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# Knowledge Transfer Between Expatriates and Host Country Nationals: A Social Capital Perspective

Yu-Shan Hsu

*University of Wisconsin-Milwaukee*

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**KNOWLEDGE TRANSFER BETWEEN EXPATRIATES AND HOST COUNTRY  
NATIONALS: A SOCIAL CAPITAL PERSPECTIVE**

**Dissertation**

**By**

**Yu-Shan Hsu**

**A Dissertation Submitted**

**in Partial Fulfillment of the**

**Requirements for the Degree of**

**Doctor of Philosophy**

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**Management Science**

**at**

**The University of Wisconsin-Milwaukee**

**December 2012**

## **ABSTRACT**

# **KNOWLEDGE TRANSFER BETWEEN EXPATRIATES AND HOST COUNTRY NATIONALS: A SOCIAL CAPITAL PERSPECTIVE**

by

Yu-Shan Hsu

The University of Wisconsin - Milwaukee, 2012

Under the Supervision of Dr. Margaret Shaffer

One of the competitive advantages of multinational corporations (MNCs) is to successfully transfer knowledge among geographically dispersed and diverse locations (de Pablos, 2006; Kogut & Zander, 1993). During the process of knowledge transfer in MNCs, expatriates and host country nationals (HCNs) serve as boundary spanners, meaning that they generally serve as bridges for the transference of knowledge. However, because it might be more difficult for expatriates and HCNs to form positive relationships as they are from different cultural backgrounds, the transfer of knowledge may be impeded. This raises an intriguing question: How can expatriates and HCNs overcome the differences inherent between them and develop quality relationships instrumental for knowledge transfer? Existing research does not provide a good answer for this question. The knowledge transfer literature has focused on organizational vehicles and structural mechanisms, with little attention given to understanding how organizational processes

and the individuals involved can facilitate knowledge transfer (e.g., Jensen & Szulanski, 2004; Riusala & Smale, 2007; S. Wang, Tong, Chen, & Kim, 2009). After all, it is people who have the knowledge that is applied and transferred (Itami, 1987).

To answer this research question, I have four major objectives. First, I identify the personal qualities, such as cultural intelligence and networking behaviors, of expatriates and HCNs that contribute to positive relationship qualities between them. Second, I clarify whether organizational practices (i.e., a collaborative-based HR configuration) enable positive expatriate-HCN relationships. Third, I examine whether relationship qualities between expatriates and HCNs mediate the influence of relationship enablers (i.e., personal qualities and organizational practices) on knowledge transfer. Finally, I consider the knowledge transfer process from the perspective of both expatriates and HCNs.

To assess the knowledge transfer between expatriates and HCNs, I collected data from 291 expatriates, originally from 32 countries and now working in 18 countries, and 67 HCNs. I used both SEM and multiple regression to analyze the single-source and multiple-source (i.e., 67 expatriate-HCN dyads) data. Results indicated that for both expatriates and HCNs, CQ is a relationship enabler. A collaborative-based HR configuration in host organizations also facilitates building positive relationship qualities. Moreover, with regard to the process of knowledge transfer from expatriates and the process of knowledge transfer from HCNs, there are some similarities and differences. The similarity is that CQ and collaborative-based HR configuration enable relationship qualities regardless of whether expatriates transfer knowledge to HCNs or HCNs transfer

knowledge to expatriates. The difference lies in that when HCNs transfer knowledge to expatriates, frequency of interaction and shared vision facilitate knowledge transfer, but when expatriates transfer knowledge to HCNs, only frequency of interaction matters.

In summary, this dissertation contributes to the knowledge transfer and expatriate literatures. It goes beyond the existing research of knowledge transfer in three ways. First, existing knowledge transfer research generally takes a macro lens by focusing on organizational systems and processes. This dissertation goes beyond this tradition by understanding how the personal qualities and organizational practices enable the development of expatriate-HCN social capital that is instrumental to knowledge transfer. Second, studies that discuss relationships as an underlying mechanism that links personal qualities, organizational practices and knowledge transfer are scant. This dissertation fills this gap. Third, most knowledge transfer research focuses on unidirectional knowledge transfer from expatriates to HCNs. This dissertation goes beyond this tradition by considering knowledge transfer from both expatriates and HCNs. Furthermore, this dissertation also contributes to expatriate research in two ways. First, traditional expatriate research generally focuses on areas such as selection, adjustment, and training. This dissertation goes beyond this tradition by understanding a relatively less-researched but important issue, expatriate knowledge transfer. Second, traditional expatriate research is expatriate-centric in that it neglects the roles of HCNs. This dissertation fills this research gap by incorporating HCN perspectives in the process of knowledge transfer.

## **DEDICATION**

Two months ago, my dear husband Yu-Ping dedicated his dissertation to me. Now it is my turn to reciprocate by dedicating my dissertation to him. I also dedicate this dissertation to our much expecting baby girl Helena. Even before her arrival to this beautiful world, she has been giving us so much hope and joy beyond description.

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# **CHAPTER 1: INTRODUCTION**

## Overview

Knowledge is a key resource that firms must acknowledge, manage, and integrate to grow and create sustainable competitive advantage (Conner & Prahalad, 1996; R. M. Grant, 1996; Gupta & Govindarajan, 2000). Knowledge transfer, the process through which one unit (e.g., individual, group, department, or division) is affected by the experience of another (I. Argote & P. Ingram, 2000), is fundamental to organizational performance (van Wijk, Jansen, & Lyles, 2008). Indeed, one of the competitive advantages of multinational corporations (MNCs) is to successfully transfer knowledge among its geographically dispersed and diverse locations (de Pablos, 2006; Kogut & Zander, 1993). Although much knowledge, especially explicit knowledge (a type of knowledge that is highly codified) is transferred via written documents, information technology or short term training, MNCs still rely on expatriate assignments to transfer tacit knowledge (a type of knowledge that has a personal component, resides in the human mind, manifests itself in behavior and perception), which can create the basis for sustaining a durable competitive advantage (L. Argote & P. Ingram, 2000; Holtbrügge & Berg, 2004) but is especially difficult to transfer without face to face communication.

Since tacit knowledge resides in human mind, is hard to formalize, and is best transferred through direct social interactions (e.g., Nonaka, 1994; Subramaniam & Venkatraman, 2001), relationship qualities between expatriates and host country nationals (HCNs) who closely work with expatriates for knowledge transfer purpose are important (Bonache & Zárraga-Oberty, 2008). Indeed, the importance of social capital for learning and knowledge transfer has been explicitly recognized (Kostova & Roth, 2002).

However, it might be more difficult for expatriates and HCNs to form positive relationships. According to the relational demography (Tsui, Egan, & O'Reilly, 1992), homophily (Ibarra, 1992; McPherson, Smith-Lovin, & Cook, 2001), and attraction, selection, attrition (ASA) (Schneider, Goldstein, & Smith, 1995) frameworks, which posit that actor similarity increases the probability of positive relationship qualities, it might be more difficult for expatriates and HCNs to form positive relationship qualities than dyads who are from the same country. This raises an intriguing question: How can expatriates and HCNs overcome the differences inherent between them and develop and maintain relationship qualities instrumental for knowledge transfer?

Existing research does not provide a good answer for this question. The knowledge transfer literature has focused on organizational vehicles and structural mechanisms, with little attention given to understanding how organizational processes and the individuals involved can facilitate knowledge transfer (e.g., Jensen & Szulanski, 2004; Riusala & Smale, 2007; S. Wang, et al., 2009). After all, it is people who have the knowledge that is applied and transferred (Itami, 1987). Therefore, I consider personal qualities of expatriates and HCNs such as cultural intelligence (CQ) and networking as enablers to their relationships. CQ is the ability to manage effectively in culturally diverse setting (Ang & Van Dyne, 2008b). Research has shown that it is an important social skills for cross-cultural interaction (Brislin, Worthley, & Macnab, 2006). Individuals demonstrating networking behaviors generally seek out more interaction opportunities (Reichers, 1987). Thus, the first objective of this dissertation is to examine whether CQ and networking enable expatriate-HCN relationship qualities.



Moreover, recognizing the expatriates and HCNs do not operate in a vacuum, I also consider the organizational context in which they interact. From an interactionist (Griffin, Colella, & Goparaju, 2000; Jones, 1983) or person-situation (Lewin, 1951) perspective, individuals and organizations are mutually interdependent. Research has demonstrated that organizational practices such as selection, work design, training and development, promote interpersonal relations and social capital (Kaše, Paauwe, & Zupan, 2009; Yamao, De Cieri, & Hutchings, 2009), but specific organizational practices relevant to knowledge transfer between expatriates and HCNs have seldom been examined. Collaborative-based human resource (HR) configuration, a set of HR practices instrumental for integration and collaboration between employees, has been positively related to knowledge transfer and interpersonal relationships in the domestic context (Kaše, et al., 2009). Therefore, my second objective is to clarify whether organizational practices, specifically, a collaborative-based HR configuration, enable expatriate-HCN relationship qualities.

Another key feature of this dissertation has to do with the mediating role played by expatriate-HCN relationship qualities on the relationship between personal qualities, organizational practices, and knowledge transfer. Although the relationship between social capital/interpersonal relationship and knowledge transfer is well established, as there is much to learn about the antecedents of social capital, whether social capital, in this case, expatriate-HCN relationship serves as an underlying mechanism that links these antecedents and knowledge transfer is unknown. Therefore, the third objective of this dissertation is to examine whether expatriate-HCN relationship qualities mediate the

relationship between personal qualities, such as CQ and networking, organizational practice, such as a collaborative-based HR configuration, and knowledge transfer.

Aside from the three objectives mentioned above, I also examine the extent to which the expatriate-HCN relationship influences the transfer of knowledge to and from each other. Since the challenge in today's world of global business is "to innovate by learning from the world" (Doz, Santos, & Williamson, 2001, p. 1), exposure to new ideas, experiences, business practices, foreign cultures and markets offers a crucial contribution to the creation of new knowledge that results in competitive advantage. Thus, in a knowledge society, expatriates are not only exporters but also importers and local traders of expertise and knowledge (Inkson, Arthur, Pringle, & Barry, 1997). This implies that expatriates today are not only responsible for disseminating knowledge to subsidiaries, but they are also responsible for absorbing knowledge from subsidiaries (Downes & Thomas, 2000; Dunning, 2003; Riusala & Suutari, 2004). Indeed, some research has acknowledged that expatriation is an opportunity to acquire knowledge (Kamoche, 1997); in addition to experiencing the unique functioning of the foreign operations, expatriates also may gain an understanding of the host country's culture, markets and business environment (Crowne, 2009). Although knowledge flows from headquarters to subsidiaries and from subsidiaries to headquarters, most knowledge transfer literature has focused on the former rather than the latter (Millar & Choi, 2009; Schotter & Bontis, 2009). This is surprising given the fact that knowledge created in the subsidiary is useful for headquarters in developing new knowledge or refining existing knowledge (Schotter

& Bontis, 2009). Therefore, my fourth objective is to consider the knowledge transfer process for both expatriates and HCNs.

### **Contributions**

By understanding how expatriates and HCNs overcome the differences inherent between them and develop and maintain relationship qualities instrumental for knowledge transfer, this dissertation offers several contributions to expatriate and knowledge transfer literature.

First, I identify the personal qualities of expatriates and HCNs that contribute to positive relationship qualities between them. While knowledge transfer researchers recognize the importance of interpersonal relationship on knowledge transfer, little attention has been given to understanding the personal qualities that might enable positive relationships instrumental to knowledge transfer. After all, it is people who have the knowledge that is applied and transferred. Therefore, qualities of expatriates and HCNs that enable relationship qualities are especially important. Identifying personal qualities of expatriates and HCNs that contribute to positive relationship qualities between them also contribute to the expatriate literature. This dissertation goes beyond existing expatriate research by considering both expatriates and HCNs qualities.

Second, I clarify whether organizational practice, specifically, a collaborative-based HR configuration, enables expatriate-HCN relationship qualities. Research has demonstrated that organizational practices such as selection, work design, training and development, promote interpersonal relations and social capital (Kaše, et al., 2009; Yamao, et al., 2009), but specific organizational practices relevant to knowledge transfer

between expatriates and HCNs have seldom been examined. By examining organizational practices that enable expatriate-HCN relationship qualities instrumental to knowledge transfer, we gain a better understanding about how organizations can well prepare expatriates and HCNs for knowledge transfer.

Third, I examine the mediating role played by expatriate-HCN relationship qualities on the relationship between personal qualities, organizational practices, and knowledge transfer. This goes beyond existing studies by clarifying the underlying mechanism between personal qualities, organizational practices, and knowledge transfer.

Finally, I consider the knowledge transfer process for both expatriates and HCNs. Although more researchers begin to pay attention to the reverse knowledge transfer, that is, knowledge flows from subsidiaries to headquarters, most of these studies are macro in nature, and our understanding about the extent to which the expatriate-HCN relationship qualities influence the transfer of knowledge to and from each other is limited. By examining knowledge transfer process for both expatriates and HCNs, this dissertation provides a better understanding of factors that impact effective knowledge transfer from both expatriates and HCNs.

### **A Road Map**

This dissertation proceeds as follows. In Chapter two, I review existing literature on knowledge transfer. This review provides a comprehensive review in terms of definitions, theoretical perspectives, methodology, and empirical findings across levels of analysis and contexts. I also identify research gaps in knowledge transfer research. Some of them will be addressed in my dissertation. In Chapter three, I draw on social capital

theory, and anxiety and uncertainty management theory, as the theoretical bases for my proposed model of knowledge transfer. I also briefly review the literature of relationship enablers and relationship qualities. I then develop hypotheses based on theory and empirical evidence. In Chapter four, I present the methodology to test my model. Specifically, I explain sample characteristics, data collection procedures and outline the measures. In Chapter five, I present results of data analysis. Finally in Chapter six, I discuss the results and implications of my dissertation.

## **CHAPTER 2: LITERATURE REVIEW**

In this chapter, I review knowledge transfer literature in terms of definitions, theoretical perspectives, methodology and empirical findings across levels and contexts. Future research directions are also discussed.

### **Methodological Approach**

To identify relevant articles to include in this review, I searched articles with keyword "knowledge transfer" through electronic journal database, such as ABI/Inform and PsychInfo. Knowledge transfer does not have to be the focus of the study, but the antecedents and consequences have to be discussed in the study. I identified 184 articles that meet the criteria above. Publication dates range from 1996 – 2010.

### **Definition of Knowledge Transfer**

Before summarizing the definition of knowledge transfer, I discuss the definition of knowledge.

#### *Knowledge*

Numerous definitions of knowledge are available in literature. For example, Kirchner (1997) refers to knowledge as the process involving a person using his or her skills and experience, thus converting it into knowledge. Davenport and Prusak (1998) argued that knowledge is neither data, nor information, but "a fluid mix of framed experience, values, contextual information and expert insights". Rennie (1999) defined knowledge as "the intangible economic resource from which future revenues will be derived".

#### *Knowledge Transfer*

More than half of the articles reviewed do not define knowledge transfer. Similar to the definition of knowledge, there are numerous definitions of knowledge transfer. For example, knowledge transfer can be defined as a process of dyadic exchange of knowledge between the sender and the receiver (Szulanski, 1996). Wang, Tong, and Koh (2004) describe that knowledge transfer is the process of a systematically organized exchange of information and skills between entities. Knowledge transfer is also defined as the process by which members within an organization learn from each other (Kalling, 2003). Some also conceptualize knowledge transfer as a learning process (Saka-Helmhout, 2009). Moreover, knowledge transfer has been defined as an attempt by an entity to copy a specific type of knowledge from another entity (Rogers, 1983). Despite numerous definitions of knowledge transfer, most researchers adopted the definition from Argote and Ingram (2000). They define knowledge transfer in organization the process through which one unit (e.g., group, department, or division) is affected by the experience of another.

From the review of the definition of knowledge transfer, we can see that knowledge transfer is regarded as a process. Szulanski (1996) further takes a stage perspective and argues that knowledge transfer is a process consisting of four stages: initiation, implementation, ramp-up and integration. Specifically, the *initiation* stage comprises all events that lead to the decision to transfer. The *implementation* state begins with the decision to proceed. During this stage, resources flow between the recipient and the source. Transfer-specific social ties between the source and the recipient are established and the transferred knowledge is often adapted to suit the anticipated needs of



the recipient. The *ramp-up* stage begins when the recipient starts using the transferred knowledge, that is, after the first day of use. Finally, the *integration* stage begins after the recipient achieves satisfactory results with the transferred knowledge. Use of the transferred knowledge gradually becomes routinized.

#### *Distinctions between Conceptually Similar Constructs*

Several constructs conceptually similar to knowledge transfer have been used in knowledge transfer literature. For example, *knowledge sharing* is a term widely used by researchers. Researchers often used knowledge sharing and transfer interchangeably (Renzl, 2006). However, the former is different from the latter in that knowledge sharing is defined as interpersonal-level knowledge exchanges taking place within ongoing social interaction between individuals (Barner-Rasmussen, 2003). Knowledge sharing occurs naturally in interpersonal interaction, and may or may not be planned or even intentional. However, knowledge transfer typically refers to a formally organized activity with specific boundary (Szulanski, 2000). Examples of knowledge transfers are the passing of organizational best practices or a specific set of knowledge or skills by an expatriate. Yet, knowledge sharing can take place, for example, when colleagues discuss a work problem by the office machine, a manager calls a friend in another department for information that he or she needs, or when one gets an idea in a meeting from something a colleague has done (Makela, 2007). Indeed, as Renzl (2006) argued, while knowledge transfer is the transmission of knowledge directly from source to recipient, knowledge sharing emphasizes the collective character of knowledge that emerges from interaction between individuals and groups.

*Technology transfer* is also used often in knowledge transfer literature. However, technology transfer is different from knowledge transfer. Specifically, knowledge transfer implies a broader, more inclusive construct that is directed more toward understanding the whys for change. Technology transfer is a narrower and more targeted construct that usually embodies certain tools for changing the environment (Gopalakrishnan & Santoro, 2004).

Another construct, *knowledge spillovers*, is also used in knowledge transfer literature. Knowledge spillovers refer to the positive externalities that firms receive in terms of knowledge from the environment in which they operate (Anselin, Varga, & Acs, 1997).

Moreover, knowledge transfer is different from *knowledge diffusion* in that the word "transfer" is used rather than "diffusion" in order to emphasize that the movement of knowledge is a distinct experience, not a gradual process of dissemination, and depends on the characteristics of everyone involved.

### **Major Theoretical Perspectives in the Knowledge Transfer Literature**

About 60 percent of articles reviewed do not draw on any theoretical perspectives to build their arguments. Among the remaining studies that do provide the theoretical underpinning of studies, most of them (e.g., R. P. Lee, Chen, Kim, & Johnson, 2008), used the *resource-based view* perspective (Wernerfelt, 1984) as the theoretical basis. Specifically, the resource-based view explains performance differences by identifying unique, valuable and inimitable resources and capabilities (Peteraf, 1993; Santoro & Bierly III, 2006). Researchers therefore conceptualize knowledge as a resource that

serves as a powerful differentiation from competitors (Barney, 1991) which leads to extraordinary firm performance. More recently, researchers (e.g., Bou-Llusar & Segarra-Ciprés, 2006; Taskin & Bridoux, 2010) refer to the *knowledge-based view* of the firm in the knowledge transfer literature which is a contemporary approach that has evolved over the last ten years from the broader approach to strategy referred to as the resource-based view of the firm (Conner & Prahalad, 1996).

