unexplored in Information Systems (IS) literature.

Developing KMC is particularly challenging in inter-organizational arrangements due to several factors such as limited interactions and relationships between the company personnel that cause a lack of common team identity, norms, language and trust (Aron and Singh, 2005; Carmel and Tjia, 2005). Additionally, the structural characteristics of the organizations

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[1] A recent KPMG study reported that the global KPO market is expected to grow at a compounded annual growth rate (CAGR) of 45 percent and exceed $17 billion by 2010

such as their work related practices, how systems are used and the type/nature of knowledge to be shared as well as cultural differences in the workers can make knowledge management more difficult across client and vendor organizations in offshore KPO scenarios (Argote, 1999; Inkpen and Tsang, 2005; Hofstede, Neuijen, Ohayv and Sanders, 1990; Ko, Kirsch and King, 2005). While various IT solutions can facilitate the sharing of explicit knowledge between firms (Hislop, 2002). However tacit knowledge cannot be easily decoupled from the social environment in which it is developed, therefore its sharing must account for its socially situated nature by building relationships among the workers in the inter-organizational setting (Hansen, Nohria and Tierney, 1999). In these scenarios, organizational practices and technology can help build inter-organizational KMC. As such, various social and relational exchange theories and contract theories have been utilized to investigate outsourcing relationships between the client and vendor (Dibbern, Goles, Hirschheim and Jayatilaka., 2004), but not in the KPO domain.

Social capital theory (SCT) is centrally concerned with the significance of relationships and its effect on organizations (Nahapiet and Ghoshal, 1998). The concept of social capital comprises 3 dimensions - structural, relational, and cognitive Several IS researchers have utilized SCT to study inter-organizational knowledge management systems (Kankanhali, Tan and Wie, 2005; Wasko and Faraj, 2005). Research has found a high correlation between social capital and knowledge sharing in organizations (Yang, Lee and Kurnia 2009). Yet a study applying SCT to KPO relationships has not been attempted although it holds promise for explaining the ambivalent KPO outcomes witnessed thus far. Certain organizational practices have been found to be effective in building social capital for remote and/or collocated teams (Larsson, 2007; Prusak and Cohen, 2001). Published research categorizes these practices into 3 types – bonding, where individuals are brought together to build better understanding of each other, (2) bridging, where avenues are established to allow workers to cross organizational boundaries, and (3) linking, where work activities are aligned to allow joint work (Baum and Ziersch, 2003; Ghosh and Scott, 2009; Kowch, 2005; Schmid, 2000). Therefore a study that evaluates these three classes of practices and their effect in building social capital and KMC in a offshore KPO arrangement is well motivated. Such a study can contribute to advancing the IS research literature in inter-organizational KMC as well as developing a new understanding of SCT.

Research Goals

The goals of this research are to:

(1) Determine if building social capital (SC) among the client and vendor teams in an offshore outsourcing arrangement increases inter-organizational KMC.

(2) Identify organizational practices (bonding, bridging and linking) that can build SC, increase KMC and reduce the organizational gaps in a KPO.

The paper is organized as follows. First, an overview of the theoretical background is developed and the conceptual framework is illustrated in Figure 1. The research model and hypotheses are presented in the next section, followed by the data collection methodology, data analysis and results. The final section presents the implications of our findings for future research and practice, and concluding remarks.

THEORETICAL BACKGROUND

Organizational Gaps

In offshore KPO arrangements between US client and Indian vendor firms, "*organizational gaps*" exist from (i) structural differences between the two firms' operating procedures and (ii) cultural differences among the individual workers (Aron and Singh, 2005; Ghosh and Scott, 2006). Structural level differences in the organizations can be due to: (1) work practices being process oriented or result oriented, (2) employee oriented versus job oriented, (3) parochial versus professional, (4) open systems versus closed communications climate, (5) loose control versus tight control and (6) rule oriented versus customer oriented (Hofstede, et.al., 1990). Further at the level of individual knowledge workers, there are cultural differences. Indian cultural norms remain very different from US cultural norms, particularly in the dimensions of power distance and individualism (Hofstede, 2008). Power distance is the extent to which the less powerful members of the organization accept and expect that power is distributed unequally. Individualism refers to how weak an employee's loyalty is towards the work group. Indian culture is significantly higher in power distance and significantly lower in individualism compared to US culture.

