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Pacific Asia Conference on Information Systems (PACIS)

2014

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A RESEARCH FRAMEWORK OF VENDOR FIRM'S BODY OF KNOWLEDGE (BOK) AND IT'S IMPACT ON OFFSHORE IT OUTSOURCING PERFORMANCE

(Research-in-Progress)

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Abstract

The vendor firm's body of knowledge (BoK) has been considered to be vital in IT outsourcing success since outsourcing is considered as flow of knowledge especially from vendor firms to client firms. However, previous researches mostly focused on the client firms' perspective and less attention on vendor firms and their knowledge bases. In this paper, we investigated the impact of vendor IT firm's body of knowledge on the success of offshore IT outsourcing through an interaction process based on knowledge based view (KBV) and interaction process model (IPM). At first, vendor firm's various knowledge bases (that comprise firms' capability) are identified based on the knowledge based view and then, an interaction process of outsourcing relationship is created as a first order impact of various knowledge bases. It is assumed that vendors share their knowledge by making an outsourcing relationship with clients through an interaction process, which ultimately impact on the success of IT outsourcing.

Keywords: *Body of Knowledge (BoK), Offshore IT Outsourcing, Knowledge Based View (KBV), Interaction Process Model (IPM).*

1. INTRODUCTION

In today's global economy, firms need to mobilize their body of knowledge (BoK) in order to achieve competitive advantage in information technology (IT) outsourcing projects. The BoK which is exchanged between the vendor and client firms (especially from vendor firms to client firms) can be one of the major sources of competitive advantage for client firms and also makes IT outsourcing project successful (Sambamurthy and Subramani, 2005). The BoK refers to a complete set of knowledge bases generally accepted on a particular subject. Generally, a firm considers various knowledge bases as organizational resources that create the idiosyncrasy of a particular firm which are valuable, rare, inimitable and non-substitutable (VRIN) and also most important for making a firm more competitive to accomplish its objectives (Barney, 1991). The IT outsourcing firm's BoK mainly comprises of advanced IT knowledge, domain knowledge, business knowledge, process knowledge, cross-cultural knowledge, and IT outsourcing project management knowledge (Chua and Pan, 2008; Yun, 2009, and Bassellier et al., 2001). Each and every IT outsourcing firm should have these knowledge for making IT outsourcing project successful. In undertaking the process of IT outsourcing services, if firms do not pay attention to improve their own ability to absorb knowledge and knowledge sharing capability, in the long run, they will fail to expand its IT outsourcing activities horizontally, rather than be locked vertically (Yun, 2009). Besides, absence of effective knowledge acquisition and transfer may cause of failure of IT outsourcing projects (Dibbern et al., 2008).

IT outsourcing has been considered as an activity which brings new knowledge or flow of knowledge from vendor firms to client firms, and these knowledge bases can be mainly technical knowledge, and business management knowledge (Zarrinmehr et al., 2012). Here, knowledge allows vendor IT firms to add value to the IT outsourcing activities; and this ability to generate knowledge and sharing it are considered as the core of the theory of the IT outsourcing firm (Amit and Schomaker, 1993; Peppard and Ward, 2004). If the sharing of knowledge is properly occurred between vendor and client firms, then both of the firms can enhance their capability and be able to practice their outsourcing activities better and develop a long term outsourcing relationship. Ultimately, this knowledge transfer furthermore contributes to the better outsourcing performance and makes a project success (Blumenberg et al, 2009; Al-Salti, 2010)

Moreover, in todays competitive business environment, knowledge is considered one of the most critical assets of the vendor IT firms for successful outsourcing projects (Grant, 1996). Some researchers consider knowledge as an important source of value creation in IT outsourcing that allows vendor firms to improve their competitive positions and finally, it positively associated with outsourcing performance (Chang and Gurbaxani, 2012; Al-Azad, et al., 2010). However, the success of IT outsourcing project depends on vendor firm's various knowledge bases and communication skills with client firms to enhance the relationship intensity which eventually influence outsourcing success.