Related to resource-based view and knowledge-based view perspectives is *dynamic- capability view*, an extension of resource-based view (Teece, Pisano, & Shuen, 1997). This perspective states that the competitive advantage of firms can be defined as the combination of the specific asset position of firms with firm-specific knowledge and processes capabilities. For example, in knowledge transfer literature, knowledge recipient firm's absorptive capacity, the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends (Cohen & Levinthal, 1990), is positively associated with knowledge transfer (van Wijk, et al., 2008).

Another major theoretical perspective adopted often is the *social capital theory* (Coleman, 1990). Social capital is defined as the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit (Nahapiet & Ghoshal, 1998). The theory of social capital is therefore centrally concerned with the significance of relationships as a source for social action (W. E. Baker, 1990; Burt, 1992; Coleman, 1988). Since knowledge transfer refers to how one is affected by the experience of the other, social capital theory, a theory about how relationships or networks influence social behavior

provides a useful framework for understanding knowledge transfer. Past research has identified that one of the predictors of successful knowledge transfer is quality of the dyadic relationship (Song, Almeida, & Wu, 2003; van Wijk, et al., 2008).

Taking a further step from social capital theory, *social network theory* (Lin, 1999) regards strength of relationships, or ties, the closeness of a relationship between partners (Hansen, 1999), and number of structural holes, which exist between two alters who are not connected to each other (Burt, 1992) as the basic data for analysis. A network is the pattern of ties linking a defined set of persons or social actors (Seibert, Kraimer, & Liden, 2001). Knowledge transfer often takes place between a network of firms or social units. Indeed, networks provide firms with access to knowledge, resources, markets, or technologies (Inkpen & Tsang, 2005). Therefore, social network theory is widely used when delineating the relationship between a firm or a social unit's network characteristics and knowledge transfer.

### **Research Methodology**

#### *Measurement of Knowledge Transfer*

There has not been any universal measure used to assess the level of knowledge transfer. Part of the reason might be that there are different contexts or types of knowledge transfer, such as knowledge transfer among university-industry, R&D alliances, buyer-supplier, acquirer-acquiree, headquarter-subsiary and so on. As a result, researchers either adopt existing measure (e.g., Y. Lee & Cavusgil, 2006; D. B. Minbaeva, 2007), adapt existing measure to fit their focal study contexts (e.g., Williams, 2007), use objective measure/archival data (e.g., Phene, Madhok, & Liu, 2005; W. Tsai,

2001), such as increase in numbers of patents, or develop a new measure (e.g., R. P. Lee, et al., 2008). In the following paragraphs, I will review the measures used by researchers in a more detailed manner.

Although essentially no consensus exists with regard to the measure of knowledge transfer, from the reviewed articles, a more widely adopted measure is Simonin (1999). This measure is generally used in the knowledge transfer process between strategic alliances (e.g., Dhanaraj, Lyles, Steensma, & Tihanyi, 2004; Santoro & Bierly III, 2006; Santoro & Saporito, 2006).

Another measure often used in the context of multinational corporation knowledge transfer is by Gupta and Govindarajan (2000). Researchers used this measure to assess the knowledge transfer level between parent organization and subsidiary or between subsidiaries (e.g., Bjorkman, Barner-Rasmussen, & Li, 2004; D. B. Minbaeva, 2007).

#### *Levels of Analysis*

As mentioned earlier, studies of knowledge transfer are conducted in several different contexts. Moreover, knowledge transfer occurs at different levels of analysis, as the definition by Argote and Ingram (2000) suggests. In the following paragraphs, I review the contexts and levels of analysis of knowledge transfer.

Although according to the definition of knowledge transfer, one is affected by the experience of the other, knowledge transfer happens among dyads, knowledge transfer can be distinguished between an individual, an intra-organizational, and an inter-organizational level (Wilkesmann, Fischer, & Wilkesmann, 2009). Intra-organizational

knowledge transfer means transfer between headquarter and subsidiary organization, between subsidiaries, departments, teams, groups, or units in an organization. Inter-organizational knowledge transfer describes transfer between organizations. Even though if knowledge transfer takes place on the intra- or inter-organizational level, individuals in terms of organizational members have to transfer knowledge (Wilkesmann, Fischer, et al., 2009). Below I organize the review of levels of analysis by individual, intra-organization, and inter-organization.

*Individual.* In this category, knowledge transfer means an individual is affected by the experience of the other. Among 184 studies reviewed, 31 studies (that is, 17% of studies) are conducted /discussed among employees within an organization. Among the 184 studies, 5 studies (3%) specifically discuss individuals' knowledge transfer between team members. Other than the two categories mentioned above, there are 10 studies (5%) examining/ discussing expatriate knowledge transfer. Seven of them are about knowledge transfer that takes place between expatriate and host country national. Three of them are about knowledge transfer from expatriate to parent country national/top management in parent organization. Taking all these types of knowledge transfer in individual level of analysis--employees in organization, employees in teams, and expatriates and host country nationals/parent country nationals--together, 46 studies (26%) are about knowledge transfer in individual level.

*Intra-organizational.* Fifty-nine studies (32%) are about knowledge transfer among subsidiaries, teams, business units, or group in an organization. Knowledge transfer in multinational corporations (MNC) draws a great deal of research attention.

Forty-seven studies (47/184, 26%) are about knowledge transfer between headquarters and subsidiaries or between subsidiaries. The large number of studies dealing with knowledge transfer among MNC shows that knowledge transfer is an important issue for MNC. One study (e.g., Brewer, 2008) discusses knowledge transfer across cultural groups in an organization. Some studies (Cummings & Teng, 2003; Sørberg, 2010) discuss knowledge transfer between R&D units in a firm.

*Inter-organizational.* Relatively more studies (82 studies, 45%) on knowledge transfer are about transferring knowledge between firms. Several different contexts are discussed/explored at the inter-organizational level. For example, 6 studies (6/184, 3%) are about international joint venture knowledge transfer. Seventeen studies (17/184, 9%) are conducted in the context of strategic alliance. Six studies (6/184, 3%) are about the knowledge transfer between acquirer and acquiree. Seven studies (7/184, 4%) address the issue of university/higher education institute and industry knowledge transfer. There are also 8 studies (8/184, 4%) concerning knowledge transfer between buyer and supplier. The remaining articles mainly concern about general inter-organizational knowledge transfer, intra-industry knowledge transfer, franchisor and franchisee knowledge transfer.

*Multi-level.* Finally, there are also a few articles that involve multiple levels of knowledge transfer, but they are mainly conceptual and meta-analytic review papers.

#### *Research Methods*

There are 28 conceptual articles, including one review paper. For studies adopted quantitative approaches, there are also two experimental studies (e.g., Kane, Argote, & Levine, 2005), one meta-analytic review (van Wijk, et al., 2008), and 87 studies adopting

survey approach to study knowledge transfer. In addition to conceptual and qualitative articles, there are 61 qualitative studies included in the review. Moreover, there are five studies that use both qualitative and quantitative methods. In sum, as both qualitative and quantitative research approaches are both used widely, the field of knowledge transfer is in the intermediate state according to Edmondson and McManus's (2007) typology on "the state of theory and research". On the one hand, researchers conduct tests of hypotheses informed by existing theory; on the other hand, researchers also realize that further exploration that generates theoretical propositions are needed. As a result, quantitative method that tests hypotheses derived from existing theories and qualitative method that attempts to build the theory from exploration are equally prominent in the field of knowledge transfer.

### **Empirical Findings – Antecedents and Consequences**

In this section, I will review the antecedents and consequences by the contexts and levels of analysis that knowledge transfer takes place. By doing so, we may compare and contrast the patterns across different contexts and levels of analysis. Furthermore, studies generally show that characteristics of knowledge being transferred, characteristics of knowledge source, characteristics of knowledge recipient, relationship between source and recipient, and organizational/contextual characteristics influence knowledge transfer. Therefore, I coded the antecedents of each paper according to the taxonomy above so it is easier to systematically synthesize findings or arguments from each paper.

#### *Individual Antecedents*



*Knowledge characteristics.* There are several dimensions of knowledge characteristics commonly used in the knowledge transfer literature. First, it is found that *tacit* knowledge, a type of knowledge that has a personal component, resides in the human mind, manifests itself in behavior and perception, more difficult to transfer (Nonaka & Takeuchi, 1995). By contrast, explicit knowledge, which can be transmitted in formal and systematic language, is easier to transfer than tacit knowledge (Bou-Llugar & Segarra-Ciprés, 2006; Goh, 2002; Lazarova & Tarique, 2005; Levin & Cross, 2004; Nonaka, 1991; Soosay & Hyland, 2008). Tacit versus explicit knowledge is the most widely studied dimension of knowledge transferred.

Other than the degree of tacitness and explicitness, the second dimension of knowledge characteristic is the degree of *complexity* which refers to the manifestation of critical and interacting elements within the knowledge and is therefore difficult to separate and measure (Kogut & Zander, 1993). It is argued and empirically demonstrated that the more complex the knowledge, the more difficult to be transferred (Bou-Llugar & Segarra-Ciprés, 2006; Sorenson, Rivkin, & Fleming, 2006).

The third dimension is the degree of *specificity*. The resource-based view holds that asset specificity is a source of causal ambiguity. Causal ambiguity refers to the difficulty for competitors to understand how a firm creates a competitive advantage (Barney, 1991). The lack of understanding causes difficulty in imitation (Bou-Llugar & Segarra-Ciprés, 2006). Therefore, it is argued that the more specific the knowledge, the more difficult to be transferred (Bou-Llugar & Segarra-Ciprés, 2006).

The fourth dimension is the *systemic* nature of knowledge. The systemic or dependent dimension is related to the dependence relationships that knowledge has with other systems of knowledge; for example, when working teams made up of workers from different functional areas take part in developing new products. On the other hand, independent or autonomous knowledge is related to the possibility that the knowledge itself is useful. Winter (1987, p. 173) gives two illustrative examples of the systemic dimension:

A single module in a microcomputer qualifies intuitively as an element of a system and a pocket calculator is useful standing alone.

It is argued that the more systemic or dependent the knowledge, the more difficult to be transferred (Bou-Llusar & Segarra-Ciprés, 2006).

Other than the four dimensions discussed above, *codifiability* and *teachability* are two knowledge characteristics commonly mentioned in the literature. The former refers to the extent to which knowledge can be explicitly articulated in document form (Riusala & Smale, 2007). The later refers to the degree of difficulty involved in teaching the knowledge to a new audience (Riusala & Smale, 2007).

In the context of expatriate-host country national knowledge transfer, it has been found that teachability is negatively related to stickiness, the degree of perceived difficulty in transferring knowledge (Riusala & Smale, 2007) and knowledge transfer . Complexity of knowledge is positively related to stickiness (Riusala & Smale, 2007). Similar to the domestic literature, explicit, codifiable, teachable and simple (versus complex) knowledge is easier to transfer (Riusala & Suutari, 2004), even when the knowledge is transferred to parent country nationals (Lazarova & Tarique, 2005).

*Source characteristics.* Researchers identified several knowledge source's characteristics that influence knowledge transfer in individual level. *Motivation* of the source plays a pivotal role in knowledge transfer. For example, Cabrera and Cabrera (2005) argued that the source's positive attitudes towards knowledge sharing will be positively related to intentions to share knowledge and consequently to knowledge sharing behaviors, an antecedent of knowledge transfer (Wu, Hsu, & Yeh, 2007). Low perceived cost, perceived rewards, and self-efficacy and foster the source's positive attitudes toward knowledge sharing (Cabrera & Cabrera, 2005). It has also been found that the willingness of individuals to contribute their knowledge to the knowledge management system is positively associated with knowledge transfer (Watson & Hewett, 2006). Goh (2002) also proposes that source's higher propensity to share knowledge is positively related to knowledge transfer.

In addition to source's motivation, his/her *ability* to transfer knowledge or various capabilities that facilitate knowledge transfer is also well-documented in the existing literature. For example, it was found that sources' problem-solving behavior and change management capabilities influence knowledge transfer (Soosay & Hyland, 2008). For knowledge transfer within a team, when the source possesses a superior rather than an inferior routine, knowledge transfer to other team members are more likely to be successful (Kane, et al., 2005). Moreover, reputation of the source is also positively related to knowledge transfer (Lucas, 2005; Lucas & Ogilvie, 2006). For instance, in the context of R&D groups knowledge transfer, recipient's perceived expertise of his or her colleague is predictive of knowledge transfer (Kang & Kim, 2010).

In the context of expatriate knowledge transfer, we can still follow the domestic study and categorize the source's characteristics into motivation and ability. There are generally two types of expatriate knowledge transfer studies. The first type is about knowledge transfer *during* international assignments. When transferring knowledge to host country nationals, the interaction between expatriates' motivation and ability is positively related to knowledge transfer (Bonache & Zárraga-Oberty, 2008). As to expatriates' ability, their high degree of interpersonal sensitivity or awareness to cultural differences will tend to create a fertile relationship between themselves and host country nationals for knowledge transfer (Bonache & Zárraga-Oberty, 2008; McKnight, 2007). Moreover, expatriates' disseminative capability (D. B. Minbaeva & Michailova, 2004), leadership, and good management (McKnight, 2007) also help knowledge transfer. Similar to the domestic literature, a perception in the host country that international assignees are reliable will tend to create a fertile relationship for knowledge transfer (Bonache & Zárraga-Oberty, 2008).

The second type of expatriate knowledge transfer is about transferring knowledge after international assignments. Given that expatriates may gain valuable knowledge during their assignments, it is critical that at the repatriation stage, repatriates successfully transfer their knowledge gained abroad to the parent country nationals. It is proposed that repatriates' feedback seeking behavior facilitates knowledge transfer (Crowne, 2009). Furthermore, repatriates' readiness to knowledge transfer and career considerations also has influence on knowledge transfer. Evidence suggested that repatriation was associated with loss of status and autonomy, non-challenging jobs, lack of promotion opportunities,

lack of career planning and counseling, lack of support on behalf of management and colleagues, sluggish career advancement and a host adjustment related problems. These career-related concerns sometimes make repatriates quit shortly upon repatriation and therefore cannot play an instrumental role in knowledge transfer (Lazarova & Tarique, 2005).

*Recipient characteristics.* Similar to source characteristics, recipient ability is also critical in successful knowledge transfer. It has been found that recipient absorptive capability, capability to acquire and retain relevant skills, foster knowledge transfer (Goh, 2002; Lucas, 2010; Soosay & Hyland, 2008). Motivation is also important. Recipient learning intensity (Wu, et al., 2007), the rate at which recipients access and reuse knowledge within the knowledge management system (Watson & Hewett, 2006) have positive influences on knowledge transfer. Moreover, open mind to new ideas/experiences (Higginson, 2010) also contributes to knowledge transfer.

In the context of expatriate-host country national knowledge transfer, it has been proposed that the interaction between local employees' ability and motivation is positively associated with knowledge transfer (Bonache & Zárraga-Oberty, 2008). Moreover, it is found that host country nationals' absorptive capacity of the knowledge being transferred is positively related to knowledge transfer (Riusala & Smale, 2007).

*Interpersonal characteristics.* The most researched antecedents of knowledge transfer at individual level are the relationship between source and recipient. Researchers generally draw on social capital or social network theory to argue that resources embedded in social capital is instrumental to knowledge transfer. Nahapiet and Ghoshal

(1998) contended that there are three dimensions of social capital, the structural, the relational, and the cognitive dimensions. *Structural* dimension concerns the properties of the social system and of the network of relations as a whole. The term describes the impersonal configuration of linkages between people or units. Among the most important facets of this dimension are number of relations, network density, and centralized network positions. *Relational* dimension describes the kind of personal relationships people have developed with each other through a history of interactions (Granovetter, 1992). This concept focuses on the particular relationships people have, such as respect and friendship, that influence their behavior. Among the key facets in this cluster are tie strength, trust and trustworthiness, and obligations. The third dimension is *cognitive* dimension, which refers to those resources providing shared representations, interpretations, and systems of meaning among parties (Cicourel, 1973). Important facets in this dimension include shared language and codes (Cicourel, 1973). As most studies focusing on the relationship characteristics follow Nahapiet and Ghoshal's (1998) dimensions, I use these three dimensions to categorize relationship characteristics.

In terms of structural dimension, it was found that network centrality (Kang, Kim, & Bock, 2010), number of social interaction (Wu, et al., 2007), frequent, face-to-face interactions, open and direct communication (Higginson, 2010), number of relations that an individual maintains (McFadyen & Cannella, 2004), and direct channels for interaction (Wilkesmann, Wilkesmann, & Virgillito, 2009) are positively associated with knowledge transfer.

Relational dimension is the most widely researched among the three dimensions at the individual level of analysis. It is argued that social ties will help to create an environment conducive for knowledge sharing, and will therefore be positively related to knowledge sharing (Cabrera & Cabrera, 2005). Moreover, trust will encourage positive attitudes toward knowledge sharing and will therefore be positively related to knowledge sharing intentions and behaviors (Cabrera & Cabrera, 2005). Indeed, a handful of studies (e.g., Higginson, 2010; Lucas, 2005; McNichols, 2010) have shown that trust, the willingness of a party to be vulnerable (Mayer, Davis, & Schoorman, 1995), is an important antecedent of knowledge transfer. For example, studying knowledge transfer in a team, Zarraga and Bonache (2005) found that mutual trust among team members facilitates knowledge transfer. Also in the context of team member knowledge transfer, it has been found that faith and confidence in peers facilitate team member knowledge acquisition (Politis, 2003). Some researchers distinguish trust into more specific dimensions, such as affect-based trust (Holste & Fields, 2010; Wu, et al., 2007; Zhou, Siu, & Wang, 2010), cognition-based trust (Zhou, et al., 2010), competence-based trust (Levin & Cross, 2004), benevolence-based trust (Levin & Cross, 2004).

In addition to trust, tie strength or relationship quality is also a frequent researched construct in knowledge transfer literature. Although it has been argued that weak tie, those typified as distant and by infrequent interaction, facilitates getting access to novel and irredundant knowledge, because strong ties tend to be connected to others who are close to a knowledge seeker and so trafficking in information the seeker already knows (Granovetter, 1973), it is the strong ties as the important conduits of useful

knowledge. Moreover, strong ties have been claimed to be important because they are more accessible and willing to be helpful (Krackhardt, 1992; Szulanski, 1996). Indeed, studies have demonstrated and argued that strong ties (Levin & Cross, 2004), close relationship (Taskin & Bridoux, 2010), family ties (Trevinyo-Rodriguez & Bontis, 2010), expressive ties (Zhou, et al., 2010), instrumental ties (Zhou, et al., 2010), the strength of relationship an individual maintains (McFadyen & Cannella, 2004), and effective mentoring relationships (McNichols, 2010) are antecedents of knowledge transfer.

Norms exist when the socially defined right to control an action is held not by the actor but by others (Coleman, 1990). Thus, norms have a significant influence on exchange processes, opening up access to parties for knowledge transfer (Nahapiet & Ghoshal, 1998). Indeed, it is argued that source's perceived norms of knowledge sharing will be positively related to intentions to share and consequently to knowledge sharing (Cabrera & Cabrera, 2005). It is also found that a team with high care atmosphere, characterized by active empathy, lenient judgment, and courage facilitate knowledge transfer (Zárraga & Bonache, 2005).