Social Capital

Social Capital Theory (SCT) has been proposed in many different terms. Nahapiet and Ghoshal (1998) describe social capital as the "*organizational advantage*". Social capital comprises a set of values, norms and informal sanctions that are shared among members through interactions that permit them to cooperate with each other (Nahapiet and Ghoshal, 1998). In summary, social capital theory is concerned with the significance of relationships as a resource for individual action. SCT is often contrasted with transaction cost theory that is based on human opportunism, while SCT is based on personal relationships developed through collective action. Social capital comprises both the network and the assets that may be mobilized through that network. Social capital has three dimensions – structural dimension, which refers to the network of interactions, relational embeddedness dimension, which refers to the history of interactions among the people and how it influences their behavior and the cognitive dimension, which refers to those resources that provide shared meaning among parties. Kankanhalli, et. al. (2005) have operationalized SCT to model the contextual factors that help facilitate knowledge contributions to electronic knowledge repositories (EKR). They found that social capital theory can be applied to explain the behavior of resources embedded in inter-organizational environments such as networks of practice, where norms are formed to facilitate knowledge transfer. The benefits of applying social capital theory stem from the ability to model and measure the creation of structural norms and cognitive norms together with the development of relational norms on other IS artifacts, such as KMC.

Knowledge Management Capabilities

Cross unit knowledge management capabilities (KMC) are important sources of synergies in multi-firm arrangements (Tanriverdi, 2005). Knowledge management capabilities are defined as organizational processes that allow the firms to create, share, exploit and protect knowledge assets (Alavi and Liedner, 2001). There are five interrelated processes that are critical for managing cross-unit knowledge synergy: (1) creation or acquisition of knowledge (Gold, Malhotra and Segars, 2001), (2) integration or conversion of knowledge (Gold, et.al., 2001), (3) leverage or application of knowledge (Gold, et.al., 2001) and (4) transfer of knowledge (Szulanski, 1996). A final component of knowledge management capability is the (5) protection of knowledge (Gold, et.al., 2001), which is particularly important in offshore KPO arrangements, where intellectual capital abuse is common. Hence, KMC are a set of capabilities that provide a reflection of the organization's capacity to exploit knowledge in its business processes.

Organizational Practices

There are three classes of organizational practices: (1) Bonding, (2) Bridging and (3) Linking that have been found to build social capital in offshore teams (Ghosh and Scott, 2009; Kowch, 2005; Schmid, 2000). Bonding activities constitute activities, where individuals are brought together to build stronger relationships and a better understanding of each other's cultural diversity. Activities such as face to face meetings, video conferences and non-work information communications, such as pictures and hobbies fall into this category. Bridging activities allow workers to cross organizational boundaries (Nahapiet and Ghoshal, 1998). They include activities that develop "boundary spanning" norms and channels to be developed by both sides to support work activities. Practices such as publishing a joint organizational directory, listing of subject matter experts, work status dashboards, IT systems to support collaboration can create bridges between the two organizations. Linking activities allow work to be closely aligned among the teams so that roles on each side are better understood. Activities such as joint training sessions, joint review meetings, workflows that cross organizations fall in this category (Ghosh and Scott, 2009). Rather than keep the teams and their work as separate as possible, linking activities build "links" to encourage overall ownership of a process.
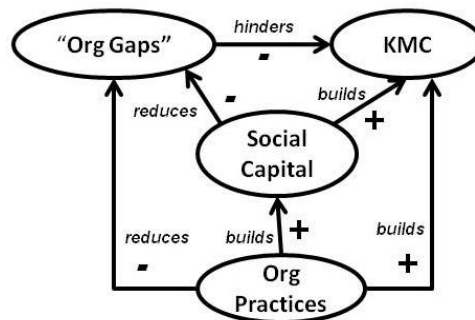
This conceptual framework is summarized in Figure 1.