Because of the potential benefits that can be realized from knowledge sharing, there is considerable effort in theory as well as in practice on how to foster knowledge as a resource in organizations. The previous studies mostly covered the area of knowledge transferring process of IT firms, factors of knowledge transfer, the process of identifying, capturing and leveraging knowledge, knowledge management process and boundaries, and knowledge transfer and organizational learning. However, the impact of IT firm's BoK on outsourcing performance has received insignificant attention. Though there are few studies (Hottenrott and Lopez-Bento, 2012; Haung and Lin, 2010) have done about the knowledge sharing and their role in firm's performance in other areas such as joint ventures and supply chain management, but there is little research directed at IT outsourcing areas. Besides, most of the previous researches have done mostly from the perspective of client firms and focused less attention on vendor firms and their knowledge bases.

The main objective of this paper is to enhance the understanding of offshore IT outsourcing project performance by examining the vendor IT firm's BoK based on knowledge based view (KBV) of Information Systems (IS) theory. Two following research questions we explore in this study:

1) What are the knowledge areas that making-up the BoK for vendor IT firms in outsourcing projects?
2) How these BoK help vendor firms to share knowledge and communicate with partners to improve relationship quality which ultimately influence on IT outsourcing success.

2. LITERATURE REVIEW

2.1 Offshore IT Outsourcing

IT outsourcing has been considered as an important business strategy for transferring new knowledge between client and vendor firms (Blumenberg et al. 2009). Grover et al. (1996) define the term IT outsourcing as "a strategy of acquisition of part or all of IT services from external service providers". Moreover, offshore IT outsourcing is conducted between two IT firms where the client firm contracts for IT services with vendor firms located in remote destination other than the country where the client firm is located (Poston et al., 2009). In IT outsourcing, with the transfer of IT services, spillover effects of knowledge transfer is also occurred when a client firm contract and get services from vendor firms (Chang and Gurbaxani, 2012). Indeed, numerous studies have identified IT outsourcing as a channel through which knowledge is transmitted (Williams, 2011). This transferred knowledge can enhance the performance of IT outsourcing project.

2.2 Body of Knowledge (BoK) in IT Outsourcing

Knowledge is the key to the success of a client and vendor outsourcing relationship as it affects outsourcing performance. In offshore IT outsourcing process, a number of knowledge bases are transferred between vendor and client (Yun, 2009). IT outsourcing firm BoK refers to set of knowledge areas which are mostly required to accomplish the outsourcing activities effectively and efficiently. Yun (2009) divided BoK into four different areas such as technical knowledge, domain knowledge, process knowledge and cultural knowledge which are transferred in IT outsourcing projects. Iivari et al. (2004) proposed five knowledge areas that make up the BoK for IT firms which are technical knowledge, application domain knowledge, organizational knowledge, IS application knowledge, and ISD process knowledge. Bassellier et al. (2001) identified a set of knowledge areas such as knowledge of technologies, application domain, system development and management of outsourcing projects which make an IT firm more competent in IT outsourcing.

Some authors (Zarrinmehr and Rozan, 2012; Subasingha et al., 2012) primarily categorize the BoK mainly as the IT knowledge and business knowledge, and then again categorize these two main categories into different sub categories. Chua and Pan (2008) in their paper mentioned five IS BoK areas, namely, technology, application domain, IS application, organizational and IS development process knowledge (project management). Lee et al. (1995) suggested that any IT firm requires a cadre of professionals with different types of knowledge such as technological knowledge, business functional knowledge, interpersonal and managerial knowledge. There are a number of papers (Rai et al. 2009; Ang and Inkpen, 2008) which concentrate on cross-cultural knowledge especially in offshore IT outsourcing where the vendor and client organization's specific culture as well as country culture have different values, attitude, norms, language differences and firm decision making process. Table-1 summarizes a list of prior researches on vendor firm's BoK in offshore IT outsourcing.