Obligations and expectations are also antecedents of knowledge transfer. Obligation represents a commitment or duty to undertake some activity in the future (Nahapiet & Ghoshal, 1998). Coleman (1990) distinguishes obligations from norms, viewing the former as expectations developed within particular personal relationships. It was proposed that the interaction between individual expectation and cultural expectation on knowledge transfer influence knowledge transfer (Evaristo, 2007). Moreover, Cabrera and Cabrera (2005) argued that expectations of reciprocity will encourage positive



attitudes towards knowledge sharing and will therefore be positively related to knowledge sharing intentions and behaviors.

Identification is the process whereby individuals see themselves as one with another person or group of people (Nahapiet & Ghoshal, 1998). Kramer, Brewer, and Hanna (1996) have found that identification with a group or collective enhances concern for collective processes and outcomes, thus increasing the chances that the opportunity for exchange will be recognized. Identification therefore acts as a resource influencing both the anticipation of value to be achieved through exchange and the motivation to knowledge transfer (Nahapiet & Ghoshal, 1998). Indeed, it was argued that group identification foster the source's positive attitudes toward knowledge sharing (Cabrera & Cabrera, 2005). In a group setting, it was also found that group members' group identification is positively associated with knowledge transfer (Kang & Kim, 2010). Furthermore, in a qualitative study of family business knowledge transfer, it was found that identification of the next generation members with the founder is instrumental to knowledge transfer (Trevinyo-Rodriguez & Bontis, 2010).

Finally, researchers argued that meaningful communication is an essential part of knowledge transfer, and communication requires at least some sharing of context between the parties to such transfer (Nahapiet & Ghoshal, 1998). Therefore, for cognitive dimension, it has been argued that shared languages, visions, systems, and code, and low cultural distance are antecedents of knowledge transfer. Indeed, it has been found that social proximity helps individuals transfer patent (Sorenson, et al., 2006). Moreover, developing a common understanding and shared language is instrumental to family

business knowledge transfer (Higginson, 2010). Having shared mental schemes, language, narratives (Taskin & Bridoux, 2010), organizational value (Tagliaventi & Mattarelli, 2006), structural equivalence between the knowledge source and the recipient (Kang & Kim, 2010) are also helpful for knowledge transfer. Research also shows that when source and recipient use different types of relational models, they are less likely to share knowledge (Boer, Berends, & van Baalen, in press). In terms of more surface level dissimilarity, the larger the tenure and age difference between source and recipient, the lower the level of knowledge sharing (Kaše, et al., 2009).

In the context of expatriation, researchers also address the importance of interpersonal characteristics on successful knowledge transfer. Generally, the more social capital expatriates create in host country, the more likely that expatriates share their knowledge (Makela, 2007). More specifically, Riusala and Suutari (2004) found that when host country nationals commit to, identify with, and trust parent company, knowledge transfer between expatriates and host country nationals are more smoother. To create a fertile relationship between international and local staff for knowledge transfer, a team spirit might be helpful (Bonache & Zárraga-Oberty, 2008). Moreover, when the knowledge gap between expatriates and host country nationals is large, knowledge transfer is more difficult (Massingham, 2010).

*Contextual characteristics.* I review contextual characteristics that influence knowledge transfer in this section. Organizational practices could facilitate knowledge transfer. There are three major types of organizational practices researchers identified that would positively influence knowledge transfer. The first type is *reward system*.

Researchers have found that organizational reward (Goh, 2002; Kang, et al., 2010; Kaše, et al., 2009) facilitates knowledge transfer in that it could both enhance recipient's and source's motivation to disseminate and absorb knowledge. The second type is *work design* (Kaše, et al., 2009). To facilitate knowledge transfer within an organization, team work, providing appropriate transfer mechanisms and technology infrastructure are useful (Goh, 2002; Lucas, 2010; McNichols, 2010; Molina & Llorens-Montes, 2006). Using knowledge facilitators that organize and lead knowledge sharing seminars among clinical research teams also foster knowledge transfer in a clinical research organization (Styhre, Ollila, Roth, Williamson, & Berg, 2008). When source and recipient work side by side, knowledge is easier to be transferred (Tagliaventi & Mattarelli, 2006). The third type is *creating supportive organizational culture*. Supportive organizational structure (Goh, 2002; Soosay & Hyland, 2008), a culture of sharing and participation among employees (Lucas, 2010; Lucas & Ogilvie, 2006; Wilkesmann, Wilkesmann, et al., 2009), visible and participative management involvement (McNichols, 2010) are positively related to knowledge transfer.

Other than organizational characteristics that may influence knowledge transfer, as knowledge transfer often takes place across culture, researchers have pointed out that cultural context also plays an important role in knowledge transfer. For example, studying knowledge transfer within organizations in Hong Kong and Germany, it was found that power distance, performance orientation, in-group collectivism, and uncertainly avoidance affect knowledge transfer (Wilkesmann, Fischer, et al., 2009).

In the context of expatriation knowledge transfer, organizational characteristics generally fall into the three types of organizational practices I described above. In terms of reward system, according to Bonache and Zarraga-Oberty (2008), reward systems linked to knowledge transfer will have a positive impact on expatriates' extrinsic motivation to transfer knowledge. As to work design, it was proposed that when organizations provide facility of communication between international and local staff, it will help create a fertile relationship for knowledge transfer (Bonache & Zarraga-Oberty, 2008). Higher performance work systems implemented in the recipient unit will have a positive impact on local employees' abilities and motivation to acquire and absorb new knowledge (Bonache & Zarraga-Oberty, 2008). Emphasis on the importance of knowledge transfer in the performance evaluation criteria will have a positive impact on expatriate's extrinsic motivation to transfer knowledge. Finally, creating supportive organizational culture is also important in the context of expatriation. It was found that host organization with a supportive culture and highly educated host country nationals are instrumental to expatriate-host country national knowledge transfer (Riusala & Suutari, 2004). Moreover, during the repatriation stage, organizational receptivity to international knowledge, intensity of transfer tools, and repatriation support to repatriates all determine whether repatriates could successfully transfer knowledge they gained from their assignments (Lazarova & Tarique, 2005).

#### *Individual Consequences*

At the individual level, there is a dearth of research on consequences of knowledge transfer. In a study that nurses transfer knowledge about work-life quality to

each other, it was shown that nurses' cynism level is reduced and self-efficacy is raised after knowledge transfer (Leiter, Day, Harvie, & Shaughnessy, 2007). It was also argued that knowledge transfer predicts firm competitive advantage and long term organizational effectiveness (Goh, 2002). In the context of team knowledge transfer, research demonstrates that knowledge transfer leads to higher level of team performance (Politis, 2003).

#### *Intra-Organizational Antecedents*

Similar to individual level of knowledge transfer, we could categorize antecedents of knowledge transfer at intra-organizational level to knowledge characteristics, source characteristics, recipient characteristics, interpersonal characteristics, and contextual characteristics.

*Knowledge characteristics.* The nature of knowledge does influence knowledge transfer (Martins & Antonio, 2010) at the intra-organizational level. Similar to the knowledge characteristics discussed at the individual level of knowledge transfer, explicit (Johansen, 2007; Roth, Jayachandran, Dakhli, & Colton, 2009), articulable (Cummings & Teng, 2003) and demonstrable (Kane, 2010) knowledge and knowledge related to existing knowledge (Johansen, 2007) are easier to be transferred. In the context of MNC, it was found that when subsidiary transfer knowledge to the parent organization, the level of knowledge relevance between parent and subsidiary determines the level of knowledge transfer (Yang, Mudambi, & Meyer, 2008). Moreover, when knowledge is transferred between MNC subsidiaries, the extent to which the use of knowledge can be shown to provide a tangible measured outcomes also enhances knowledge transfer (Roth, et al.,

2009). The quality of knowledge also matters, it was found that absolute and relative quality of international knowledge being transferred is positively related to knowledge transfer (Kotabe, Dunlap-Hinkler, Parente, & Mishra, 2007). Along the same line, recipient perceived importance or value of the knowledge transferred also influences the success of knowledge transfer (Lindsay, Chadee, Mattsson, Johnson, & Millett, 2003; Napier, 2005). For instance, when subsidiary transfer knowledge to headquarter, value of the subsidiary's knowledge stock perceived by headquarter is positively associated with knowledge transfer (Gupta & Govindarajan, 2000). On the contrary, knowledge that has high complexity (de Pablos, 2006), unproveness (Szulanski, 1996) and causal ambiguity (Simonin, 2004; Szulanski, 1996) is more difficult to transfer.

*Source characteristics.* Similar to knowledge transfer at the individual level, source's motivation and ability to transfer knowledge plays an important role in knowledge transfer (D. B. Minbaeva, 2007). When transferring knowledge between groups in an organization, if the knowledge source has higher level of motivation to transfer, knowledge transfer is more likely to be successful (Szulanski, 1996). This relationship holds true in the MNC knowledge transfer context (Lindsay, et al., 2003; Martins & Antonio, 2010; Napier, 2005), whether it is knowledge transfer from parent organization to subsidiary (e.g., Wang-Cowham, 2008; P. Wang, et al., 2004) or from subsidiary to parent organization (e.g., Gupta & Govindarajan, 2000; Millar & Choi, 2009). Also, when source's ability to transfer or relevant capability is high, knowledge transfer is more likely to be successful. For example, past experience with international knowledge transfer (Kotabe, et al., 2007), marketing experience (Roth, et al., 2009),

ability to convey knowledge (Martins & Antonio, 2010; Napier, 2005), expatriate competence (Martins & Antonio, 2010; P. Wang, et al., 2004), and source's orientation to drawing on the past, the present, and the future to inform their current practice beyond knowledge transfer (Saka-Helmhout, 2009) are positively related to knowledge transfer in MNC.

In addition to source's motivation and ability, in the context of cross-cultural intra-organizational knowledge transfer, source's sensitivity to recipient's local problem and respect to local culture and existing knowledge also affect knowledge transfer. For example, it was argued and empirically found that ethnocentrism of parent company is negatively related to knowledge transfer (Johansen, 2007), but familiarity with type of organizational problems (Johansen, 2007), considering local idiosyncrasies (J. F. L. Hong & Nguyen, 2009), choosing appropriate mechanisms that help distribute, modify, develop knowledge relevant for local environment (J. F. L. Hong & Nguyen, 2009), are positively related to knowledge transfer. When MNC transferring knowledge to Chinese subsidiary, it was found that managing cultural awareness in China (Buckley, Clegg, & Tan, 2006) and leverage of local complementary assets (Søberg, 2010) are important.

*Recipient characteristics.* Motivation and ability to receive knowledge transferred are still important at the intra-organizational level (D. B. Minbaeva, 2007). For example, research has shown that when headquarter transfer knowledge to subsidiary, subsidiary's motivational disposition to acquire knowledge determines the level of knowledge transfer (Gupta & Govindarajan, 2000; Simonin, 2004). Recipient's capacity to absorb the incoming knowledge (Gupta & Govindarajan, 2000; Lindsay, et al., 2003; Martins &

Antonio, 2010; Schleimer & Riege, 2009; Szulanski, 1996), technical embeddedness (C. Lee, 2008), specialization in the technology being transferred (Phene, et al., 2005), and learning adaptiveness (Schleimer & Riege, 2009) also influences whether knowledge transfer will be successful or not. In a more detailed manner, Wang, Tong, and Koh (2004) found that recipient's capacity to learn (in their case, China subsidiary) is achieved by emphasizing qualifications of employees and emphasis on training; recipient's intent is achieved by increasing learning intent of employees and stressing linkage between learning and reward.

*Interpersonal characteristics.* At the intra-organizational level, studies about interpersonal characteristics still fall underneath Nahapiet and Ghoshal's (1998) three social capital dimensions, structural, relational, and cognitive, well. Therefore, I will review the interpersonal characteristics that contribute to intra-organizational knowledge transfer according to these three dimensions.

In terms of the *structural* dimension, building bonds between individuals and organizational units (Miesing, Kriger, & Slough, 2007), involvement of the focal subsidiary in network relations with other MNC units (D. B. Minbaeva, 2007), organizational linkage and intensity of direct communication between the operational level subsidiary managers and the operational level parent company managers (Schotter & Bontis, 2009), number of formal and informal network ties (Schleimer & Riege, 2009), frequency of communication (Monteiro, Arvidsson, & Birkinshaw, 2008) facilitate knowledge transfer between parent organization and subsidiary. For inter-unit knowledge



transfer, network centrality (W. Tsai, 2001) and number of social interaction ties (W. Tsai & Ghoshal, 1998) enhance knowledge transfer.

As to *relational* dimension, tie strength or relationship quality is an important facet. For example, close ties (Johansen, 2007; Schleimer & Riege, 2009) and working relationship (Szulanski, 1996; Wang-Cowham, 2008) both lead to knowledge transfer. Moreover, when transferring knowledge to Chinese subsidiary, research has shown that applying Guanxi/Mianzi in practices (Buckley, et al., 2006) helps knowledge transfer. Trust (Buckley, et al., 2006; Li, Barner-Rasmussen, & Bjorkman, 2007; Miesing, et al., 2007) and trustworthiness (Szulanski, Cappetta, & Jensen, 2004) have also been identified as antecedents of knowledge transfer.

For *cognitive* dimension, shared vision, culture and low distance between source and recipient are instrumental to knowledge transfer. For example, it has been found that shared language, beliefs, judgments, dependency, mindset, and values (Buckley, et al., 2006; Johansen, 2007; Li, et al., 2007) predict knowledge transfer. Moreover, similarities in organizational structures (Johansen, 2007), low organizational cultural distance (de Pablos, 2006), high comparable level of dual organizational identification (Vora & Kostova, 2007), and low norm and knowledge distance (Cummings & Teng, 2003) all affect knowledge transfer.

*Contextual characteristics.* I further categorize contextual characteristics into four categories, cultural, industry, organizational, and knowledge transfer mechanism characteristics. As many MNC knowledge transfer takes place in countries of different cultural backgrounds, cultural characteristics does influence knowledge transfer.

Generally it was found that cultural similarity (Perrin, Rolland, & Stanley, 2007; Qin & Wang, 2008; Wang-Cowham, 2008) between source and recipient promotes knowledge transfer, although one study by Brewer (2008) shows that cultural difference does not interfere with knowledge transfer.

A few studies reported that the industry characteristics influence whether the knowledge transfer will be successful or not. For example, when transferring knowledge between headquarter and subsidiary, high levels of homogeneity in terms of market maturity, market size and competitive position is positively related to knowledge transfer (Perrin, et al., 2007). The higher the level of market turbulence, the more likely that MNC subsidiaries transfer knowledge between each other (Roth, et al., 2009). Somewhat contradictory to the previous finding, in a study about R&D transfer to China, industry characterized by slow technological development seems impede knowledge transfer (Søberg, 2010).

In terms of organizational characteristics, subsidiary size (Johansen, 2007) and R&D resource (Kotabe, et al., 2007) are positively related to knowledge transfer. Some organizational practices also influence knowledge transfer, such as staffing, training, promotion, compensation, performance appraisal (Bjorkman, et al., 2004; Dana B. Minbaeva, 2005). Supportive organizational cultures and environments, such as supportive hierarchy, team collaboration (Napier, 2005), flexibility in the organizational structure of a company (Joia & Lemos, 2010), and a context allowing exchange (Napier, 2005) all are predictive of knowledge transfer.

Transfer mechanism characteristics also matter. For example, personal transfer mechanisms such as foreign delegations and global teams and rich communication media are more suitable for transferring tacit knowledge (Holtbrügge & Berg, 2004; Pedersen, Petersen, & Sharma, 2003). On the other hand, written media is good for explicit knowledge transfer (Pedersen, et al., 2003). Generally, research has shown that face to face communication mechanisms (Perrin, et al., 2007; Schleimer & Riege, 2009), interpersonal knowledge sharing (Roth, et al., 2009), richness of transmission channels (Gupta & Govindarajan, 2000), subsidiary usage of liaison mechanisms, subsidiary usage of temporary (versus permanent) team structures (Persson, 2006), and greater level of personalization in knowledge management strategy of a company (Joia & Lemos, 2010) foster knowledge transfer.

#### *Intra-Organizational Consequences*

Similar to knowledge transfer at the individual level, there are relatively less studies research the consequences of knowledge transfer. Consequences at intra-organizational level include innovative performance (Kotabe, et al., 2007; Søberg, 2010), organizational performance (de Pablos, 2006; Y. Fang, Jiang, Makino, & Beamish, 2010), knowledge integration (Subramaniam, 2006), value creation (W. Tsai & Ghoshal, 1998), intellectual capital (Roth, et al., 2009), and organizational identification (Roth, et al., 2009).

#### *Inter-Organizational Antecedents*

As mentioned previously, there are several different contexts that knowledge transfer takes place at the inter-organizational level. I will specify the contexts of studies

when reviewing antecedents so that we can understand if there are any contextual specific antecedents of knowledge transfer. In the following sections, I will still categorize antecedents as knowledge, source, recipient, interpersonal, and contextual characteristics.

*Knowledge characteristics.* Again, type of knowledge is an important predictor of knowledge transfer (Pak & Park, 2004) at the inter-organizational level. In the contexts of strategic alliances (Khamseh & Jolly, 2008; Narteh, 2008), offshore partners (Chen, Sun, & McQueen, 2010), acquiree-acquiree (Westphal & Shaw, 2005), franchisor-franchisee (Gorovaia & Windsperger, 2010), and general inter-firm (Bhagat, Kedia, Harveston, & Triandis, 2002) knowledge transfer, tacit knowledge is shown to be more difficult to transfer. In the context of university-industry, offshore partners and acquiree-acquiree knowledge transfer, technological relatedness facilitates knowledge/technology transfer between the two institutes (Casal & Fontela, 2007; Chen, et al., 2010; Khamseh & Jolly, 2008; Reagans & McEvily, 2003; Santoro & Bierly III, 2006). On the contrary, when knowledge that contradicts prior belief of the recipient, is complex and ambiguous, it is more difficult to transfer, in the context of strategic alliance (Inkpen & Pien, 2006; Khamseh & Jolly, 2008; Simonin, 1999) and acquisition (Casal & Fontela, 2007). Moreover, for acquiree and acquiree (Westphal & Shaw, 2005; Zou & Ghauri, 2008) and strategic alliance (Khamseh & Jolly, 2008), knowledge complementarity between two firms fosters knowledge transfer. Along the similar line, when acquiree, strategic alliance, and business partners realize that the knowledge being transfer is useful, valuable, rare, inimitable, non-substitutable, and core for the partner, they are more

likely to acquire it (Khamseh & Jolly, 2008; Pérez-Nordtvedt, Kedia, Datta, & Rasheed, 2008; Westphal & Shaw, 2005).