Figure 1: Conceptual Framework

RESEARCH MODEL AND HYPOTHESES

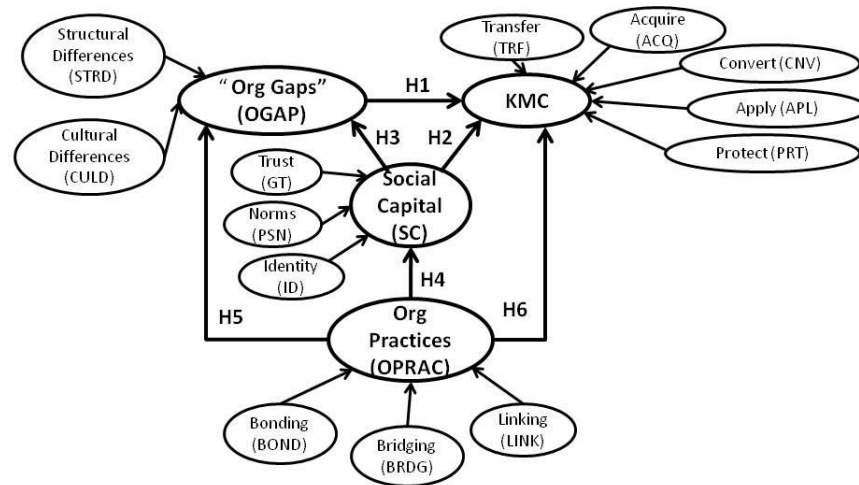The research model is illustrated in Figure 2.

Figure 2: Research Model

Organizational Gaps and KMC

Organizational gaps or differences in factors such as work practices and cultural norms are commonly reported in offshore outsourcing (Ghosh and Scott, 2006; Ramingwong and Sajeev, 2007; Willcocks, Hindle, Feeny and Lacity, 2004). These differing organizational norms and structural issues lead to differences in how the teams operate. For example, differences in process versus results orientation can lead to how strictly operating procedures/processes are followed. These gaps make knowledge sharing particularly difficult between organizations (Argote, 1999; Burgess, 2005; Inkpen and Tsang, 2005; Ko, Kirsch and King, 2005). Additionally there can be differences in the governance, management and control of the work activities and how workers use the available systems for knowledge management. A highly parochial or employee oriented culture can result in less strict enforcement of deadlines and miscommunications due to "clannish" reporting that can lack details to hide situational issues (Pothukuchi, Damanpour, Choi, Chen and Park., 2002). Moreover, there is often a strong cultural clash between the client and vendor personnel (Hofstede, 2008). Knowledge sharing is hindered as underlying cultural differences lead to conflicting practices, misunderstandings and interaction problems (Ramingwong and Sajeev, 2007).

> *H1: The Organizational gaps due to differences in structure and culture inversely effect knowledge management capability (KMC) in offshore KPO. That is, greater the "organizational gaps", the lesser the KMC.*

Impact of Social Capital

Knowledge sharing is more likely when social relationships are strong (Szulanski, 1996). Ko, et.al. (2005) report a direct link between the quality of relationships and the amount of knowledge sharing that happens. Social capital is centrally concerned with relationships and comprises a set of values, norms and informal sanctions that are shared among the workers. Social capital can provide the lubricant for workers to get support and advice well beyond the organizational hierarchy, to enable them "*to get things done more effectively*." This social capital allows social networks to be built among the workers that also facilitate knowledge sharing (Kankanhalli, et. al, 2005). The three dimensions of operationalizing social capital are– (a) generalized trust, (b) common identity and (c) common norms. Trust enables the workers to work more cooperatively, limiting the power and positional rivalries. A stronger common identity fosters common goal among the workers and common norms enable members to transcend the diversities that are inherent in a multi-cultural organization and make communications smoother. These three facets of social capital can play a large part in the effectiveness/success of the outsourced processes and how much cooperation is achieved between client and vendor personnel and the extent of tacit knowledge sharing in the organization (Inkpen and Tsang, 2005; Larsson, 2007).