References	Key Variables of Body of Knowledge (BoK)	IS Theory	Role of BoK	Methodology
Chang and Gurbaxani (2012)	IT related Knowledge	Knowledge Based View	Knowledge sharing and firm productivity	Empirical
Williams (2011)	Cross-cultural Knowledge, Domain Knowledge, and Project Management Knowledge	Knowledge Based View	Organizational distance and effective knowledge transfer	Empirical

Yun (2009)	Domain Knowledge, technical Knowledge, Process Knowledge, and Cultural Knowledge	Knowledge Based View	Improve ability to absorb knowledge and achieving effective knowledge transfer and	Empirical
Chua and Pan (2008)	Technological Knowledge, Application Domain Knowledge, IS Application, Organizational and IS Development Process Knowledge	Organizational Learning Theory	Knowledge transfer and organizational learning	Empirical
Iivari et al. (2004)	Technical Knowledge, Application domain Knowledge, Org Knowledge, IS application Knowledge, and ISD Process Knowledge	ISD process knowledge	-	Conceptual
Bassellier et al. (2001)	Technological , Application Domain, System Development and Management of IT Outsourcing Project Knowledge	Competency Theory	IT competence of individual business manager and leadership	Conceptual
Lee et al. (1995)	Technical Knowledge, Business Functional Knowledge, Interpersonal and Managerial Knowledge	Organizational Change	Effectively lead organizational performance and process reengineering activities	Empirical

Table 1. Summary of Prior IS Research on BoK of IT Outsourcing

Rashed et al. (2010) showed in supply chain management that combined consequence of information and knowledge sharing has significant influences on supplier-buyer relationship and performances. The transfer of organizationally embedded knowledge between the distinct joint venture partners has also a considerable impact on successful alliances of international joint venture (Al-Azad et al., 2010). Haung and Lin (2010) and Mohiuddin and Su (2013) argued that BoK sharing plays a critical role in leveraging manufacturing activities, namely integrated supplier management and new product development to improve business performance.

3. THEORETICAL DEVELOPMENT

This paper develops a research model based on the knowledge based view (KBV) of IT firms for independent variables, and also an interaction process between client and vendor is introduced in the perspective of interaction process model (IPM) as mediating variables.

3.1 Knowledge based View (KBV)

The knowledge based view (KBV) modeled on Resource based view (RBV) considers knowledge as the most significant resource of an IT firm that creates competitive advantage and that production requires the integration of a broad range of knowledge (Grant, 1996). This theory argues that heterogeneous knowledge bases of firms are major determinants of sustainable competitive advantages (SCA) and firm performance (Nanoka, 1991). This theory views “firm as a dynamic, evolving and quasi-autonomous system of knowledge production and application” (Spender, 1996). Similarly, Willcocks et al. (2004) suggest that in an outsourcing agreement both client and vendor firms must make special arrangement to create and capture knowledge. In addition, according to the KBV suggested by Barney (1991), IT firms that established connection with external firms through outsourcing transferring the vital knowledge and resources to make a good relationship.

Quinn (1999) and Jayatilaka et al. (2003) similarly proposed that organizations should identify their knowledge gaps and cover those gaps by acquiring knowledge from partners in an outsourcing relationship. Moreover, knowledge stock can be expanded by acquiring or absorbing from outside the firm that is called outsourcing or by generating new knowledge and sharing with partners (Tiwana and

Bush, 2007). Thus, knowledge based view (KBV) proposes that IT outsourcing is a strategy where a client firm utilizes partner's knowledge. The KBV has been utilized in IT outsourcing research to examine that knowledge sharing is essential to manage the outsourcing relationship and that positively related to the success of outsourcing agreement (Lee and Kim, 1999). Hence, KBV recognizes the importance of knowledge in firm that creates competitive advantage and improve firm performance.

Based on the KBV and literature review, therefore, we have identified different areas of knowledge and finally selected advance IT knowledge, domain knowledge, cross-cultural knowledge, and IT outsourcing project management knowledge as independent variables for constructing the research model. The reasons behind the selection are: firstly, these are the most significant knowledge bases that make a firm more capable to conduct its outsourcing activities, and secondly, in the literature review, the previous researchers cited these knowledge bases more importantly.