*Source characteristics.* Source's motivation to transfer knowledge is still important at the inter-organizational level. For example, in the context of knowledge transfer between professional engineers and between acquirer and acquiree, it was found that willingness (Heliot & Riley, 2010) and demonstrated commitment (Westphal & Shaw, 2005) to transfer predicts knowledge transfer. In the context of IJVs, the active managerial engagement of the foreign parent is also positively related to knowledge transfer (Park, Giroud, & Glaister, 2009). Source's ability to transfer knowledge is also important. In the contexts of buyer-supplier, strategic alliance, university-industry, and other general inter-firm knowledge transfer, source's teaching (Narteh, 2008), transmissive (Moreira, 2009), disseminative (Parent, Roy, & St-Jacques, 2007), generative ability (Parent, et al., 2007), and experience in knowledge transfer (Becheikh, Ziam, Idrissi, Castonguay, & Landry, 2010) predict knowledge transfer. Furthermore, source's understanding about receiver's environment and practices, flexibility, and adaptation efforts increase the level of knowledge transfer in the contexts of university-industry (Becheikh, et al., 2010; Johnston, Robinson, & Lockett, 2010) and franchisor-franchisee (Szulanski, Jensen, & Lee, 2003) knowledge transfer. Moreover, the more attractive and credible the source, the more successful the knowledge transfer, in the context of general inter-firm (Pérez-Nordtvedt, et al., 2008) and university-industry (Becheikh, et al., 2010) knowledge transfer.

*Recipient characteristics.* Recipient's learning motivation and learning ability are still important at the inter-organizational level. For recipient's motivation, research has shown that recipient firm's learning intent is positively associated with knowledge transfer in the contexts of general inter-firm (Pérez-Nordtvedt, et al., 2008; Rhodes, Lok, Hung, & Fang, 2008), strategic alliance (Khamseh & Jolly, 2008; Narteh, 2008), university-industry (Becheikh, et al., 2010), acquirer-acquiree (Westphal & Shaw, 2005), and IJVs (Park, et al., 2009). In terms of ability, a large number of studies at the inter-organizational level show that technological capability and practitioner's ability to understand research results in the context of university-industry; learning partner's necessary skills and absorptive capacity to exploit the knowledge opportunity in the context of strategic alliance (Inkpen & Pien, 2006; Mowery, Oxley, & Silverman, 1996); capacity to acquire and use information of the IJV organization in the context of IJVs (Lyles & Salk, 1996) are positively related to knowledge transfer.

In addition to motivation and ability, recipient firm's with more mechanistic structure, stable direction-oriented cultures, customized university policies for intellectual property rights, patent ownership, licensing are facilitative of knowledge transfer in the context of university-industry (Gopalakrishnan & Santoro, 2004). However, in the context of acquisition, it was found that acquiree's fear of exploitation and fear of contamination are negatively associated with knowledge transfer (Empson, 2001).

*Interpersonal characteristics.* Similar to knowledge transfer at the individual level, interpersonal characteristics receive great research attention at the inter-organizational level. Since the constructs researched at this level still fall nicely

underneath Nahapiet and Ghoshal's (1998) three dimensions of social capital, I will review the articles according to these dimensions.

For structural dimension, network intermediaries, flexibility, openness and connectivity of network structures, and network participation are positively associated with knowledge transfer in the context of university-industry knowledge transfer (Johnston, et al., 2010). In the context of IJVs knowledge transfer, individual interactions with partner increase tacit knowledge transfer (Inkpen & Dinur, 1998). In the context of acquirer-acquiree knowledge transfer, frequency of use of rich communication between the personnel of the acquired firm who possess the valuable knowledge and the receiving personnel of the acquiring firm fosters knowledge transfer (Casal & Fontela, 2007). In the context of strategic alliance, utilizing multiple suppliers to enhance network ties and to increase social networks, increasing network utilization and frequency and maintain multiple connections by unitizing projects into small segments (Rottman, 2008), and creation of a network (Inkpen, 2008), all facilitate knowledge transfer. Moreover, network range is also positively related to knowledge transfer (Reagans & McEvily, 2003).

As to relational dimension, trust (e.g., Rhodes, Hung, Lok, Lien, & Wu, 2008) and relationship quality (e.g., Pérez-Nordtvedt, et al., 2008) are again showing their importance in predicting knowledge transfer. In the context of university-industry knowledge transfer, building trust in relationships through mutual understanding is positively related to knowledge transfer (Johnston, et al., 2010; Santoro & Bierly III, 2006). In the context of buyer-supplier knowledge transfer, ability-based trust,

benevolence-based trust, integrity-based trust, relational mutual influence, interfirm trust, buyer-supplier cooperation, and interfirm socialization also lead to knowledge transfer (Muthusamy, Hur, & Palanisamy, 2008; Squire, Cousins, & Brown, 2009). In the context of strategic alliance, research has also shown that increasing internal trust by understanding and managing the talent pipeline (Rottman, 2008), prior relationship between partners (Khamseh & Jolly, 2008), level of trust between partners (Khamseh & Jolly, 2008; Muthusamy & White, 2005), character-based trust (Y. Wang & Nicholas, 2005), and process-based trust (Y. Wang & Nicholas, 2005) contribute to knowledge transfer. In the context of acquisition, individuals' perceived positive relationship with their new colleagues is positively associated with knowledge transfer (Westphal & Shaw, 2005). In the context of IJVs, strategic relationships between the two organizational units influence the level of knowledge transfer (Inkpen & Dinur, 1998). For inter-firm knowledge transfer, research has also shown that relational conditions and expectations of long-term relationship positively predict knowledge transfer (Faems, Janssens, & van Looy, 2007).

Norms is another facet in the relational dimension, research has shown that work environment characterized by strong information-sharing norms is positively related to acquirer-acquiree knowledge transfer (Westphal & Shaw, 2005). Identification is also a facet in relational dimension that predicts knowledge transfer. In the acquirer-acquiree context, individuals' identification with the new firm is positively associated with knowledge transfer (Westphal & Shaw, 2005).



Finally, in terms of the cognitive dimension, similarity and shared cultures and values between firms still receive a great amount of empirical supports. For example, in the context of intra-industry knowledge transfer, Biggiero and Sammarra (2010) studied the knowledge transfer among aerospace industrial cluster of Centre Italy and found that geographical proximity between the firms is positively associated with knowledge transfer. In the context of IJVs, when IJV partners have articulated goals, they are more likely to transfer knowledge effectively. On the other hand, if the partners have cultural or other sources of conflict, knowledge transfer is less likely to be successful (Lyles & Salk, 1996). In the context of strategic alliance, having similar value systems are also important to knowledge transfer (Narteh, 2008). Strengthening cultural understanding by visiting the offshore supplier and project teams, clarifying goals by communicating the offshore strategy to all parties, integrating the supplier's employees into development team, co-training internal employees and supplier employees to communicate goals and increase cultural awareness, are all approaches that facilitate knowledge transfer between strategic alliance partners (Rottman, 2008). Similarly, in the context of acquirer-acquiree knowledge transfer, if the merging firms differ fundamentally in terms of the quality of their external image (Empson, 2001), organizational culture (Sarala & Vaara, 2010; Westphal & Shaw, 2005), strategies (Westphal & Shaw, 2005), pre-acquisition performances (Westphal & Shaw, 2005) and the form of their knowledge base (Empson, 2001), knowledge transfer will be more difficult.

*Contextual characteristics.* I categorize contextual characteristics into cultural, organizational, and knowledge transfer mechanism characteristics.

For cultural characteristics, in the contexts of university-industry and offshore partner knowledge transfer, research has shown that national cultural differences make it more difficult to transfer knowledge (Bhagat, et al., 2002; Chen & McQueen, 2010; Johnston, et al., 2010; Sarala & Vaara, 2010). However, by understanding the cultural differences, knowledge transfer is smoother. For example, when university-industry R&D collaboration and knowledge interaction in the context of multinational corporations in China, understanding Chinese culture and *guanxi* facilitate knowledge transfer (J. Hong, Heikkinen, & Blomqvist, 2010).

In terms of organizational characteristics, it has found that the retention of key local employees (Zou & Ghauri, 2008), a dual management structure and a significant degree of decision autonomy delegated to the local partner in the newly combined organization (Zou & Ghauri, 2008), and work environment characterized by high structural flux (Westphal & Shaw, 2005) facilitate knowledge transfer in the context of acquisition. When transferring knowledge between high tech companies, flexible structure and design (Rhodes, Hung, et al., 2008), and organizational learning (Rhodes, Lok, et al., 2008) are positively associated with knowledge transfer .

Knowledge transfer mechanism characteristics also matter at the level of inter-firm knowledge transfer. In the context of university-industry transfer, university research center technology transfer intellectual property policies (Santoro & Bierly III, 2006) and characteristics of linkage agents such as employee professional experience, employee cognitive abilities, employee social capital, employee personal attributes, organizational structure, organizational resources dedicated to knowledge transfer, and organizational

policies to encourage knowledge transfer (Becheikh, et al., 2010) all facilitate knowledge transfer between university and industry. In the context of buyer-supplier knowledge transfer, communication and information sharing (Muthusamy, et al., 2008; Saporito & Gopalakrishnan, 2009) and buyers investment in knowledge sharing routines contribute to knowledge transfer. In other knowledge transfer contexts such as acquirer-acquiree and strategic alliance, empirical evidences also show that transfer of people (Feller, Parhankangas, & Smeds, 2009; Inkpen, 2008), frequent visit (Bresman, Birkinshaw, & Nobel, 1999; Inkpen, 2008), meetings (Feller, et al., 2009), written documents exchange (Feller, et al., 2009), transparent and receptive communication (Bresman, et al., 1999; S. Tsai, Ding, & Rice, 2008), training programs (Inkpen, 2008), and information technology (Rhodes, Hung, et al., 2008) all help knowledge transfer.

#### *Inter-Organizational Consequences*

There are still only a handful of studies that explore the consequences of knowledge transfer at the inter-organizational level. Consequences at this level could be categorized to relationship and performance regardless of knowledge transfer context. For example, In the context of buyer-supplier knowledge transfer, knowledge transfer enhances quality of a supplier's product for a particular customer (Dyer & Hatch, 2006), productivity of the supplier's operations for a particular customer (Dyer & Hatch, 2006), suppliers' supply chain performance (Hernandez-Espallardo, Rodriguez-Orejuela, & Sanchez-Perez, 2010; Kotabe, Martin, & Domoto, 2003), and amount of shared knowledge (Blumenberg, Wagner, & Beimborn, 2009). In the context of IJVs, IJV performance in terms of competency-based/human-resource development (Lyles & Salk,

1996), overall IJV performance (Dhanaraj, et al., 2004), partners' commitment to the IJV (Griffith, Zeybek, & O'Brien, 2001), and satisfaction with the IJV relationship (Griffith, et al., 2001). In the context of acquirer-acquiree knowledge transfer, consequences include performance and application of relevant experiences and skills in future operations (Zou & Ghauri, 2008). In the context of general inter-firm knowledge transfer, performance (Williams, 2007), innovative capability (Cavusgil, Calantone, & Zhao, 2003; Rhodes, Hung, et al., 2008), competitive advantage (Liao & Hu, 2007), corporate entrepreneurship such as innovation, venturing, and strategic renewal (Thorgren, Wincent, & Ortqvist, 2009), are all consequences of knowledge transfer.

### **Discussion and Future Research Directions**

Knowledge is important in today's highly competitive environment because it could create competitive advantage for individuals and firms. Therefore, how to successfully transfer knowledge between individuals and firms so that we could all benefit from the knowledge we acquire draws enormous research attention in the past decades. In this review, definition of knowledge transfer, major theoretical perspectives, antecedents and consequences of knowledge transfer have been summarized. Below I will provide future research directions based on the existing literature.

For the definition of knowledge transfer, as mentioned previously that many researchers did not define knowledge transfer in their research, which makes readers conceive the definition by themselves. From the review we realized that there are many different definitions of knowledge transfer, to reduce the possible confusions and to align

research questions with the knowledge transfer construct, it would be better for future research to clearly define knowledge transfer.

As to theoretical perspectives, as mentioned previously, the majority of studies do not draw upon any theoretical perspective to develop propositions or hypotheses. For the remaining studies that do use theories, many of them use firm level theories such as resource-based view, dynamic capability perspective, and interpersonal level theory such as social capital/network theory. Only a handful of studies adopt individual level theories such as identity theory, social exchange theory, and motivation/expectancy theory. Although the majority of the research on knowledge transfer is conducted at the firm level, using firm level theories mentioned above is appropriate, knowledge transfer, by definition, one is affected by the experience of the other, may still need to be carried out by individuals. Therefore, individual level theories such as human capital theory, leadership theory, and organizational socialization theory might be adopted to advance our understanding of knowledge transfer.

In terms of methodology, more longitudinal studies are needed. Moreover, more dyadic perspectives and multi-source data are needed in the research of knowledge transfer. Knowledge transfer generally involves a source and a recipient, getting perspectives from both sides might give us a better or more complete picture regarding knowledge transfer. As of now, most studies only collect data from one perspective, mostly the recipient. Related to the previous issue, it might be more informative to conduct multi-level study. As of now, only a handful studies are multi-level. Knowledge transfer is completed by individuals; however, the interpersonal/dyadic/team level factors

such as trust and relationship might influence knowledge transfer as mentioned earlier that knowledge transfer involves a source and a recipient. As individuals, dyads, teams are nested within an organization, organizational practices affect knowledge transfer executed at lower levels. Furthermore, industry, national culture, and other environmental characteristics might also influence knowledge transfer nested within these higher order factors. Therefore, multi-level studies in knowledge transfer might help us get a wholesome picture regarding knowledge transfer.

As shown in Table 1 to 6, the antecedents of knowledge transfer at individual, intra-organizational, and inter-organizational level seem to be consistent, although some contextual specific factors are taken into consideration when exploring knowledge transfer under specific contexts. Therefore, I will discuss the antecedents of knowledge transfer as a whole without breaking down to three levels of analysis.

TABLE 1

**Knowledge Characteristics Predicting Knowledge Transfer**

Individual	Intra-organizational	Inter-organizational
<u>General individual</u> <ul style="list-style-type: none"> <li>• Tacit</li> <li>• Complex</li> <li>• Specific</li> <li>• Causal ambiguity</li> <li>• Systemic</li> <li>• Codifiable</li> <li>• Teachable</li> </ul> <u>Expatriation context</u> <ul style="list-style-type: none"> <li>• Teachable</li> <li>• Complex</li> <li>• Tacit</li> <li>• Codifiable</li> </ul>	<u>General intra-organizational</u> <ul style="list-style-type: none"> <li>• Tacit</li> <li>• Articulable</li> <li>• Demonstrable</li> <li>• Related to existing knowledge</li> </ul> <u>MNCs context</u> <ul style="list-style-type: none"> <li>• Knowledge relevance between parent and subsidiary</li> <li>• The use of knowledge can be shown to provide a tangible measured outcome</li> <li>• Quality of knowledge</li> <li>• Complex</li> <li>• Unproveness</li> <li>• Causal ambiguity</li> <li>• Importance or value of the knowledge</li> </ul>	<u>General inter-organizational</u> <ul style="list-style-type: none"> <li>• Tacit</li> <li>• Useful</li> <li>• Valuable</li> <li>• Rare</li> <li>• Inimitable</li> <li>• Non-substitutable</li> </ul> <u>Strategic alliance context</u> <ul style="list-style-type: none"> <li>• Tacit</li> <li>• Contradicts prior belief</li> <li>• Complex</li> <li>• Ambiguous</li> <li>• Complementarity</li> <li>• Core for the partner</li> </ul> <u>Offshore partners context</u> <ul style="list-style-type: none"> <li>• Tacit</li> <li>• Technological relatedness</li> </ul> <u>Acquirer-acquiree context</u> <ul style="list-style-type: none"> <li>• Tacit</li> <li>• Technological relatedness</li> <li>• Contradicts prior belief</li> <li>• Complex</li> <li>• Ambiguous</li> <li>• Complementarity</li> </ul> <u>Franchisor-franchisee context</u> <ul style="list-style-type: none"> <li>• Tacit</li> </ul> <u>University-industry context</u> <ul style="list-style-type: none"> <li>• Technological relatedness</li> </ul>

TABLE 2

## Source Characteristics Predicting Knowledge Transfer

Individual	Intra-organizational	Inter-organizational
<u>General individual</u> <ul style="list-style-type: none"> <li>• Motivation <ul style="list-style-type: none"> <li>○ Positive attitudes</li> <li>○ Low perceived cost</li> <li>○ Perceived rewards</li> <li>○ Self-efficacy</li> <li>○ Willingness of individuals to contribute their knowledge to the management system</li> <li>○ Propensity to share knowledge</li> </ul> </li> <li>• Ability <ul style="list-style-type: none"> <li>○ Problem-solving behavior</li> <li>○ Change management capabilities</li> <li>○ Possess a superior rather than an inferior routine</li> </ul> </li> <li>• Reputation <ul style="list-style-type: none"> <li>○ recipient's perceived expertise of the source</li> </ul> </li> </ul> <u>Expatriation context</u> <ul style="list-style-type: none"> <li>• Interaction between motivation and ability</li> <li>• Motivation <ul style="list-style-type: none"> <li>○ Readiness to knowledge transfer</li> <li>○ Career consideration</li> </ul> </li> <li>• Ability <ul style="list-style-type: none"> <li>○ Disseminative ability</li> <li>○ Leadership</li> <li>○ Good management</li> <li>○ Feedback seeking</li> </ul> </li> </ul>	<u>General intra-organizational</u> <ul style="list-style-type: none"> <li>• motivation</li> <li>• ability</li> </ul> <u>MNCs context</u> <ul style="list-style-type: none"> <li>• motivation</li> <li>• ability <ul style="list-style-type: none"> <li>○ past experience with international knowledge transfer</li> <li>○ marketing experience</li> <li>○ ability to convey knowledge</li> <li>○ expatriate competence</li> <li>○ orientation to drawing on the past, the present, and the future to inform its current practice beyond knowledge transfer</li> </ul> </li> <li>• Cultural awareness <ul style="list-style-type: none"> <li>○ sensitivity to recipient's local problem and respect to local culture and existing knowledge</li> <li>○ ethnocentrism</li> <li>○ choosing appropriate mechanisms that help distribute, modify, develop knowledge relevant for local environment</li> <li>○ leverage of local complementary assets</li> </ul> </li> </ul>	<u>General inter-organizational</u> <ul style="list-style-type: none"> <li>• ability <ul style="list-style-type: none"> <li>○ disseminative capacity</li> <li>○ generative capacity</li> </ul> </li> <li>• reputation <ul style="list-style-type: none"> <li>○ source's attractiveness</li> </ul> </li> </ul> <u>Strategic alliance context</u> <ul style="list-style-type: none"> <li>• ability <ul style="list-style-type: none"> <li>○ teaching capability</li> </ul> </li> </ul> <u>Acquirer-acquiree context</u> <ul style="list-style-type: none"> <li>• motivation <ul style="list-style-type: none"> <li>○ willingness to knowledge transfer</li> <li>○ demonstrated commitment to transfer</li> </ul> </li> </ul> <u>Franchisor-franchisee context</u> <ul style="list-style-type: none"> <li>• local awareness <ul style="list-style-type: none"> <li>○ understanding of the receiver's environment</li> </ul> </li> </ul> <u>University-industry context</u> <ul style="list-style-type: none"> <li>• ability <ul style="list-style-type: none"> <li>○ experience in knowledge transfer</li> </ul> </li> <li>• local awareness <ul style="list-style-type: none"> <li>○ flexibility</li> <li>○ adaptation efforts</li> </ul> </li> <li>• reputation <ul style="list-style-type: none"> <li>○ credibility</li> </ul> </li> </ul> <u>IJVs context</u> <ul style="list-style-type: none"> <li>• motivation <ul style="list-style-type: none"> <li>○ active managerial</li> </ul> </li> </ul>