> *H2: Knowledge management capabilities are positively related to Social Capital in KPO. That is greater the social capital, the greater the knowledge management capability in KPO.*

The earlier mentioned organizational gaps resulting from structural and cultural differences can be alleviated by addressing the psychological hurdles for collaboration by building relationships or social capital among the workers and providing opportunities for interaction (Willcocks, et.al. 2004; Levina, 2005).   By building social capital – (1) staff feel safe to explore and share new ideas without fear of failure, leading to more innovation in complex process execution, and (2) shared objectives and vision is developed between client and vendor staff that establishes joint responsibility leading to better structural alignment in work processes and cultural understanding among workers.

> *H3: The organizational gaps are inversely related to Social Capital in KPO.   That is greater the social capital, the lesser the organizational gaps in KPO.*

Impact of Organizational Practices

The development of social capital requires the active and willing engagement of citizens within a participative community. There are three classes of organizational practices: (1) bonding, (2) bridging and (3) linking that have been found to build social capital in offshore teams (Ghosh and Scott, 2009; Kowch, 2005; Schmid, 2000).   ***Bonding*** activities constitute activities, where individuals are brought together to build stronger relationships and a better understanding of each other's cultural diversity to coordinate implicitly by building inner expectations, through cognition mechanisms of norms, beliefs and trust (Delone, Espinosa, Lee and Carmel, 2005).   ***Bridging*** activities allow workers to cross organizational boundaries and establish repetitive and routine aspects of tasks in the inter-organizational relationship (Delone, et.al., 2005) and ***linking*** activities allow work to be closely aligned among the teams so that roles on each side are better understood (Baum and Ziersch, 2006). When people's tasks, goals and objectives are more closely related, such that interactions are fostered, it develops bonds of understanding for each other's culture and establishes bridges to cross these differences. This leads to the creation of relational norms and supports the creation of the dimensions of social capital – trust, common identity and norms (Ghosh and Scott, 2009).

> *H4: The creation of Social Capital is positively related to the Organizational Practices (bonding, bridging and, linking) in KPO. That is, greater the organizational practices greater the social capital.*

Szulanski (1996) identifies the importance of "bridging the communication gap, the coding schemes and cultural conventions" as critical to overcoming knowledge management stickiness in inter-organizational settings. Likewise the inter-organizational dimension raises the issue of an environment with common structures and work practices that develop when cooperative activities are supported (Chong and Doolin, 2009).   Results indicate that common norms and understanding develop when planned opportunities for interactions are made between remote team members. Shared understanding ("bonding") among members is essential before effective inter-organizational practices ("bridges") can be established (Delone, et.al., 2005). Finally, these "bridges" allow the activities of remote members to be "linked" so that cross-unit differences can be breached and sustainable collaborative networks established (Chong and Doolin, 2009).

> *H5: The Organizational gaps are inversely related to the Organizational Practices (bonding, bridging and linking) in KPO. That is, greater the organizational practices lesser the organizational gaps.*

Robust inter-organizational knowledge management capabilities need to be supported with sufficient organizational structure and practices (Gold, et.al, 2001). By establishing channels of interaction, common procedures for knowledge management can be established across the teams.   Task inter-dependence and presenting opportunities for interaction have a large role in knowledge sharing (Becerra-Fernandez and Sabherwal, 2001).   Therefore, this leads to the notion that if people's tasks, goals and objectives are more closely related, such that interactions are fostered, then it will lead to creation of relational norms and greater knowledge sharing (Wasko & Faraj, 2005). These organizational practices allow the teams to work closer together, share knowledge and support common processes and norms. By providing these channels for knowledge sharing the organizational practices support the development of knowledge management capabilities in the KPO organization.

> *H6: Knowledge management capabilities are positively related to the organizational practices (bonding, bridging and linking) in KPO. That is greater the organizational practices, the greater the knowledge management capability in KPO.*

METHODOLOGY

Initial interviews with key client side business process and service delivery managers were conducted. This was followed by an online survey. The client organization (US based) chosen is a leader in the design, sales and support of multi-vendor private networks and networking equipment, with network management and service capabilities. Network services offered to end customers include design, installation, monitoring and break-fix support. The product introductions, field trials, network design, installation services and break-fix support processes were outsourced to an offshore vendor (India based) to increase

available headcount for these processes, reduce operating costs through labor arbitrage and provide in-region internationally located technical personnel.