3.2 Interaction Process Model (IPM)

In the model construction, we also have used interaction process model (IPM) suggested by previous researchers (Hankansson, 1982; Metcalf et al., 1992; Kern and Willcocks; 2002). The interaction process between client and vendor firm is introduced as an intervening variable on the causal chain between the firm's knowledge bases and relationship intensity. It views the interaction process as a social interaction between the client and vendor firms where the process of interaction and relationship between firms will depend not only on the element of the interaction but also on the characteristics of parties involved (Hankansson, 1982).

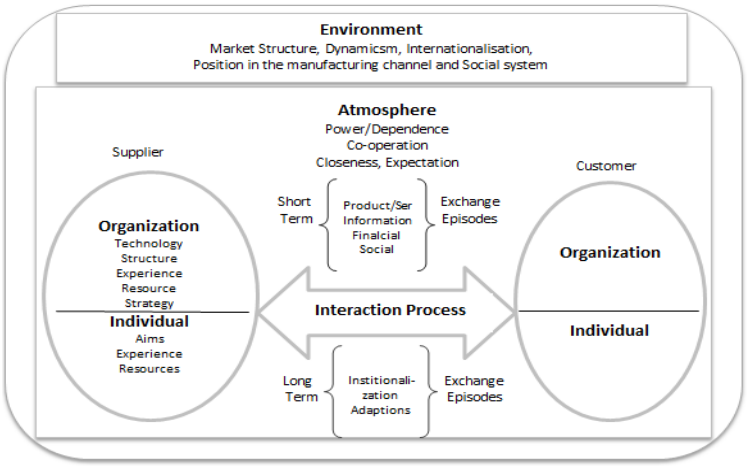

Figure 1. An illustration of the Interaction Model (Hakansson, 1982)

Hankansson's interaction model focuses on both short-term episodes and general long-term association in supplier-customer relationship, which essentially confirms to the IT outsourcing relationships. In his model, Hankansson describes four main groups of variable such as environment, atmosphere, parties and elements of interaction process that together comprise a set of key elements for interaction exchange relationship between two parties.

Applying the Hankansson's 'interaction process' model, Kern and Willcock (2002) explained interaction process mechanisms in IT outsourcing and shown how a vendor firm interacts with client firm based on a number of interaction variables such as sharing knowledge, communication, information exchange, shared vision, product and service exchange and so on. Similarly, Lee and Kim (1999) also identified some partnership related variables which influence the degree of partnership quality in outsourcing relationship. Their identified variables included communication, coordination, information sharing, knowledge sharing, length of relationship and joint action. The interaction process is also discussed in other fields such as supply chain relationship and customer-buyer relationship and found a number of variables that measure the level of relationship intensity such as information sharing, knowledge sharing, trust, cooperation, communication, and conflict resolution

(Metcalf et. al, 1992; Mohr and Spekman, 1994). We have considered two major variables among them to make a link between the various knowledge bases and relationship intensity that represent the degree of interaction: knowledge sharing and communication.

4. RESEARCH FRAMEWORK AND HYPOTHESES DEVELOPMENT

4.1 Research Framework

A research model is developed that explains the various knowledge bases of vendor IT firms that comprise firms' capabilities and their impact on IT outsourcing success. Figure-1 shows first order impact of BoK on interaction process and relationship intensity; and finally on success of IT outsourcing.