<p>behavior</p> <ul style="list-style-type: none"><li>• Reputation<ul style="list-style-type: none"><li>○ Reliable</li></ul></li><li>• cultural awareness<ul style="list-style-type: none"><li>○ Interpersonal sensitivity or awareness to cultural differences</li></ul></li></ul>		<p>engagement of the foreign parent</p> <p><u>buyer-supplier context</u></p> <ul style="list-style-type: none"><li>• ability<ul style="list-style-type: none"><li>○ transmissive capability</li></ul></li></ul>
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TABLE 3

### Recipient Characteristics Predicting Knowledge Transfer

Individual	Intra-organizational	Inter-organizational
<p><u>General individual</u></p> <ul style="list-style-type: none"> <li>• Motivation <ul style="list-style-type: none"> <li>○ learning intensity</li> <li>○ the rate at which recipients access and reuse knowledge within the knowledge management system</li> </ul> </li> <li>• Ability <ul style="list-style-type: none"> <li>○ absorptive capability</li> <li>○ capability to acquire and retain relevant skills</li> </ul> </li> <li>• Open mind to new ideas/experiences</li> </ul> <p><u>Expatriation context</u></p> <ul style="list-style-type: none"> <li>• Interaction between motivation and ability</li> <li>• Ability <ul style="list-style-type: none"> <li>○ Host country nationals' absorptive capacity</li> </ul> </li> </ul>	<p><u>MNCs context</u></p> <ul style="list-style-type: none"> <li>• Motivation <ul style="list-style-type: none"> <li>○ subsidiary's motivational disposition to acquire knowledge</li> </ul> </li> <li>• Ability <ul style="list-style-type: none"> <li>○ absorptive capacity</li> <li>○ technical embeddedness</li> <li>○ specialization in the technology being transferred</li> <li>○ learning adaptiveness</li> </ul> </li> </ul>	<p><u>General inter-organizational</u></p> <ul style="list-style-type: none"> <li>• Motivation <ul style="list-style-type: none"> <li>○ Learning intent</li> </ul> </li> </ul> <p><u>Strategic alliance context</u></p> <ul style="list-style-type: none"> <li>• Motivation <ul style="list-style-type: none"> <li>○ Learning intent</li> </ul> </li> <li>• Ability <ul style="list-style-type: none"> <li>○ learning partner's necessary skills</li> <li>○ absorptive capacity to exploit the knowledge opportunity</li> </ul> </li> </ul> <p><u>Acquirer-acquiree context</u></p> <ul style="list-style-type: none"> <li>• Motivation <ul style="list-style-type: none"> <li>○ Learning intent</li> </ul> </li> <li>• supportive organizational practices <ul style="list-style-type: none"> <li>○ acquiree's fear of exploitation and fear of contamination</li> </ul> </li> </ul> <p><u>University-industry context</u></p> <ul style="list-style-type: none"> <li>• Motivation <ul style="list-style-type: none"> <li>○ Learning intent</li> </ul> </li> <li>• ability <ul style="list-style-type: none"> <li>○ technological capability</li> <li>○ ability to understand research results</li> </ul> </li> <li>• supportive organizational practices <ul style="list-style-type: none"> <li>○ stable direction-oriented cultures</li> <li>○ customized university policies for intellectual property rights</li> </ul> </li> </ul>

		<ul style="list-style-type: none"><li>○ patent ownership</li></ul> <p><u>IJVs context</u></p> <ul style="list-style-type: none"><li>● Motivation<ul style="list-style-type: none"><li>○ Learning intent</li></ul></li><li>● ability<ul style="list-style-type: none"><li>○ capacity to acquire and use information</li></ul></li></ul>
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TABLE 4

## Interpersonal Characteristics Predicting Knowledge Transfer

Individual	Intra-organizational	Inter-organizational
<p><u>General individual</u></p> <ul style="list-style-type: none"> <li>• Structural               <ul style="list-style-type: none"> <li>○ Network centrality</li> <li>○ Number of interaction</li> <li>○ face to face interactions</li> <li>○ open and direct communication</li> <li>○ number of relations that individual maintains</li> <li>○ direct channels for interaction</li> </ul> </li> <li>• Relational               <ul style="list-style-type: none"> <li>○ trust                   <ul style="list-style-type: none"> <li>▪ faith and confidence in peers (affect-based, cognition-based, competence-based, benevolence-based)</li> </ul> </li> <li>○ strong ties                   <ul style="list-style-type: none"> <li>▪ close relationship</li> <li>▪ family ties</li> <li>▪ expressive ties</li> <li>▪ instrumental ties</li> <li>▪ effective mentoring relationships</li> </ul> </li> <li>○ norms                   <ul style="list-style-type: none"> <li>▪ perceived norms of knowledge sharing</li> </ul> </li> <li>○ obligations and expectations                   <ul style="list-style-type: none"> <li>▪ expectations of reciprocity</li> </ul> </li> <li>○ identification                   <ul style="list-style-type: none"> <li>▪ group identification</li> </ul> </li> </ul> </li> <li>• Cognitive</li> </ul>	<p><u>MNCs context</u></p> <ul style="list-style-type: none"> <li>• structural               <ul style="list-style-type: none"> <li>○ building bonds between individuals and organizational units</li> <li>○ involvement of the focal subsidiary in network relations with other MNC units</li> <li>○ organizational linkage and intensity of direct communication between the operational level subsidiary managers and the operational level parent company managers</li> <li>○ number of network ties</li> <li>○ frequency of communication</li> <li>○ network centrality</li> </ul> </li> <li>• relational               <ul style="list-style-type: none"> <li>○ trust                   <ul style="list-style-type: none"> <li>▪ trustworthiness</li> </ul> </li> <li>○ strong ties                   <ul style="list-style-type: none"> <li>▪ working relationship</li> <li>▪ close relationship</li> <li>▪ applying guanxi/mianzi practices in China</li> </ul> </li> </ul> </li> <li>• cognitive               <ul style="list-style-type: none"> <li>○ shared language</li> <li>○ shared beliefs</li> <li>○ shared judgments</li> <li>○ dependency</li> <li>○ similarities in organizational structures</li> </ul> </li> </ul>	<p><u>General inter-organizational</u></p> <ul style="list-style-type: none"> <li>• relational               <ul style="list-style-type: none"> <li>○ relational conditions</li> <li>○ expectations of long-term relationship</li> </ul> </li> </ul> <p><u>Strategic alliance context</u></p> <ul style="list-style-type: none"> <li>• structural               <ul style="list-style-type: none"> <li>○ utilizing multiple suppliers to enhance network ties</li> <li>○ network range</li> </ul> </li> <li>• relational               <ul style="list-style-type: none"> <li>○ increasing internal trust</li> </ul> </li> <li>• cognitive               <ul style="list-style-type: none"> <li>○ similar value systems</li> </ul> </li> </ul> <p><u>Acquirer-acquiree context</u></p> <ul style="list-style-type: none"> <li>• relational               <ul style="list-style-type: none"> <li>○ positive relationship with new colleagues</li> <li>○ information-sharing norm</li> <li>○ identification with the new firm</li> </ul> </li> <li>• cognitive               <ul style="list-style-type: none"> <li>○ difference in the quality of external image, organizational culture, strategies, pre-acquisition performances</li> </ul> </li> </ul>

<ul style="list-style-type: none"> <li>○ social proximity</li> <li>○ a common understanding and shared language</li> <li>○ shared mental schemes</li> <li>○ relational model</li> <li>○ tenure and age difference</li> </ul> <p><u>Expatriation context</u></p> <ul style="list-style-type: none"> <li>● expatriate social capital</li> <li>● host country nationals commit to, identify with, and trust parent company</li> </ul>	<ul style="list-style-type: none"> <li>○ organizational cultural distance</li> <li>○ norm distance</li> <li>○ comparable dual organizational identification</li> </ul>	<p><u>University-industry context</u></p> <ul style="list-style-type: none"> <li>● structural <ul style="list-style-type: none"> <li>○ network participation</li> <li>○ openness and connectivity of network structures</li> </ul> </li> <li>● relational <ul style="list-style-type: none"> <li>○ building trust through mutual understanding</li> </ul> </li> <li>● cognitive</li> </ul> <p><u>IJVs context</u></p> <ul style="list-style-type: none"> <li>● structural <ul style="list-style-type: none"> <li>○ frequency of use of rich communication</li> </ul> </li> <li>● relational <ul style="list-style-type: none"> <li>○ strategic relationships between the two organizational units</li> </ul> </li> <li>● cognitive <ul style="list-style-type: none"> <li>○ partners have articulated goals</li> <li>○ cultural or other source of conflict</li> </ul> </li> </ul> <p><u>buyer-supplier context</u></p> <ul style="list-style-type: none"> <li>● relational <ul style="list-style-type: none"> <li>○ ability-based, benevolence-based, integrity-based trust</li> <li>○ interfirm socialization</li> </ul> </li> <li>● cognitive</li> </ul> <p><u>Intra-industry context</u></p> <ul style="list-style-type: none"> <li>● cognitive <ul style="list-style-type: none"> <li>○ geographical proximity</li> </ul> </li> </ul>
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TABLE 5

## Contextual Characteristics Predicting Knowledge Transfer

Individual	Intra-organizational	Inter-organizational
<p><u>General individual</u></p> <ul style="list-style-type: none"> <li>• organizational practices               <ul style="list-style-type: none"> <li>○ reward system                   <ul style="list-style-type: none"> <li>▪ organizational reward</li> </ul> </li> <li>○ work design                   <ul style="list-style-type: none"> <li>▪ using knowledge facilitators that organize and lead knowledge sharing seminars</li> <li>▪ team work</li> <li>▪ providing appropriate transfer mechanisms</li> <li>▪ source and recipient work side by side</li> </ul> </li> <li>○ creating a supportive organizational culture                   <ul style="list-style-type: none"> <li>▪ supportive organizational structure</li> <li>▪ a culture of sharing and participation among employees</li> <li>▪ visible and participative management</li> </ul> </li> </ul> </li> <li>• cultural difference               <ul style="list-style-type: none"> <li>○ power distance</li> <li>○ performance orientation</li> <li>○ in-group collectivism</li> <li>○ uncertainty avoidance</li> </ul> </li> </ul> <p><u>Expatriation context</u></p> <ul style="list-style-type: none"> <li>• organizational practices               <ul style="list-style-type: none"> <li>○ reward system                   <ul style="list-style-type: none"> <li>▪ reward systems</li> </ul> </li> </ul> </li> </ul>	<p><u>MNCs context</u></p> <ul style="list-style-type: none"> <li>• cultural               <ul style="list-style-type: none"> <li>○ cultural similarity</li> </ul> </li> <li>• industry               <ul style="list-style-type: none"> <li>○ homogeneity in terms of market maturity, market size, and competitive position</li> <li>○ market turbulence</li> <li>○ slow technological development</li> </ul> </li> <li>• organizational               <ul style="list-style-type: none"> <li>○ subsidiary size</li> <li>○ R&amp; D resource</li> <li>○ staffing, training, promotion, compensation, performance appraisal</li> <li>○ supportive organizational cultures</li> <li>○ flexibility in the organizational structure</li> <li>○ a context allowing exchange</li> </ul> </li> <li>• transfer mechanism               <ul style="list-style-type: none"> <li>○ personal transfer mechanism (for tacit knowledge transfer)                   <ul style="list-style-type: none"> <li>▪ global teams</li> <li>▪ rich communication media</li> </ul> </li> <li>○ written media (for explicit knowledge transfer)</li> </ul> </li> </ul>	<p><u>General inter-organizational</u></p> <ul style="list-style-type: none"> <li>• organizational               <ul style="list-style-type: none"> <li>○ flexible structure and design</li> <li>○ organizational learning</li> </ul> </li> </ul> <p><u>Strategic alliance context</u></p> <ul style="list-style-type: none"> <li>• transfer mechanism               <ul style="list-style-type: none"> <li>○ transfer of people</li> <li>○ meetings</li> <li>○ written documents exchange</li> <li>○ training programs</li> <li>○ information technology</li> </ul> </li> </ul> <p><u>Offshore partners context</u></p> <ul style="list-style-type: none"> <li>• cultural               <ul style="list-style-type: none"> <li>○ national cultural differences</li> </ul> </li> </ul> <p><u>Acquirer-acquiree context</u></p> <ul style="list-style-type: none"> <li>• organizational               <ul style="list-style-type: none"> <li>○ retention of key local employee</li> <li>○ a dual management structure</li> <li>○ decision autonomy delegated to the local partner</li> <li>○ work environment characterized by high structural flux</li> </ul> </li> <li>• transfer mechanism               <ul style="list-style-type: none"> <li>○ frequent visit</li> <li>○ transparent and</li> </ul> </li> </ul>

<p>linked to knowledge transfer</p> <ul style="list-style-type: none"> <li>○ work design <ul style="list-style-type: none"> <li>▪ providing facility of communication between international and local staff</li> <li>▪ higher performance work systems</li> <li>▪ emphasis on the importance of knowledge transfer in the performance evaluation criteria</li> </ul> </li> <li>○ creating a supportive organizational culture <ul style="list-style-type: none"> <li>▪ host organization with a supportive culture and highly educated host country nationals</li> <li>▪ organizational receptivity to international knowledge, intensity of transfer tools, and repatriation support during the repatriation stage</li> </ul> </li> </ul>		<p>receptive communication</p> <p><u>University-industry context</u></p> <ul style="list-style-type: none"> <li>● cultural <ul style="list-style-type: none"> <li>○ national cultural differences</li> <li>○ understanding Chinese culture and guanxi</li> </ul> </li> <li>● transfer mechanism <ul style="list-style-type: none"> <li>○ characteristics of linkage agents such as employee professional experience</li> </ul> </li> </ul> <p><u>buyer-supplier context</u></p> <ul style="list-style-type: none"> <li>● transfer mechanism <ul style="list-style-type: none"> <li>○ communication and information sharing</li> <li>○ buyers investment in knowledge sharing routines</li> </ul> </li> </ul>
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**TABLE 6**  
**Consequences of Knowledge Transfer**

Individual	Intra-organizational	Inter-organizational
<ul style="list-style-type: none"> <li>• individual level               <ul style="list-style-type: none"> <li>○ source's cynism</li> <li>○ source's self-efficacy</li> </ul> </li> <li>• organizational level               <ul style="list-style-type: none"> <li>○ firm competitive advantage</li> <li>○ long term organizational effectiveness</li> <li>○ team performance</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• innovative performance</li> <li>• organizational performance</li> <li>• knowledge integration</li> <li>• value creation</li> <li>• intellectual capital</li> <li>• organizational identification</li> </ul>	<p><u>General inter-organizational</u></p> <ul style="list-style-type: none"> <li>• performance</li> <li>• innovation capability</li> <li>• competitive advantage</li> <li>• corporate entrepreneurship, such as innovation, venturing and strategic renewal</li> </ul> <p><u>Acquirer-acquiree context</u></p> <ul style="list-style-type: none"> <li>• performance</li> <li>• application of relevant experiences and skills in future operations</li> </ul> <p><u>IJVs context</u></p> <ul style="list-style-type: none"> <li>• performance in terms of competency-based/human-resource development</li> <li>• overall IJV performance</li> <li>• partner's commitment to the IJV</li> <li>• satisfaction with the IJV relationship</li> </ul> <p><u>Buyer-supplier context</u></p> <ul style="list-style-type: none"> <li>• quality if a supplier's product</li> <li>• productivity of the supplier's operations</li> <li>• suppliers' supply chain performance</li> <li>• amount of shared knowledge</li> </ul>



Knowledge characteristics have been discussed comprehensively. However, researchers seem to limit knowledge characteristics to the *nature* of the knowledge. The *content* of the knowledge seems to be discussed less frequently. Existing literature generally assumes knowledge as one's technology or organizational practices even though the definition of knowledge as mentioned previously does not imply such limited scope. Probably it is because the majority of knowledge transfer research is macro in nature, the content of knowledge is therefore being constrained in a specific area. If, as Davenport and Prusak (1998) argued that knowledge is "a fluid mix of framed experience, values, contextual information and expert insights", future research might draw on mentoring or career development literature to discuss how transferring career related knowledge could enhance individual, interpersonal or organizational outcomes.

Source and recipient characteristics discussed across levels are surprisingly similar. Although those characteristics might be universally important across levels, at the individual level, more individual differences, such as traits, emotions, attitudes and behaviors are needed in order to better understand the causes of knowledge transfer at the individual level. As of now, individual level characteristics mentioned above are neglected and future research attentions are warranted.

For interpersonal characteristics, while many studies emphasize the role of interpersonal relationship or social capital in the process of knowledge transfer, few studies (e.g., Kaše, et al., 2009) discuss how to build or develop these social capital or relational contexts that facilitate knowledge transfer. Existing studies (e.g., Kaše, et al., 2009) found that organizational practices, such as training and development foster

building social capital in terms of structural, relational, and cognitive dimensions; however, more studies are needed to explore what organizational factors and individual factors might contribute to social capital development. In short, a more fine-grained perspective on explaining mechanisms that lead to social capital that is instrumental to knowledge transfer is needed. Literature on trust, organizational socialization, social network, social capital, leader-member exchange, strategic human resource management and interpersonal relationship might shed light on research gap.

For contextual factors, organizational practices such as reward systems, work design, and creating supportive organizational culture predicts knowledge transfer. Cultural differences between source and recipient also determine the level of knowledge transfer. However, there are not many studies (e.g., Lucas, 2010) discussing the interaction between these contextual factors and individual factors. According to Lewinian equation (Lewin, 1951), a person's behavior is thought to be a joint function of the situation the person is in and the person's unique predispositions to act. Applying the concept of Lewinian equation, it might be beneficial to examine the moderation effects of source or recipient characteristics on contextual characteristics-knowledge transfer relations or the moderation effect of contextual characteristics on source or recipient characteristics-knowledge transfer relations.

In the context of expatriation knowledge transfer, there are two potential future research agendas. First, the roles played by host country nationals in knowledge transfer. Most existing studies are from the perspectives of expatriates, regardless the context is transferring knowledge to host country nationals or parent country nationals. While many

companies send expatriates to subsidiaries mainly for transferring knowledge to host country nationals, some companies may also send expatriates for career development purposes or reverse knowledge transfer, that is, acquiring local knowledge from international assignments either for expatriates' further career development or transferring knowledge they learn to the parent country organization in order to enhance its knowledge and experiences about subsidiary operations. For the latter case, host country nationals become sources of knowledge and their perspectives and approaches to transfer local knowledge to expatriates are important. However, existing literature seem to ignore this aspect and generally focus on how to successfully facilitate expatriates transfer knowledge without considering how to well prepare HCNs to transfer local knowledge to expatriates. HCNs are also like expatriates in that both of them need to learn how to work with individuals from different cultures. Therefore, it is suggested to look at the roles played by HCNs and how organizations could facilitate them in the knowledge transfer process. The second agenda is related to the previous one. Although researchers have begun to study reverse knowledge transfer, transfer knowledge from subsidiary to headquarter, studies are all conducted at the firm level. It might be interesting to know what factors influence knowledge transfer from HCNs to expatriates. Whether the status difference or expatriates' level of ethnocentrism determine host country nationals knowledge transfer might be potential future research revenues.