Interviews with four business process and two service delivery managers revealed that the client organization had deployed several KM tools and practices to support bi-directional transfer of knowledge - Listservers, discussion boards, checklists, lessons learnt lists, FAQ and monthly training presentations.   The client organization also complemented the knowledge management tools with organizational practices, that fall into the 3 categories – bonding, bridging and linking. The practices for bonding include site visits for key client and vendor personnel, regular video conferences, display of pictures for workers across locations, and joint team meetings. For bridging practices, the organization adopted maintaining lists of subject matter experts, monthly training presentations, checklists for various service processes. Linking activities included process and project planning teams staffed from both client and vendor personnel, joint document reviews and vendor mentoring programs (Ghosh and Scott, 2009).

The online survey[2] consisted of 39 items (3 items for each first order factor – CULD, STRD, BOND, BRDG, LINK, ID, GT, PSN, ACQ, CNV, APL, PRT and TRF). The content and source of the constructs are listed in Table 1.

Construct	Content	Source(s)
Organizational Gaps	The differences in work culture and work structure between the client and vendor firms.	Adapted from Gold, et.al., (2001), in Ghosh and Scott (2006)
Social Capital	Relational, Structural and Cognitive dimensions of Social capital measured in three dimensions (Trust, Identification and Norms)	Kankanhalli, et. al. (2005), Nahapiet and Ghoshal (1998);
Organizational Practices	Bridging, Bonding and Linking Practices	Delone, et.al. (2005), Baum and Zierrsch (2006), Kowch (2005), Schmid (2000), Ghosh and Scott (2009)
Knowledge Management Capabilities	Knowledge acquisition, conversion, application, protection and transfer	Gold, et.al. (2001), Ghosh and Scott (2007)

Table 1: Content and Source of Constructs

All 39 items were measured on a 5 point Likert scale (Strongly Disagree, Disagree, Neutral, Agree and Strongly Agree). A convenience sample was drawn from email lists from organizational charts. Email solicitations were sent to 200 client knowledge workers, working on different service processes (product introductions, field trials, network design, installation services and break-fix support) for different product lines (communications servers, core networking, messaging, call centers) with a link to the survey, which was active for two weeks.

RESULTS

A total of 111 employees responded with completed surveys for a response rate of 55%. The demographic statistics for the data is shown in Table 2.

Partial Least Squares, PLS-Graph, v3.0, Build 1130 was used to test the research model.   PLS variables can be formative or reflective. In this research model, all the 13 first order factors are reflective and all four second order factors - Org Gaps, KMC, Org Practices and SC were modeled as formative. A bootstrap re-sampling procedure was conducted using 100 samples and path coefficients were re-estimated using each of these samples (Chin, 1998). In PLS, validation is done using the Composite Reliabilities (CR) and Average Variance Extracted (AVE) from the measurement model in PLS-Graph . The composite reliabilities should be greater than 0.7. The AVE measures the variance captured by the indicators relative to measurement error and it should be greater than 0.5. Moreover, the square root of each construct's AVE needs to be greater than the correlation of the construct to the other latent variables to demonstrate discriminant reliability.   As seen from Appendix A, the composite reliabilities for all measures were high ranging from 0.721 to 0.934. Moreover, the AVE values are above 0.5 and the square root of the AVE of each construct is greater than the correlation of that construct with other constructs, respectively (Appendix A).   Consequently, evidence for internal consistency and the scales' reliability are supported by these results.

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[2] Survey is not included due to word count limitation.

Characteristic	Sample Mean	Std. Error
Years on Job	6.49	3.25
Professional Experience	9.51	6.69
Years of Education (including 12 years of school)	15.72	2.25
Service Process (involved with)	Product introductions (16), Field trials (15), Network design (7), Installation services (25), Break-fix support (48)	
Product Set (involved with)	Communications servers (42), Core networking (20), Messaging (18), Call centers (31)	
Tools Usage Claimed (Check all that apply)	Listservers (86), Discussion boards (49), Checklists (67), lessons learnt lists (73), FAQ (106) and Training presentations (89)	
Gender	Male (71), Female (38)	

Table 2: Demographics

Hypothesis Testing

As shown in Table 3, all 13 first-order factors were significantly related with the corresponding second order constructs.