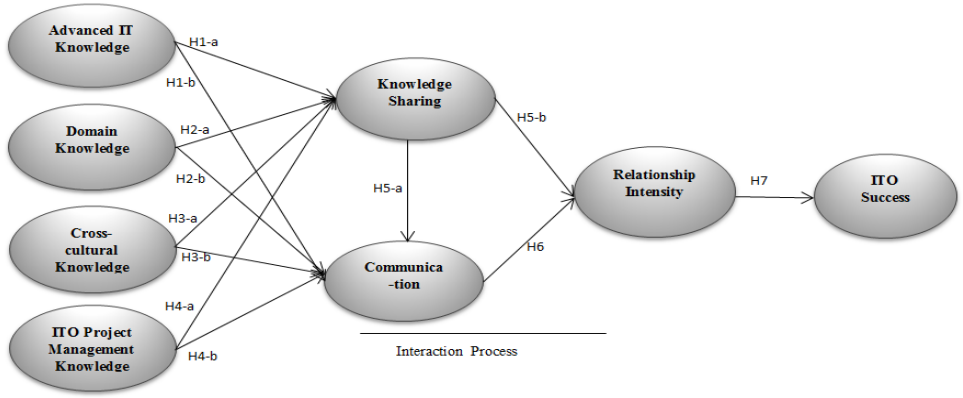

Figure 2. Conceptual Research Framework

4.2 Hypotheses Development

4.2.1 Advanced IT Knowledge

IT knowledge refers to knowledge associated with understanding the types of hardware, software, and computer based system available, and how and where they might be applied (Freeman, 1987). It also indicates that the IT firm has enough technical know-how, and computer based knowledge to solve a concurrent IT problem (Tippins and Sohi, 2003). Rapid technological development forces firms to develop more diverse technical knowledge and skills, and make alliances with other firms in order to share their knowledge (Seo et al., 2005). Vendor IT firm, who has advanced IT knowledge and skills on new IT trends, then it would be in better position to communicate with its partner (Han et al., 2008). Similarly, Zhang and Faerman (2004) found that technological knowledge is also one of the important factors that facilitates knowledge sharing and communication between the partners in outsourcing relationship. Consequently, we can propose the following set of hypotheses is:

H1-a: The firms advanced IT knowledge positively influences the degree of knowledge sharing.
H1-b: The firms advanced IT knowledge positively influences the degree of communication.

4.2.2 Domain Knowledge

Domain knowledge refers to the degree of knowledge to which an IT firm has in-depth understanding of partner's business environment, organizational strategy and structure, and ability to integrate technology with partners' business need and requirements (Alexander, 1992). In outsourcing, understanding the partner's technological and product concepts are important aspects for meeting the partners need and making an outsourcing relationship successful (Williams, 2011). Iivari et al., (2004) point out that if vendor firms have clear understanding of partners firm's business needs and requirements, then they might be encouraged to share their own knowledge to the client and

communicate to build an outsourcing relationship. Similarly, if client and vendor share their domain knowledge to each other, then they can easily communicate and run their alliance for long-term. Consequently, we can propose the following set of hypotheses:

H2-a: The firms Domain knowledge positively influences the degree of knowledge sharing.
H2-b: The firms Domain knowledge positively influences the degree of communication.

4.2.3 Cross-cultural Knowledge

Cross-cultural knowledge refers to the degree of knowledge to which an outsourcing firm is informed about the partner firm's organization and country specific culture, value, ideologies, and problem solving approaches, and capable to interact and manage outsourcing project effectively in diverse setting (Ahn and Inkpen, 2008). Cross-cultural competence is very important especially in offshore outsourcing, because if the vendor firms have no knowledge about the client firm's environment and culture, then difficulties in knowledge transfer tend to be arised which impede fruitful communication (Krishna et al., 2004). They also found Japanese firms take much longer time to reply to e-mail as compared to Indian, and this led negative impact on knowledge sharing and communication. Persson (2013) also suggests that without having enough cross-cultural knowledge in offshore outsourcing, vendor firms might be failed to share their knowledge and communication with partners. Consequently, we can propose the following set of hypotheses:

H3-a: The firms Cross-cultural knowledge positively influences the degree of knowledge sharing.
H3-b: The firms Cross-cultural knowledge positively influences the degree of communication.

4.2.4 ITO project Management Knowledge

ITO project management knowledge refers to the degree of knowledge to which an outsourcing firm has previous outsourcing knowledge and a better understanding of how to effectively manage IT project to make the project success and satisfy all user needs. Lack of knowledge or poor project management skills in planning, budgeting, monitoring, risk management and scheduling not only impact a firm strategically, economically but also it threatens outsourcing relationship, which results in the project will failure (Sumner et al., 2006). Polyaninova (2011) found that project management performance is positively associated with previous project management knowledge and also suggested that to deal a project effectively, both firms should have previous project management knowledge to share their views each other to make good communication for successful outsourcing relationship. Consequently, we can propose the following set of hypotheses:

H4-a: The firms ITO project management knowledge positively influences the degree of knowledge sharing.