Also an issue related to context of knowledge transfer; although many studies explore cross-border knowledge transfer either between buyer-supplier, strategic alliances, IJVs or parent company-subsidary, the national contexts of these studies tend

to be on developed countries. Despite the fact that some do discuss about institutes in China (e.g., Chen, et al., 2010; Søberg, 2010; P. Wang, et al., 2004), the other emerging economies, such as India, middle eastern, or South American countries are still under researched. Future research might focus on knowledge transfer from developed countries to developing countries to see if there are any unique challenges or barriers of knowledge transfer.

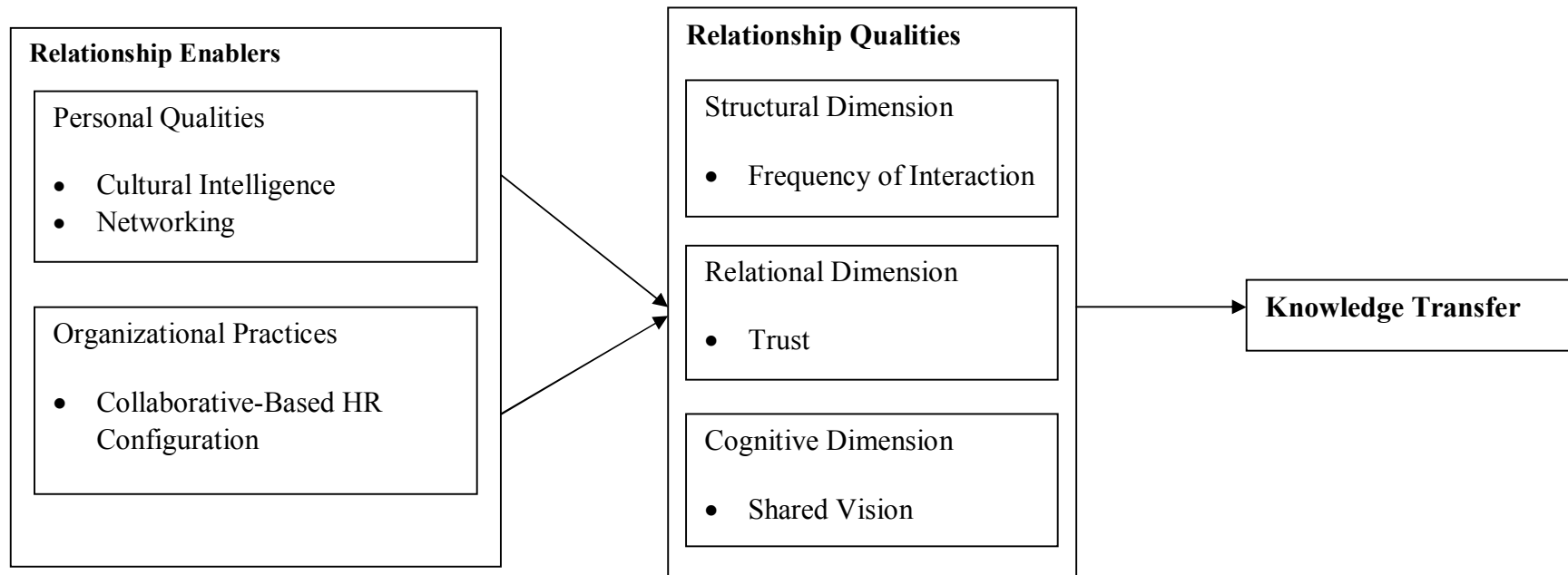
As to the consequences of knowledge transfer, at the intra- and inter-organizational levels, knowledge transfer promotes organizational performance and innovation. Surprisingly, at the individual level, the outcomes are almost the same; no individual level outcomes are explored. For source, knowledge transfer might be conceived as a prosocial behavior, a career supporting behavior, or a mentoring behavior, future research might draw on literature on these areas to discover potential individual level outcomes for source. Similarly, for recipient, being supported mentally or physically, or learning something might promote his/her well-being as well.

## **CHAPTER 3: THEORY DEVELOPMENT**

In this Chapter, I introduce my proposed model of knowledge transfer, as shown in Figure 1. Specifically, I first describe the theoretical bases of the model: social capital theory and anxiety and uncertainty management (AUM) theory. Next, I briefly review the literature on relationship enablers and relationships. I then develop hypotheses based on theory and empirical evidence.

FIGURE 1

## A Theoretical Model of Expatriate-HCN Knowledge Transfer



## Theoretical Bases

### *Social Capital Theory*

The overarching framework for explaining why the expatriate-HCN relationship facilitates knowledge transfer is social capital theory. Following Nahapiet and Ghoshal (1998, p. 243), social capital is defined as "the sum of actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit. Social capital thus comprises both the network and the assets that may be mobilized through that network". Social capital theory also posits that individuals achieve desired outcomes through two sequential processes—access to and mobilization of social capital (Lin, 1999). I conceive the process from relationship enablers to relationship as the process of access to social capital. I also conceive the process from relationship to knowledge transfer as the process of mobilization of social capital.

Social capital encompasses many aspects of a social context, such as social ties, trusting relations, and value systems that facilitate actions of individuals located within that context (Tsai & Ghoshal, 1998). In this dissertation, I follow Nahapiet and Ghoshal's (1998) three dimensional framework of structural, relational, and cognitive social capital. Specifically, Nahapiet and Ghoshal (1998) examine social capital through three categories, which they name the structural, relational, and cognitive dimensions of social capital. The structural dimension refers to the pattern or actual linkages between individuals or social units. The relational dimension refers to the quality of relationships, including elements such as trust, norms, identifications, obligations, and expectations.



Finally, the cognitive dimension refers to shared paradigms, codes, value, and systems of meaning that facilitate a mutual understanding of proper ways of acting within a social system (Makela, 2007).

#### *Anxiety and Uncertainty Management Theory*

Another key feature of my model has to do with previously seldom examined antecedents of social capital that may be instrumental to knowledge transfer. Despite the fact that social capital or network characteristics have been shown to be an important predictor of knowledge transfer (see van Wijk, et al., 2008, for a meta-analysis on knowledge transfer), little is known about what predicts or enables social capital. In the context of expatriate-HCN knowledge transfer, I draw on Gudykunst's (1995, 1998, 2005) anxiety and uncertainty management (AUM) theory to explain why both personal qualities and organizational practices foster the expatriate-HCN relationship.

AUM theory proposes that anxiety and uncertainty are central elements influencing the effectiveness of intergroup communication. Uncertainty is a cognitive phenomenon that highly influences the way people think about others (Gudykunst, 1998). Berger (1979) distinguishes between cognitive and behavioral uncertainty. Whereas cognitive uncertainty includes knowledge about others, the behavioral uncertainty dimension is defined by the extent to which people are relatively certain that their counterparts will behave in an expected way. Anxiety expresses a person's uneasiness and is the affective (emotional) equivalent of uncertainty (Gudykunst, 1998). Gudykunst (1998) argues that people experience a certain level of anxiety at any time of communication. However, research shows that when people get to know one another,

anxiety decreases (Gudykunst, 1995). In cross-cultural interactions, according to AUM theory, the ability to manage uncertainty and anxiety are central elements of strangers' effective communication with each other (Gudykunst, 1998). If uncertainty and anxiety are too high, it is difficult for individuals to communicate with each other (Gudykunst, 1998): A high level of uncertainty reduces one's ability to interpret the counterpart's message or to predict the other person's behavior accurately. If anxiety is too high, people communicate by interpreting others' behaviors using their own frame of reference and by stereotypes (Brandl & Neyer, 2009).

#### **Access to Social Capital: Relationship Enablers and Relationship Qualities**

The success of knowledge transfer depends, to some extent, on the ease of communication and on the overall relationship between the two parties involved in the transfer process (Riusala & Suutari, 2004). According to Szulanski's (1996), an arduous (i.e., laborious and distant) relationship between the source and the recipient is one of the major barriers to knowledge transfer. However, because knowledge transfer researchers have predominantly focused on knowledge transfer at firm level (Orlikowski, 2002; Thomas, 1994), investigations of the antecedents of the relationship between the source and recipient are limited. To fill this research gap, I draw on AUM theory (Gudykunst, 1995, 1998) to identify potential antecedents of relationship. The basic tenet of AUM theory is that the lower the level of anxiety and uncertainty among actors, the better the intercultural relationship (Gudykunst, Ting-Toomey, & Chua, 1988). Insofar as expatriates and HCNs come from different cultural backgrounds, they may have several dissimilarities that create anxiety and uncertainty; and, in turn, these become barriers of

relationship development. Therefore, I identify potential antecedents of relationship on the basis of their potential for reducing expatriates' and HCNs' anxiety and uncertainty and enabling effective social interactions.

Specifically, I focus on both individual qualities and organizational practices that are likely to enable relationships. Qualities refer to inherent features of individuals (Quality, 2011); practices are the recurrent, materially bounded, situated activities of a particular unit or organization (e.g., W. Baker & Dutton, 2007; Orlikowski, 2002). For both of these categories, I consider feature especially relevant to cross-cultural interactions (i.e., cultural intelligence) as well as those that are more universal in that they may foster relationship development regardless of the cultural context (i.e., networking behaviors and collaborative-based HR configurations). In the next sections, I explain each enabling quality and practice and discuss how they enable relationships.

### *Personal Qualities*

For expatriates or HCNs, cross-cultural interactions might be associated with anxiety and uncertainty as they may not have cross-cultural knowledge or they lack experience with cross-cultural interactions (Mendenhall & Oddou, 1985; Molinsky, 2007). One quality that may help to reduce anxiety and uncertainty associated with cross-cultural interactions is cultural intelligence (CQ), which is defined as the capability to function and manage effectively in culturally diverse settings (Ang & Van Dyne, 2008b). Specifically, those who have high CQ are more likely to make accurate cultural judgments faster and more efficiently (Ang, et al., 2007; Elenkov & Manev, 2009) and to feel comfortable interacting with culturally different persons and in culturally different

situations (Thomas, et al., 2008). They also experience no greater stress than they would experience in a similar interaction with a member of their own culture and in their own cultural context (Thomas, et al., 2008). Therefore, given the ease and comfort of interacting with culturally diverse others, those who have high CQ are more likely to have frequent interactions. Thus, I hypothesize the following:

*H1a: Expatriates' cultural intelligence is positively related to frequency of interaction with their HCN colleagues.*

*H1b: HCNs' cultural intelligence is positively related to frequency of interaction with their expatriate colleagues.*

In addition to frequency of interaction, CQ should also enable trust. Trust entails being vulnerable to harm from others yet believing that these others would not do harm even though they could (Kramer, 1999). Trust is a state of perceived vulnerability or risk that is derived from individuals' uncertainty regarding the motives, intentions, and prospective actions of others on whom they depend (Kramer, 1999). For example, Lewis and Weigert (1985, p. 971) characterized trust as the 'undertaking of a risky course of action on the confident expectation that all persons involved in the action will act competently and dutifully'. Uncertainty and anxiety about culturally diverse others are likely to be high for individuals low in CQ because it is more difficult to decipher or anticipate another individual's attitudes, thoughts, or behavior. Therefore, trusting culturally diverse others becomes more risky because they do not know whether they will be harmed by them. Those who have higher CQ are more likely to trust culturally diverse others because they make accurate cultural judgments faster and more efficiently (Ang, et al., 2007; Elenkov & Manev, 2009) and they are better able to evaluate the risk of

being vulnerable to culturally diverse others. Empirical evidence also suggests that CQ affects the interpersonal trust in cross-cultural dyads (Rockstuhl & Ng, 2008). Thus, I offer the following hypotheses:

*H2a: Expatriates' cultural intelligence is positively related to trust with their HCN colleagues.*

*H2b: HCNs' cultural intelligence is positively related to trust with their expatriate colleagues.*

In addition to frequency of interaction and trust, a shared vision of the firm's strategy and goals might also be enabled for those who have higher CQ. High CQ individuals have lower anxiety and uncertainty during intercultural communication because they are more likely to see things from culturally diverse others' perspectives; therefore, they feel that it is easier to understand and communicate with others. Indeed, research has shown that high CQ individuals are more likely to see themselves as interdependent with in-groups; giving priority to in-group goals rather than to personal goals (Choi, Nisbett, & Norenzayan, 1999; Triandis & Suh, 2002). This behavior of giving priority to group goals rather than personal goals is helpful in creating a shared vision with other group members. Along the same line, research has demonstrated that individuals with higher CQ are more likely to approach a situation with a cooperative mindset and less likely to maintain strong ingroup-outgroup distinctions (Imai & Gelfand, 2010). Thus, I propose the following:

*H3a: Expatriates' cultural intelligence is positively related to shared vision with their HCN colleagues.*

*H3b: HCNs' cultural intelligence is positively related to shared vision with their expatriate colleagues.*

Drawing on the proactive behavior literature, I consider how proactive networking behaviors (Bateman & Crant, 1993; Crant, 2000; A. M. Grant & Ashford, 2008) reduce the anxiety and uncertainty and in turn enable relationship qualities. Proactive networking involves socializing with colleagues and getting to know them personally (R. Fang, Duffy, & Shaw, 2011). It helps reduce uncertainty and anxiety in social interactions. Those who demonstrate networking behaviors are more likely to have less uncertainty and anxiety and be comfortable in social interactions with others. When individuals proactively engage in networking, they are more likely to have frequent interaction with each other. Indeed, empirical evidence has shown that networking is positively related to social integration (Morrison, 1993; Wanberg & Kammeyer-Mueller, 2000), social acceptance (Bauer, Bodner, Erdogan, Truxillo, & Tucker, 2007), and embeddedness (Allen, 2006). Expatriate relational abilities/skills have also shown to positively affect interaction adjustment (Black & Gregersen, 1991; Selmer, 2001). Therefore, I hypothesize the following:

*H4a: Expatriates' networking behaviors are positively related to frequency of interaction with their HCN colleagues.*

*H4b: HCNs' networking behaviors are positively related to frequency of interaction with their expatriate colleagues.*

Trust is also likely to be developed through networking behaviors. According to the AUM theory, the ability to manage uncertainty and anxiety are central elements of strangers' effective communication with each other (Gudykunst, 1998). Networking behaviors can be regarded as individuals' capabilities to manage uncertainty and therefore facilitate communication. For example, drawing on the uncertainty reduction

theory, the organizational socialization literature has demonstrated that newcomers' networking behaviors reduce uncertainty and in turn facilitate their social integration (e.g., Bauer et al., 2007; Fang et al., 2011; Morrison, 1993). Communication has been shown to a precursor of trust (Morgan & Hunt, 1994); therefore, I anticipate that the reduced level of uncertainty derived from networking behavior makes individuals more likely to trust each other as well. Therefore, I hypothesize the following:

*H5a: Expatriates' networking behaviors are positively related to trust with their HCN colleagues.*

*H5b: HCNs' networking behaviors are positively related to trust with their expatriate colleagues.*

Shared vision is also likely to be developed through networking behaviors. As mentioned earlier, networking behaviors reduce uncertainty and anxiety and in turn facilitate communication. When more communication exists, individuals are more likely to develop shared vision. Also drawing on the organizational socialization literature, it has shown that individuals who engage in networking behaviors are more likely to assimilate to the environment and have shared identification with individuals in that environment (Fang et al., 2011). Networking behaviors have also shown to be positive associated with person-organization fit (Gruman, Saks, & Zweig, 2006). Thus, I offer the following hypotheses:

*H6a: Expatriates' networking behaviors are positively related to shared vision with their HCN colleagues.*

*H6b: HCNs' networking behaviors are positively related to shared vision with their expatriate colleagues.*

*Organizational Practices*

Because relationships generally do not happen in a vacuum, the environment where relationships develop might also play a salient role. Therefore, I argue that organizational practices may facilitate relationship qualities. Drawing on AUM theory, I discuss how a collaborative-based HR configuration reduces anxiety and uncertainty and in turn enable relationship qualities.

Human resource practices have been shown to build and enhance interpersonal relationships and encouraging interactions (Morris, Snell, & Lepak, 2005; Uhl-Bien, Graen, & Scandura, 2000). Building on Youndt and Snell's (2004) configurational HR framework, which links HR practices to social capital, I contend that several HR practices will contribute to effective relationships. The theoretical assumption behind the configurational approach to human resource management (HRM) is that a holistic and systemic approach should be used to examine the link between HRM and firm performance. The configurational approach emphasizes the importance of horizontal fit between individual HR practices that mutually enhance a firm's performance and competitiveness when they are systematically combined (Delery, 1998; Gerhart, 2007). This approach examines horizontal fit of HR practices by identifying different sets or configurations of HR practices rather than just bundling different HR functional areas. In Youndt and Snells' (2004) model, the HR configurations are not mutually exclusive but present a range of HR options that firms may use. Individual HR practices are grouped into configurations such as collaborative-based configurations, which consist of two or more individual functions of HR, such as staffing, training and development, rewards management, and performance assessment (Yamao, et al., 2009). Below, I discuss the



collaborative-based HR configuration because it is more likely to reduce anxiety and uncertainty and therefore enable relationships.

The collaborative-based configuration comprises HR practices that encourage working in teams (Yamao, et al., 2009). Specifically, given the need for joint production with team members, managers would likely recruit/select individuals who can integrate their knowledge and experience into the organization and work in a team environment (cf. Salas, Dickinson, Converse & Tannenbaum, 1992). Since the exchange of information and joint outcomes of the collaboration are important, organizations would likely invest heavily in the relationship among team members rather than developing their human capital. To support this, organizations would likely arrange team building initiatives and evaluations would tend to emphasize developmental issues such as the evolution of the relationship (Matusik & Hill, 1998). Finally, organizations are likely to establish collective incentives that encourage team members to share and transfer information (cf. Davenport & Prusak, 1998; Quinn, Anderson & Finkelstein, 1996). Youndt and Snell (2004) also argue that encouragement of teamwork between employees leads to improvement of a firm's social capital. From an AUM perspective, teamwork in a host organization enables individuals to work closely with each other, so uncertainty and anxiety about each other are likely to be reduced. When uncertainty and anxiety are reduced, the dyad is more likely to interact more frequently. It is suggested that team spirit is helpful to create a fertile relationship between international and local staff for knowledge transfer (Bonache & Zárraga-Oberty, 2008). Based on this, I hypothesize the following:

*H7a: Expatriates' perceived collaborative-based HR configuration in the host organization is positively related to frequency of interaction with their HCN colleagues.*

*H7b: HCNs' perceived collaborative-based HR configuration in the host organization is positively related to frequency of interaction with their expatriate colleagues.*

Similarly, a collaborative-based HR configuration is likely to facilitate trust between individuals. By working with each other in a team context, individuals are likely to get to communicate and know each other better. As a result, uncertainty and anxiety toward each others are likely to be reduced. According to the AUM theory, when uncertainty and anxiety are reduced, social interaction is smoother. As mentioned earlier, communication is a precursor of trust (Morgan & Hunt, 1994); therefore, I anticipate that a collaborative-based HR configuration reduces uncertainty and anxiety toward each other, and the resulted smoother communication in turn facilitates trust between each other. In fact, it is suggested by researchers (Lepak & Snell, 2002; Ring & Van de Ven, 1992) that a collaborative HR configuration is oriented toward developing trust between partners and sharing information. Based on this, I hypothesize the following:

*H8a: Expatriates' perceived collaborative-based HR configuration in the host organization is positively related to trust with their HCN colleagues.*

*H8b: HCNs' perceived collaborative-based HR configuration in the host organization is positively related to trust with their expatriate colleagues.*

Finally, a collaborative-based HR configuration might also foster the development of shared vision between individuals. As this configuration facilitate cooperative interactions among individuals (Mossholder, Richardson, & Setton, 2011), uncertainty and anxiety among individuals toward others might be reduced. When uncertainty and

anxiety toward others are reduced, according to the AUM theory, communication is smoother. A smoother communication may facilitate building shared vision between each other. Indeed, it is argued that this configuration involves partnerships among individuals so that contributions are elicited for accomplishing common goals (Mossholder et al., 2011), which imply shared vision among individuals. Thus, I offer the following hypotheses:

*H9a: Expatriates' perceived collaborative-based HR configuration in the host organization is positively related to shared vision with their HCN colleagues.*

*H9b: HCNs' perceived collaborative-based HR configuration in the host organization is positively related to shared vision with their expatriate colleagues.*

### **Mobilization of Social Capital: Relationship Qualities and Knowledge Transfer**

The social exchanges between expatriates and their HCN colleagues might be particularly important in the transfer of tacit knowledge. Indeed, the importance of social capital for learning and knowledge transfer has been explicitly recognized (Kostova & Roth, 2002). Uzzi and Lancaster (2003) suggest that learning is located not only within individual cognitions or experiences but also in relationships among individuals. Social capital has been highlighted as 'a critical resource for accessing, exploiting and leveraging individual and collective knowledge' (Reiche, 2004, p. 7). Furthermore, empirical evidence supports the role of positive interpersonal relationships between international and local staff in the successful transfer of knowledge (Bonache & Zárraga-Oberty, 2008).