Path	Coefficients (t-value, p-value)	Hypothesis Results
Structural Model – Hypothesized Relationships		
OGAPS → KMC (H$_1$)	-0.170 (1.916, p =.01)	*Supported*
SC → KMC (H$_2$)	0.632 (3.908, p < .01)	*Supported*
SC → OGAPS (H$_3$)	0.0660 (0.304, ns)	*Not Supported*
OPRAC → SC (H$_4$)	0.603 (4.683, p < .01)	*Supported*
OPRAC → OGAPS (H$_5$)	-0.320 (2.880, p < .01)	*Supported*
OPRAC → KMC (H$_6$)	0.0232 (0.132, ns)	*Not supported*
Measurement Model		
OGAPS ← CULD	0.870(15.647)	
OGAPS ← STRD	0.904(20.344)	
OPRAC ← BOND	0.771(8.487)	
OPRAC ← BRDG	0.567(1.623)	
OPRAC ← LINK	0.849(11.979)	
SC ← ID	0.795(10.468)	
SC ← PSN	0.924(38.557)	
SC ← GT	0.808(9.0538)	
KMC ← ACQ	0.725(5.836)	
KMC ← CNV	0.844(19.895)	
KMC ← APL	0.654(7.006)	
KMC ← PRT	0.501(13.913)	
KMC ← TRF	0.867(8.481)	
Dependent Variables	*R^2*	
Social Capital	*0.3936*	
Organizational Gaps	*0.4235*	
Knowledge Management Capabilities	*0.6650*	
Overall Model	*0.5325*	

Table 3: Structural Model and Hypotheses Testing

The results show that the negative effect of organizational gaps on KMC was significant (H1). Social capital was found to significantly affect KMC (H2), but not reduce organizational gaps (H3). Organizational practices were found to significantly build social capital (H4) and significantly reduce organizational gaps (H5), but not increase KMC (H6).

CONCLUSIONS

The results provide answers to the two research goals. The validated research framework was effective in measuring the organizational gaps originating from structural and cultural differences in an offshore KPO. These gaps were found to hinder KMC in an inter-organizational KPO. This study demonstrates the importance of instituting 3 types of organizational practices (bonding, bridging and linking) to reduce the organizational gaps and build social capital.   The organizational practices were found to reduce the structural and cultural gaps. The generated social capital from these practices helped increased KMC.   Robust KMC have been found to improve the execution and outcomes of knowledge intensive business processes (Willcocks, et.al., 2004).

The limitations of this research are the fact that only one organization was surveyed and data was collected from the client side personnel only. However, the processes studied do not indicate any particular peculiarities that may render them so unique that other outsourced knowledge processes in other organizations would be grossly different. Moreover, the client personnel being the designers of the outsourcing relationship were in a better position to provide the responses to the survey. Additional data from the vendor side might have introduced more noise into the measurement model.

Research Contributions

IS researchers are interested in theories to explain inter-organizational KMC in offshore outsourcing. This paper fills a gap in the research literature by developing a framework that can not only measure organizational gaps in offshore KPO, but also measure the impact of 3 types of organizational practices and their effect on SC and KMC. By operationalizing SC and 3 practices that build SC and measuring it in the KPO setting this study makes a valuable contribution to the body of IS research. The results of this study support the posited theory that benefits of social capital can be seen in building KMC.

REFERENCES

1. Argote, L. (1999) Organizational Learning: Creating, Retaining and Transferring Knowledge, Kluwer Academic, Boston.

2. Alavi, M. and Leidner, D.E. (2001) Review: Knowledge management and knowledge management systems: conceptual foundations and research issues, *MIS Quarterly*, 25, 1, 107-136.

3. Aron, R., Singh, J.V. (2005) Getting Offshoring Right, *Harvard Business Review,* 135-143.

4. Baum, F.E.., Ziersch, A.M. (2003) Social Capital. *Journal of Epidermiology and Community Health*, 320-323.

5. Becerra-Fernandez, I. and Sabherwal, R. (2001) Organizational knowledge management: A contingency perspective. *Journal of Management Information Systems*, 18, 1, 23-56.