H4-b: The firms ITO project management knowledge positively influences the degree of communication.

4.2.5 Knowledge Sharing

Knowledge sharing refers to the degree to which outsourcing firms are engaged in activities of transferring or disseminating knowledge from one organization to another to make better communication and strategic alliances. Organizational knowledge is not only created within the firm, but also can be produced or acquired externally by making outsourcing relationship with other firms (Simonin, 1999). Moreover, knowledge increases when it is shared with other firms but not by stored inside of the firm. In outsourcing, a shared knowledge base is essential for communication between vendor and client who have different model of the world and do not know the model of others. However, communication between parties depends on the degree of knowledge sharing that how more frequent and relevant knowledge sharing between client and vendor firms (Bandyopadhyay and Pathak, 2007). Consequently, we can propose the following set of hypotheses:

H5-a: The firms knowledge sharing positively influences the degree of communication.
H5-b: The firms knowledge sharing positively influences the degree of relationship intensity.

4.2.6 Communication Quality

Communication refers to the degree to which outsourcing firms engaged in formal and informal sharing of meaningful and timely information (Han et al., 2008). However, communication quality involves the accuracy, timeliness, adequacy, and credibility of information exchange. In outsourcing, if the communication parties are well informed to each other, then each party feel more confidence in the relationship and willing to keep the relationship for long time (Lee and Kim, 1999). Similarly, communication capability is believed to foster the relationship between client and vendor (Swar et al., 2012). Anderson and Narus (1990) point out the importance of effective communication for good relationship between the parties in outsourcing. Consequently, we can propose the following set of hypotheses:

H6: The firms communication quality positively influences the degree of relationship intensity.

4.2.7 Relationship intensity

Relationship intensity refers to the degree of association to which how the client and vendor make relationship with each other in outsourcing project. In outsourcing, previous researches show that the relationship quality has positive influence on IT outsourcing success (Grover et al., 1996; Lee and Kim, 1999; Han et al., 2008; Swar et al., 2012). Goo and Nam (2007) also found that trust and commitment, which are two important dimensions of relationship intensity construct, have a positive influence on outsourcing success. Besides, in other fields like supply chain relationship, Fynes et al. (2005) also found that relation quality positively influences the successful supply chain performance. Consequently, we can propose the following set of hypotheses:

H7: The firms relationship intensity positively influences the degree of IT outsourcing success.

5. METHODOLOGY AND EXPECTED RESULT

To test the proposed model and hypotheses, this study will conduct a survey on outsourcing vendors, who are doing offshore IT outsourcing. All constructs of this survey will be measured using multi-item scales with five-point Likert rating systems. The data will be analyzed by using the partial least square method (PLS) to assess and estimate the structural model and measurement model of the proposed research framework, since PLS is better suited for explaining complex relationships among latent constructs and dependent variable. The validity and reliability of the measures will also be assessed. Primarily, it is supposed that all the hypotheses will be supported by the data; however, the actual result of this study might be different.

6. CONCLUSION

This study takes knowledge-based-view (KBV) perspective and identifies various knowledge bases of vendor IT firms that come into play in the interaction process of vendor and client relationship and have impact on IT outsourcing success. This study is expected to confirm the widely held belief that critical knowledge bases as organizational resources and relationship intensity are the major predictors of outsourcing success. Thus, it adds to the growing body of knowledge and also extends the prior research in offshore outsourcing. This paper is expected to have two kinds of contributions such as theoretical and practical. Theoretically, this study integrates the KBV to IPM, and shows impact of BoK on outsourcing success; and practically, the managers of vendor IT firms might be further concentrated on sharing various knowledge bases and communication to make a good outsourcing relationship with the partners and be able to make their project successful.

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