Following Nahapiet and Ghoshal's (1998) framework, I conceptualize the expatriate-HCN relationship in terms of three dimensions of social capital and discuss

how they are related to knowledge transfer. The *structural dimension* is the basic component of the pattern of interactions within a firm's social network (Kaše, et al., 2009; Nahapiet & Ghoshal, 1998). It is operationalized as the intensity of face-to-face interactions between expatriates and HCNs. Researchers emphasize face-to-face interaction because it is a necessary condition for tacit knowledge transfer (Hansen, 1999; Nohria & Eccles, 1992). Inkpen and Tsang (2005, p. 146) contend that 'knowledge transfer is facilitated by intense social interactions of organizational actors'. Along the same line, it has been suggested that an assignment that entails increased interactions with HCNs is likely to create different opportunities for learning and knowledge transfer than an assignment that requires fewer contacts with locals (Lazarova & Tarique, 2005). Therefore, I believe that the more frequent the interaction between expatriates and HCNs, the more likely they will exchange knowledge with each other.

The *relational dimension* refers to the nature of the relationship itself and the assets that are rooted in it (W. Tsai & Ghoshal, 1998); in prior research, this dimension has been represented by trust. Trust between source and recipient determines knowledge transfer (Lane, Salk, & Lyles, 2001; Szulanski, et al., 2004). Trust is an expectation that one's exchange partner will act benevolently, and not opportunistically, within a relationship (Nahapiet & Ghoshal, 1998). Trust enables the transfer of knowledge since it increases partners' willingness to commit to helping partners understand new external knowledge (Lane, et al., 2001). It also affects knowledge exchange and combination by creating or enhancing a number of necessary conditions (Nahapiet & Ghoshal, 1998; W. Tsai & Ghoshal, 1998), such as openness in communication and fairness in judgment.

The *cognitive dimension* refers to those resources providing shared representations, interpretations, and systems of meaning among parties (Cicourel, 1973). It is embodied in attributes like shared vision and values that facilitate a common understanding of collective goals and proper ways of acting in a social system (W. Tsai & Ghoshal, 1998). Previous studies suggest that shared vision, the extent to which different individuals share long-term visions and goals, is an important cognitive element characterizing social relations that influence knowledge transfer (Inkpen & Tsang, 2005). A shared vision promotes mutual understanding and provides a crucial bonding mechanism that helps different actors to integrate knowledge. For expatriates and HCNs, the communication process involves more than a simple transfer of information between individuals. Because expatriates interact with HCNs who are embedded in a social context with an existing set of shared values and beliefs that may differ from the expatriates', it may be difficult to transfer knowledge (Oddou, Osland, & Blakeney, 2009). The same situation may apply when HCNs transfer knowledge to expatriates. As suggested by Wood's (1997) transactional communication model, which highlights the importance of the source and recipient's relationship, communication takes place within a shared field. The common ground created between individuals, having a shared field plays a pivotal role in knowledge transfer between expatriates and HCNs. Based on the above discussion, I offer the following hypotheses:

*H10a: Expatriates' frequency of interaction with their HCN colleagues is positively related to knowledge transfer.*

*H10b: HCNs' frequency of interaction with their expatriate colleagues is positively related to knowledge transfer.*

*H11a: Expatriates' trust with their HCN colleagues is positively related to knowledge transfer.*

*H11b: HCNs' trust with their expatriate colleagues is positively related to knowledge transfer.*

*H12a: Expatriates' shared vision with their HCN colleagues is positively related to knowledge transfer.*

*H12b: HCNs' shared vision with their expatriate colleagues is positively related to knowledge transfer.*

### **Mediation Roles of Relationship Qualities on the Relationship Enablers-Knowledge Transfer Relation**

Social capital theory suggests that individuals achieve desirable outcomes, in this case, knowledge transfer, through two sequential process, access to and mobilization of social capital (Lin, 1999). According to this theory, I anticipate that individuals obtained knowledge transferred from others by first, utilizing CQ and networking behaviors or working collaboratively with others in teams as a result of collaborative-based HR configuration, to access to social capital in terms of frequency of interaction, trust, and shared vision. Once individuals obtain these forms of social capital, they then mobilize the social capital and acquire knowledge from others. Based on the social capital theory and discussion above, I contend that social capital, in this case, frequency of interaction, trust, and shared vision serve as underlying mechanisms that link personal qualities, organizational practice, and knowledge transfer. Thus, I offer the following hypotheses:

*H13a: Expatriates' frequency of interaction with their HCN colleagues mediates CQ-knowledge transfer relation.*

*H13b: HCNs' frequency of interaction with their expatriate colleagues mediates CQ-knowledge transfer relation.*

*H14a: Expatriates' frequency of interaction with their HCN colleagues mediates networking-knowledge transfer relation.*

*H14b: HCNs' frequency of interaction with their expatriate colleagues mediates networking-knowledge transfer relation.*

*H15a: Expatriates' frequency of interaction with their HCN colleagues mediates collaborative-based HR configuration-knowledge transfer relation.*

*H15b: HCNs' frequency of interaction with their expatriate colleagues mediates collaborative-based HR configuration-knowledge transfer relation.*

*H16a: Expatriates' trust with their HCN colleagues mediates CQ-knowledge transfer relation.*

*H16b: HCNs' trust with their expatriate colleagues mediates CQ-knowledge transfer relation.*

*H17a: Expatriates' trust with their HCN colleagues mediates networking - knowledge transfer relation.*

*H17b: HCNs' trust with their expatriate colleagues mediates networking - knowledge transfer relation.*

*H18a: Expatriates' trust with their HCN colleagues mediates collaborative-based HR configuration-knowledge transfer relation.*

*H18b: HCNs' trust with their expatriate colleagues mediates collaborative-based HR configuration-knowledge transfer relation.*

*H19a: Expatriates' shared vision with their HCN colleagues mediates CQ-knowledge transfer relation.*

*H19b: HCNs' shared vision with their expatriate colleagues mediates CQ-knowledge transfer relation.*

*H20a: Expatriates' shared vision with their HCN colleagues mediates networking-knowledge transfer relation.*

*H20b: HCNs' shared vision with their expatriate colleagues mediates networking-knowledge transfer relation.*

*H21a: Expatriates' shared vision with their HCN colleagues mediates collaborative-base HR configuration-knowledge transfer relation.*

*H21b: HCNs' shared vision with their expatriate colleagues mediates collaborative-base HR configuration-knowledge transfer relation.*



## **CHAPTER 4: METHOD**

To test my hypotheses, I conducted a cross-sectional investigation using data from an expatriate sample, an HCN sample, and an expatriate-HCN dyad sample.

Methodological details are given below.

### **Sample and Data Collection Procedures**

I collected data from expatriate-HCN dyads that transfer work-related knowledge between each other. I identified expatriates first from two sources, US-based MNCs, and expatriate associations in China, Taiwan, Vietnam, South Korea, Malaysia, Indonesia, Thailand, and India.

For the first source, US-based MNCs, I contacted 300 presidents of Human Resource of via mail (Appendix A) to see if they have expatriates working overseas for knowledge transfer purposes and solicited them to participate in my study. I promised to provide a summary of the research results and recommendations for how their firm can better facilitate knowledge transfer between expatriates and host country coworkers as a token of appreciation. MNCs willing to participate in the study communicated with their expatriate employees about the purposes of the study at first, and then provided me names and e-mails of their expatriate employees. Once all expatriate employees were notified that they will receive my survey invitation shortly, I then wrote customized e-mails which address each expatriate respectively. The e-mail (Appendix B) briefly described the purpose of the study, confidentiality of the responses of the survey, and the link to the expatriate web survey. At the end of the survey, I asked the expatriate to enter his/her name and the name and e-mail of the host country colleague with whom s/he transfers knowledge. A survey invitation e-mail (Appendix C) to the host country colleague nominated by the expatriate then is generated automatically by the online

survey system. To match HCN responses to the corresponding expatriate, I asked the HCN to enter the name of the expatriate that nominated him/her to participate in the HCN survey. Three companies participated in my study. I sent survey invitations to a total of 53 expatriates, and 38 of them participated in the survey, resulting in a response rate of 71.7%. For HCNs, I received 15 valid surveys.

As to the second source, expatriate associations, I purchased the directories of American Chamber of Commerce in Shanghai, Taipei, Vietnam, Korea, Malaysia, Thailand, Indonesia, and India in order to access to expatriates' contact information. I then mailed survey packets (including survey invitation letter and paper and pencil survey, but respondents can choose whether they want to do online survey or paper and pencil survey) to around 800 expatriates and e-mailed or mailed survey invitation letter (Appendix D) with a online survey link to around 2000 expatriates. The remaining procedures are the same as for those expatriates identified through US headquarters. Given the spam filters and changes in e-mail and physical addresses, it was not possible to precisely find out how many of the sent mails were actually received by the recipients through this data collection source. Eventually, I received 253 usable survey responses from expatriates, representing a response rate of 9%. I also received 52 usable HCN survey responses.

Expatriates identified through these two sources are generally compatible in terms of gender ( $t = .63, p = .53$ ), tenure ( $t = .55, p = .59$ ), CQ ( $t = 1.25, p = .21$ ), networking ( $t = .09, p = .93$ ), collaborative-based HR configuration ( $t = .22, p = .82$ ), frequency of interaction ( $t = .24, p = .81$ ), trust ( $t = .82, p = .41$ ), shared vision ( $t = .42, p = .67$ ), tacit knowledge transfer ( $t = .17, p = .87$ ), explicit knowledge transfer ( $t = .38, p = .71$ ), and

level difference ( $t = 1.12, p = .26$ ). Age ( $t = 2.81, p = .0053$ ) between the groups of expatriates is significantly different, perhaps because expatriates who are affiliated with the American Chamber of Commerce generally hold higher level positions. Length of relationship with HCN colleagues ( $t = 3.10, p = .002$ ) between the groups of expatriates is also different. However, given that responses from the two groups do not differ in most of the substantive variables, it is appropriate to combine expatriates identified through these two sources into one sample.

As to the HCN sample, generally HCNs recruited through these two sources are identical in terms of gender ( $t = .29, p = .77$ ), age ( $t = .35, p = .72$ ), tenure ( $t = .94, p = .35$ ), CQ ( $t = .78, p = .44$ ), networking ( $t = .11, p = .91$ ), collaborative-based HR configuration ( $t = .11, p = .92$ ), frequency of interaction ( $t = 1.50, p = .14$ ), trust ( $t = 1.08, p = .28$ ), shared vision ( $t = .36, p = .72$ ), tacit knowledge transfer ( $t = .15, p = .88$ ), explicit knowledge transfer ( $t = .14, p = .89$ ), length of relationship with expatriate colleagues ( $t = .24, p = .81$ ), and level difference ( $t = .53, p = .60$ ). Therefore, it is appropriate to combine HCNs recruited from these two sources into one sample.

T-tests were also performed to see whether respondents taking paper and pencil survey are different from those taking online survey. For expatriates, 12 of them took a paper and pencil survey, and 279 of them took an online survey. Gender ( $t = .61, p = .54$ ), age ( $t = .69, p = .49$ ), and tenure ( $t = 1.15, p = .25$ ) of respondents of these two groups are compatible. Thus, it is appropriate to combine expatriates that took survey using these two approaches. For HCNs, 8 of them took a paper and pencil survey, and 59 of them took an online survey. Age ( $t = .21, p = .84$ ) and tenure ( $t = .63, p = .53$ ) of these two groups of HCNs are compatible. Gender ( $t = 2.23, p = .03$ ) is different between the two

groups, but given the small size of HCNs that took paper and pencil survey, the difference is trivial. Thus, it is still appropriate to combine the two groups to one sample.

In sum, I received 291 surveys from expatriates and 67 surveys from HCNs, which represents 67 expatriate-HCN dyads. The average age of participating expatriates was 45 years ( $SD = 9.93$ ), 81% of them were male, 80% of them were married, 92% of them have a bachelor's degree or above, and on average, they worked with their current employer for 10 years. Average length that they worked in the host country is 6.3 years. 10% of them hold the highest position of the subsidiary with titles such as general manager, country manager, and managing director. Their home countries include 32 countries, such as Australia, Austria, Belgium, Brazil, Canada, China, Croatia, Denmark, England, France, Germany, Hong Kong, India, Indonesia, Italy, Korea, Malaysia, Mexico, The Netherlands, New Zealand, Norway, Switzerland, Scotland, Singapore, South Africa, Sri Lanka, Sweden, Taiwan, UK, US, and Vietnam. Their host countries include 18 countries: China, Canada, Czech Republic, Germany, Hong Kong, India, Indonesia, Japan, Korea, Malaysia, Singapore, South Africa, Switzerland, Taiwan, Thailand, UAE, US, and Vietnam. The top three countries are USA (35%), UK (10%), and Taiwan (8%). In addition, these expatriate participants work for a diverse array of industries. The top three industries that participating expatriates work for are manufacturing (25%), business services/professional services (13%), and academic/education (3%). As to the type of expatriate, 70% of them described themselves as corporate expatriates (sent by a parent company), 30% of them described themselves as self-initiated expatriates (searched for their own international jobs). Seventy percent of them work for a wholly owned subsidiary of a foreign company, 15% of them work for

an international joint venture, and 15% of them work for other types of organizations. As to the work relationship with the host country colleague they identified, 32% of expatriates have peer relationship with HCN, 11% of expatriates are subordinate of HCN, and 57% of expatriates are supervisor of HCN.

As to participating HCNs, the average age was 39 years ( $SD = 7.25$ ), 70% of them were male, 95% of them have a bachelor's degree or above, and on average, they worked with their current employer for 6.8 years. Ninety percent of them hold managerial positions. Their countries of origin include 15 countries, such as China, Canada, Czech Republic, France, Germany, Hong Kong, India, Japan, Malaysia, Norway, Singapore, Taiwan, Thailand, US, Vietnam. The top five countries are China (52%), USA (8%), Thailand (6%), Japan (5%), and Vietnam (5%). In addition, these HCN participants work for a diverse array of industries. The top three industries that participating HCNs work for are manufacturing (40%), business services/professional services (13%), and retail (8%). Seventy five percent of them work for a wholly owned subsidiary of a foreign company, 15% of them work for an international joint venture, and 10% of them work for other types of organizations. As to the work relationship with the expatriate that forwarded the survey to HCNs, 39% of HCNs have peer relationship with their expatriate colleague, 50% of them are subordinate of their expatriate colleague, and 9% of the are supervisor of their expatriate colleague.

### **Measures**

I used measures that have been developed and validated by researchers. I slightly modify the wording of some items to fit my research context. All items are listed in Appendix E. I collect expatriate knowledge transfer to HCNs, frequency of interaction,

trust, shared vision, CQ, networking, collaborative-based HR configuration, and all control variables from HCNs. For expatriates, the survey is almost the same as HCNs' with two exceptions. First, instead of collecting data about expatriate knowledge transfer to HCNs, I asked them to evaluate HCN knowledge transfer to them (i.e., the expatriate). Second, as one expatriate may have more than one HCN that works closely with him/her for knowledge transfer, expatriates was asked to evaluate his/her relationships in terms of frequency of interaction, trust, and shared vision between the HCN he/she identified.