6. Burgess, D. (2005) What Motivates Employees to Transfer Knowledge outside their work unit? *Journal of Business Communications*, 42, 4, 324-348.

7. Carmel, E. and Tjia, P. (2005) Offshoring Information Technology: Sourcing and Outsourcing to a Global Workforce, Cambridge University Press.

8. Cha, H.S., Pingry, D.E. and Thatcher, M.E. (2008) Managing the Knowledge Supply Chain: An Organizational Learning Model of Information Technology Offshore Outsourcing, *MIS Quarterly,* 32, 2, 281-306.

9. Chin, W.W. (1998) Issues and Opinions on Structural Equation Modeling, *MIS Quarterly,* 22, 1, 7-16.

10. Chong, J. and Doolin, B. (2009) Sustainability in ICT-Enabled Collaborative Networks, Proceedings of the *20th Australasian Conference on Information Systems,* Melbourne, Australia.

11. Currie, W.L., Michell, V. and Abanishe, O. (2008) Knowledge Process Outsourcing in Financial Services: The Vendor Perspective, *European Management Journal,* 26, 94-104.

12. Delone, W., Espinosa, J.A., Lee, G. and Carmel, E. (2005) Bridging Global Boundaries for IS Project Success. *Proceedings of the 38th Hawaii International Conference on System Sciences*. Honolulu, HI.

13. Dibbern, J., Goles, T., Hirschheim, R. and Jayatilaka, B. (2004) Information Systems Outsourcing: A Survey and Analysis of the Literature, *DATA BASE for Advances in Information Systems* 33, 4, 6-102.

14. Ghosh, B. and Scott, J.E.(2006)   An Exploratory Study of Organizational Impacts on BPO using Coordination Theory. *Proceedings of the 12th Americas Conference on Information Systems*, Acapulco, Mexico.

15. Ghosh, B. and Scott, J.E. (2007) Effective Knowledge Management Systems for Nurses, *Information Systems Management,* 24, 73-84.

16. Ghosh, B. and Scott, J.E. (2009) Relational Alignment in Offshore IS Outsourcing, *MIS Quarterly Executive,* 8, 1, 19-29.

17. Gold, A.H., Malhotra, A. and Segars, A.H. (2001) Knowledge management: an organizational capabilities perspective, *Journal of Management Information Systems,* 18, 1, 185-214.

18. Gupta, A. (2009) Deriving Mutual Benefits from Offshore Outsourcing, *Communications of ACM* , 52,6, 122-126.

19. Hansen, T., Nohria, N. and Tierney, T. (1999) What is your strategy for Managing Knowledge? *Harvard Business Review*, 106-116.

20. Hislop, D. (2002) Mission Impossible? Communicating and Management Knowledge via Information technology, *Journal of Information Technology*, 17, 165-177.

21. Hofstede, G., Neuijen, B., Ohayv, D.D. and Sanders, G. (1990) Measuring Organizational Cultures: A Qualitative and Quantitative Study Across Twenty Cases, *Administrative Science Quarterly*, 35, 286-316.

22. Hofstede, G., (2008), Geert Hofstede Cultural Dimensions, http://www.geert-hofstede.com, Accessed May 15, 2008

23. Inkpen, A.C. and Tsang, E.W.K. (2005) Social Capital, Networks and Knowledge Transfer, *Academy of Management Review,* 30, 1, 146-165.

24. Kanhanhali, A., Tan, B.C.Y. and Wei, K.K. (2005) Contributing Knowledge to Electronic Knowledge Repositories: An Empirical Investigation, *MIS Quarterly*, 29, 1, 113-143.

25. Ko, D.G., Kirsch, L.J. and King, W.R. (2005) Antecedents of Knowledge Transfer from Consultants to Clients in Enterprise System Implementations, *MIS Quarterly* 29, 1, 59-85.

26. Kowch, E.G. (2005) Do we plan the journey or read the compass? An argument for preparing educational technologists to lead organizational change, *Research Journal of Educational Technology*, 36, 6, 1067-1070.

27. Larsson, A. (2007) Banking on Social capital: towards social connectedness in distributed engineering design teams, *Design Studies,* 28, 6, 605-621.

28. Levina, N. (2005) Collaborating on multiparty information systems development projects: A collective reflection-in-action view, *Information Systems Research*, 16, 2, 109-130.

29. Nahapiet, J. and Ghoshal, S. (1998) Social Capital, Intellectual Capital and the Organizational Advantage, *Academy of Management Review*, 23, 2, 242-268.

30. Pothukuchi, V., Damanpour, F., Choi, J., Chen, C.C. and Park, S.H. (2002) National and Organizational Culture Differences and International Joint Venture Performance, *Journal of International Business Studies*, 33, 2, 243-265.

31. Prusak, L. and Cohen, D. (2001) How to Invest in Social Capital, *Harvard Business Review,* 86-93.

32. Ramingwong, S. and Sajeev, ASM (2007) Offshore Outsourcing: The Risk of Keeping Mum, *Communications of ACM,* 50, 8, 101-103.

33. Rottman, J.W. (2008) Successful knowledge transfer within offshore supplier networks: a case study exploring social capital in strategic alliances, *Journal of Information Technology* 23, 31-43.

34. Schmid, A. A. (2000) Affinity as social capital: its role in development, *The Journal of Socio-Economics*, 29, 159.

35. Szulanski, G. (1996) Exploring Internal Stickiness: Impediments to the transfer of best practices within the firm, *Strategic Management Journal*, 17, 27-43

36. Tanriverdi, H. (2005) Information Technology Relatedness, Knowledge Management Capability, and Performance of Multibusiness Firms. *MIS Quarterly*, 29(2), 331-334.

37. Tanriverdi, H., Konana P. and Ge, L. (2007) The Choice of Sourcing Mechanisms for Business Processes, *Information Systems Research,* 18, 280-299.

38. Wasko, M.M. and Faraj, S. (2005) Why Should I Share? Examining Social Capital and Knowledge Contribution in Electronic Networks of Practice, *MIS Quarterly*, 29, 1, 35-57.

39. Willcocks, L.P., Hindle, J.,Feeny, D. Lacity, M. (2004) IT and Business Process Outsourcing: The Knowledge Potential, *Information Systems Management*, 7-15.

40. Yang, S., Lee, H. and Kurnia, S. (2009) Social Capital in Information and Communications Technology research: Past, Present and Future, *Communications of the AIS*, 25, 23, 183-220.

APPENDIX A - Measurement Model – CR, AVE and Correlations

Const	CR	AVE	CULD	STRD	BOND	BRDG	LINK	ID	GT	PSN	ACQ	CNV	APL	PRT	TRF
CULD	.721	.567	.753												
STRD	.758	.531	.575	.729											
BOND	.854	.677	.031	.022	.823										
BRDG	.934	.825	.064	.013	.146	.908									
LINK	.865	.683	.015	.145	.453	.341	.826								
ID	.755	.518	.012	.059	.547	.154	.425	.720							
GT	.856	.666	.064	.061	.470	.166	.391	.480	.816						
PSN	.929	.814	.045	.102	.530	.095	.553	.607	.607	.902					
ACQ	.896	.741	.015	.073	.343	.195	.339	.346	.233	.416	.861				
CNV	.732	.518	.008	.107	.462	.186	.299	.429	.299	.236	.468	.720			
APL	.798	.575	.067	.096	.634	.056	.508	.559	.277	.347	.277	.413	.758		
PRT	.859	.670	.006	.045	.369	.120	.209	.397	.209	.438	.213	.415	.082	.819	
TRF	.922	.798	.004	.008	.500	.106	.386	.548	.477	.296	.458	.318	.156	.338	.893

Correlation of Constructs and Square root of AVE

SECOND ORDER Constructs –Composite Reliability, AVE and Square Root of AVE

Construct	CR	AVE	Square Root of AVE
Organizational Gaps (OGAP)	.784	.393	.627
Organizational Practices (OPRAC)	.836	.383	.619
Social Capital (SC)	.888	.484	.696
Knowledge Management Capability (KMC)	.879	.445	.667