FIGURE 2

A Measurement Model of Expatriate-HCN Knowledge Transfer (From Expatriate Perspective)

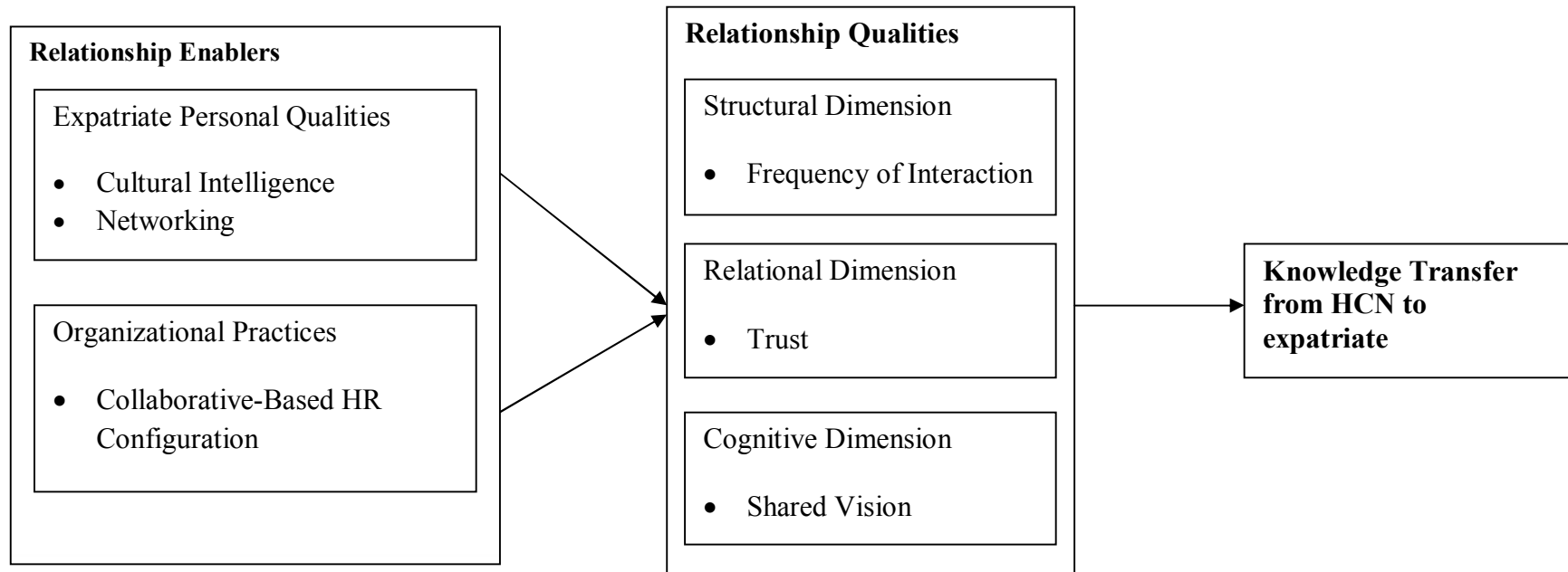
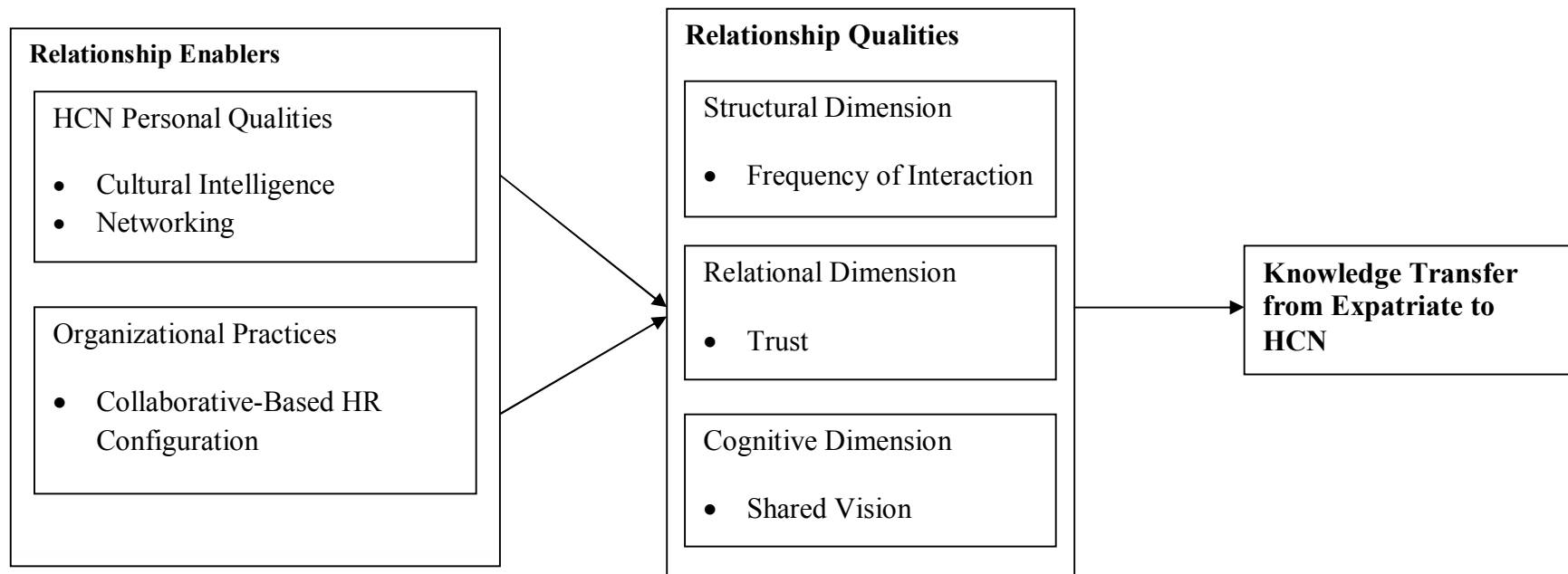




FIGURE 3

A Measurement Model of Expatriate-HCN Knowledge Transfer (From HCN Perspective)



### *Knowledge transfer*

Knowledge transfer was measured by the six item scale developed by Dhanaraj et al. (2004). I asked expatriates and HCNs to evaluate the extent to which that they have learned *tacit knowledge* such as new marketing expertise, knowledge about customer tastes, managerial techniques, and *explicit knowledge* such as written knowledge about the firm's technology, procedural or technical information, and written knowledge about management techniques from their expatriate/HCN colleague. Responses were made on a seven-point Likert scale ranging from 1 = not at all to 7 = to a great extent. Dhanaraj et al. (2004) reported coefficient alpha of .78 for tacit knowledge transfer and .90 for explicit knowledge transfer.

### *Frequency of interaction*

As existing scales (e.g., Hansen, 1999) for frequency of interaction do not provide scale validation information, I created a five-item scale for the dissertation. Specifically, the scale was developed based on the communication frequency scale (Smith et al., 1994) and the relationship-building communication method scale (Mackenzie, 2010). I conducted a pilot study to validate the newly created scale.

The sample of the pilot study was composed of 221 managers whose roles and responsibilities include knowledge transfer, using "Zoomerang Sample". This online survey service helps researcher to identify the exact survey respondents based upon the researcher's request. All the potential survey respondents have opted in and will receive an incentive after completing the survey. Among these 221 respondents, 43.4% of them are male, and 46.6% of them are female. The majority (68.7%) of the respondents have a bachelor's degree or above. The average age is 40.9 years old.

Results from the pilot study showed that the newly created scale of frequency of interaction demonstrates satisfactory convergent (significantly positively correlated with shared vision,  $r = .39^{***}$  and relationship building,  $r = .50^{***}$ ) and discriminant validity (no relationship with race,  $r = .10$ , N.S., and education,  $r = .13$ , N. S.). Moreover, coefficient alpha of .78 shows satisfactory reliability of the scale. A sample item for this scale is "how frequently do you communicate with your host country colleague via face-to-face meetings?" Responses were made on a seven-point Likert scale ranging from 1 = never to 7 = all the time.

### *Trust*

Trust was measured by the 6 item scale developed and validated by Cook and Wall (1980). I asked expatriates and HCNs to rate the extent to which they agree on the following statements regarding their trust between each other. Responses were made on a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. A sample item for this scale is "If I got into difficulties at work, I know my host country colleague would try and help me out". Cook and Wall (1980) reported a coefficient alpha of .80. Although there are different measures that knowledge transfer researchers have used when measuring trust, I chose this one because it is about interpersonal trust (rather than organizational trust) and it fits my research context better.

### *Shared vision*

Shared vision was measured by six items from Gutierrez, Lloréns-Montes, and Sanchez (2009). I asked expatriates and HCNs to rate the extent to which they agree on the following statements regarding their shared vision between each other. I modified the wording of the scale to fit the context of my study. The scale is initially designed for measuring shared vision between business units, so I changed the wording from unit to expatriate/HCN. A sample item is "My expatriate/HCN colleague and I agree on what is

important for our organization.” Responses were made on a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. Coefficient alpha reported by Gutierrez et al. (2009) is .91.

#### *Cultural intelligence*

Cultural intelligence (CQ) was measured by the shortened version of CQ scale (9 items) developed and validated by Ang and Van Dyne (2008a). I asked expatriates and HCNs to rate the extent to which they agree on the following statements regarding their CQ. Responses were made on a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. A sample item for each respective dimension is: “I know the rules for expressing non-verbal behaviors in other cultures.” Coefficient alpha reported by Ang and Van Dyne (2008a) is .73.

#### *Networking*

Networking was measured by 3 items from the proactive socializing scale by Ashford and Black (1996). I modified networking with "boss" to networking with "colleagues" because expatriates and HCNs are not necessarily in a supervisor and subordinate relationship. Colleague is a more general term that includes coworkers, supervisors, and subordinates. I asked expatriates and HCNs to rate to the extent to which they engage in networking with colleagues. Responses were made on a five point Likert scale ranging from 1 = to no extent to 5 = to a great extent. A sample item is: "To what extent have you tried to get to know as many people as possible in other sections of the company on a personal basis?" Coefficient alpha is .82 (Ashford & Black, 1996).

#### *Collaborative-based HR configuration in host organization*

As the existing scales (e.g., Lepak & Snell, 2002; Youndt & Snell, 2004) of collaborative-based HR configuration do not provide scale validation information, I created a nine-item scale for the dissertation. Specifically, the scale is developed based on the collaboration HR configuration scale (Youndt & Snell, 2004) and the collaborative-based HR configuration scale (Lepak & Snell, 2002). I conducted a pilot study to validate the newly created scale.

The pilot study for collaborative-based HR configuration was conducted with the pilot study for frequency of interaction. The sample and data analysis procedures were the same as mentioned in frequency of interaction section. Results from the pilot study showed that the newly created scale of collaborative-based HR configuration demonstrates satisfactory convergent (significantly positively correlated with shared vision,  $r = .47^{***}$  and trust,  $r = .45^{***}$ ) and discriminant validity (no relationship with gender,  $r = -.06$ , N.S., and education,  $r = .01$ , N. S.). Moreover, coefficient alpha of .90 shows satisfactory reliability of the scale. A sample item for this scale is "I perform jobs that require me to participate in cross-functional teams and networks?" Responses were made on a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree.

#### *Control variables*

When analyzing the relationship between relationship enablers and relationship qualities, I controlled level difference (defined as the absolute difference between expatriate's and HCN's attained positions in the organizational hierarchy, peer relationship was coded 0, subordinate or superior relationship was coded 1) based on the homophily literature (Ibarra, 1992; McPherson, et al., 2001), which assumes that actor similarity increases the probability of a relationship. In the knowledge transfer literature, past experience with partner is also a commonly controlled variable. The reason is that

the longer the actors work together, the better their relationships (Muthusamy & White, 2005). To fit the context of my study better, I modify the wording to the *duration (measured in month) that expatriates and HCNs work with each other.*

## CHAPTER 5: RESULTS

In this chapter, I report the process and results of data analysis.

### **Normality Test**

Before testing the factorial structures of measures and examining the measurement and structural models of my dissertation, I tested the data for normality. This procedure is important given that factor analysis procedures assume that all variables are normally distributed (Kline, 2005). First of all, all items for each scale were screened for univariate outliers, defined as responses greater than 3.29 standard deviations from the mean (Tabachnick & Fidell, 2007), and for univariate normality, defined as skewedness index between -2.0 and 2.0 and kurtosis index between -7.0 and 7.0 (Kline, 2005). Results of these tests showed no univariate outlier. Regarding univariate normality, I visually examined the normal probability plots and the skewedness index and kurtosis index. The normal probability plots showed that all data were distributed normally. Results of skewedness and kurtosis tests also showed that all data were well within the acceptable range, indicating that all data were normally distributed.

### **Descriptive Statistics and Scale Reliabilities**

The means, standard deviations, and Cronbach's alpha coefficients were calculated for each scale used in this study and are presented in Tables 7, 8, and 9. Most scales demonstrated good internal reliability ( $\alpha \geq .70$ ). The correlations between all variables using expatriates, HCNs and expatriate-HCN dyads are shown in Table 7, Table 8, and Table 9 respectively. Directions of all correlations were consistent with my theoretical predictions. There was no sign of multicollinearity as all correlations were below .70 (Tabachnick & Fidell, 2007). In order to make sure that none of the variables I



used suffered from any potential problems of multicollinearity, I also computed the variance inflation factors (VIFs) for all independent variables (collaborative-based HR configuration, networking, CQ, frequency of interaction, trust, and shared vision) with their correspondent dependent variables according to my hypotheses. VIFs for all independent variables were well below the recommended cut-off of 10 (cf. Cody & Smith, 2006) for both expatriate and HCN samples. Thus, multicollinearity was not a serious concern in this study.

TABLE 7

<sup>a</sup> Means, Standard Deviations, Reliabilities, and Correlations of Expatriate Sample

<i>Variables</i>	<i>M</i>	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>
1 Tacit knowledge transfer (from HCN)	4.02	1.32	(.76)									
2 Explicit knowledge transfer (from HCN)	3.51	1.29	.55***	(.78)								
3 Frequency of interaction	4.58	.83	.11	.08	(.63)							
4 Trust	4.23	.56	.11	.11	.14*	(.88)						
5 Shared vision	4.03	.63	.25***	.23***	.13*	.63***	(.89)					
6 Cultural intelligence	4.11	.41	-.02	.08	.01	.23***	.20***	(.84)				
7 Networking	3.97	.61	.10	.16**	.14*	.16**	.27***	.45***	(.81)			
8 Collaborative-based HR configuration	3.95	.63	.17**	.15*	.04	.13*	.27***	.03	.23***	(.84)		
9 Length of relationship with HCN (month)	50.61	45.52	.07	.18**	-.02	-.06	-.08	-.01	-.02	.03	-	
10 Level difference	.51	.50	-.13*	-.18**	.08	.13*	.04	.10	.11	.06	-.04	-

<sup>a</sup> Reliabilities (Cronbach's alpha), when applicable, are indicated on the diagonal.\*  $p < .05$ . \*\*  $p < .01$  \*\*\*  $p < .0001$

TABLE 8

<sup>a</sup> Means, Standard Deviations, Reliabilities, and Correlations of HCN Sample

<i>Variables</i>	<i>M</i>	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>
1 Tacit knowledge transfer (from expatriate)	5.14	1.25	(.81)									
2 Explicit knowledge transfer (from expatriate)	5.06	1.11	.47***	(.72)								
3 Frequency of interaction	4.86	1.08	.39***	.47***	(.69)							
4 Trust	4.49	.46	.16	.37**	.22	(.88)						
5 Shared vision	4.36	.49	.26*	.28*	.17	.51***	(.88)					
6 Cultural intelligence	4.02	.48	.24	.33**	.37**	.49***	.38**	(.84)				
7 Networking	4.13	.51	.17	.31*	.25*	.40***	.35**	.57***	(.76)			
8 Collaborative-based HR configuration	4.13	.49	.34**	.15	.15	.21	.29*	.41***	.38**	(.78)		
9 Length of relationship with expatriate (month)	35.14	31.10	-.11	-.01	.07	.14	-.20	-.09	-.14	-.10	-	
10 Level difference	.58	.50	-.03	.12	.14	.32**	.22	.30*	.21	.12	.14	-

<sup>a</sup> Reliabilities (Cronbach's alpha), when applicable, are indicated on the diagonal.\*  $p < .05$ . \*\*  $p < .01$  \*\*\*  $p < .0001$

TABLE 9

<sup>a b</sup> Means, Standard Deviations, Reliabilities, and Correlations of Expatriate-HCN Dyads

<i>Variables</i>	<i>M</i>	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>
1 Tacit knowledge transfer (from expatriate) <sup>b</sup>	5.14	1.25	(.81)											
2 Tacit knowledge transfer (from HCN)	4.25	1.49	.22	(.82)										
3 Explicit knowledge transfer (from expatriate) <sup>b</sup>	5.06	1.11	.47***	-.03	(.72)									
4 Explicit knowledge transfer (from HCN)	3.63	1.34	.18	.65***	.05	(.86)								
5 Frequency of interaction <sup>b</sup>	4.86	1.08	.39***	-.08	.47***	-.14	(.69)							
6 Frequency of interaction	4.59	.94	.31*	.07	.21	.34**	.30*	(.66)						
7 Trust <sup>b</sup>	4.49	.46	.16	-.38**	.37**	-.25*	.22	.11	(.88)					
8 Trust	4.34	.46	.07	-.05	.09	-.05	.11	.13	.42***	(.85)				
9 Shared vision <sup>b</sup>	4.36	.49	.26*	-.11	.28*	-.07	.17	.14	.51***	.52***	(.88)			
10 Shared vision	4.22	.48	.29*	.13	.14	.08	.18	.25*	.37***	.55***	.42***	(.85)		
11 Cultural intelligence <sup>b</sup>	4.02	.48	.24	-.42***	.33**	-.26*	.37**	.13	.24*	.15	.38**	.04	(.80)	
12 Cultural intelligence	4.10	.40	.14	-.13	.11	-.09	.17	.08	.49***	.41***	.33**	.38**	.13	(.84)
13 Networking <sup>b</sup>	4.13	.51	.17	-.21	.31*	-.04	.25*	.18	.40***	.12	.35**	.08	.57***	.14
14 Networking	4.04	.53	.30*	-.03	.10	-.04	.12	.22	.21	.35**	.29*	.46***	.09	.45***
15 Collaborative-based HR configuration <sup>b</sup>	4.13	.49	.34**	-.13	.15	.03	.15	.17	.21	.30*	.29*	.30*	.41***	.28*
16 Collaborative-based HR configuration	4.08	.43	.02	.18	.02	.22	-.15	-.02	-.00	.23	.21	.17	.01	.16
17 Length of relationship with expatriate (month) <sup>b</sup>	35.14	31.10	-.11	.05	-.01	.04	.07	.24	.14	.21	-.20	.05	-.09	-.05
18 Length of relationship with HCN (month)	31.43	20.42	.18	.11	.08	-.02	.24*	.09	.14	.22	-.00	.24	.10	.03
19 Level difference <sup>b</sup>	.58	.50	-.03	-.27*	.12	-.37**	.14	.04	.32**	.32**	.22	.12	.30*	.19
20 Level difference	.49	.50	-.11	-.32**	-.03	-.40***	-.03	-.03	.31*	.37**	.25*	.18	.24	.35**

		13	14	15	16	17	18	19	20
13	Networking <sup>b</sup>	(.76)							
14	Networking	.06	(.72)						
15	Collaborative-based HR configuration <sup>b</sup>	.38**	.38**	(.78)					
16	Collaborative-based HR configuration	-.07	.12	.26*	(.74)				
17	Length of relationship with expatriate (month) <sup>b</sup>	-.14	.05	-.10	-.04	-			
18	Length of relationship with HCN (month)	.02	.21	.17	.08	.67***	-		
19	Level difference <sup>b</sup>	.21	.21	.12	.06	.14	.21	-	
20	Level difference	.19	.24*	.06	.18	-.18	-.12	.75***	-

<sup>a</sup> Reliabilities (Cronbach's alpha), when applicable, are indicated on the diagonal.

<sup>b</sup> Rated by HCNs

\*  $p < .05$ . \*\*  $p < .01$  \*\*\*  $p < .0001$

### Test of Measurement Model

Confirmatory factor analysis was undertaken for expatriate sample, HCN sample, and expatriate-HCN dyad sample to evaluate the model fit for the full measurement model that includes 8 latent variables (tacit knowledge transfer, explicit knowledge transfer, frequency of interaction, trust, shared vision, CQ, networking, and collaborative-based HR configuration). For expatriate sample, as shown in Figure 4, this eight-factor measurement model provided an acceptable fit [ $\chi^2(830) = 1258.676$ ,  $p < .001$ , CFI = .926, NNFI = .916, RMSEA = .042] which suggested that this 8-factor measurement model was acceptable. Further, each indicator's loading on the appropriate latent construct was significant.

For HCN sample (as shown in Figure 6), given the small sample size, this eight-factor measurement model also provided a marginal fit [ $\chi^2(774) = 988.401$ ,  $p < .001$ , CFI = .852, NNFI = .879, RMSEA = .065] which suggested that this 8-factor measurement model was acceptable.

For expatriate-HCN dyads, I tested two measurement models, one with expatriate rated relationship enablers and knowledge transfer and HCN rated relationship qualities as shown in Figure 5; the other one with HCN rated relationship enablers and knowledge transfer and expatriate rated relationship qualities as shown in Figure 7. For the first expatriate-HCN dyad measurement model, given the small sample size (67 dyads), the eight-factor model provided a marginal fit [ $\chi^2(780) = 1060.7$ ,  $p < .001$ , CFI = .849, NNFI = .817, RMSEA = .074] which suggested that this 8-factor measurement model was acceptable. As to the second expatriate-HCN dyad measurement model, also given the small sample size (67 dyads), the eight-factor model provided a marginal fit [ $\chi^2(780) =$

FIGURE 4

A Measurement Model of Knowledge Transfer from HCN to Expatriate (Tested with Expatriate Sample)

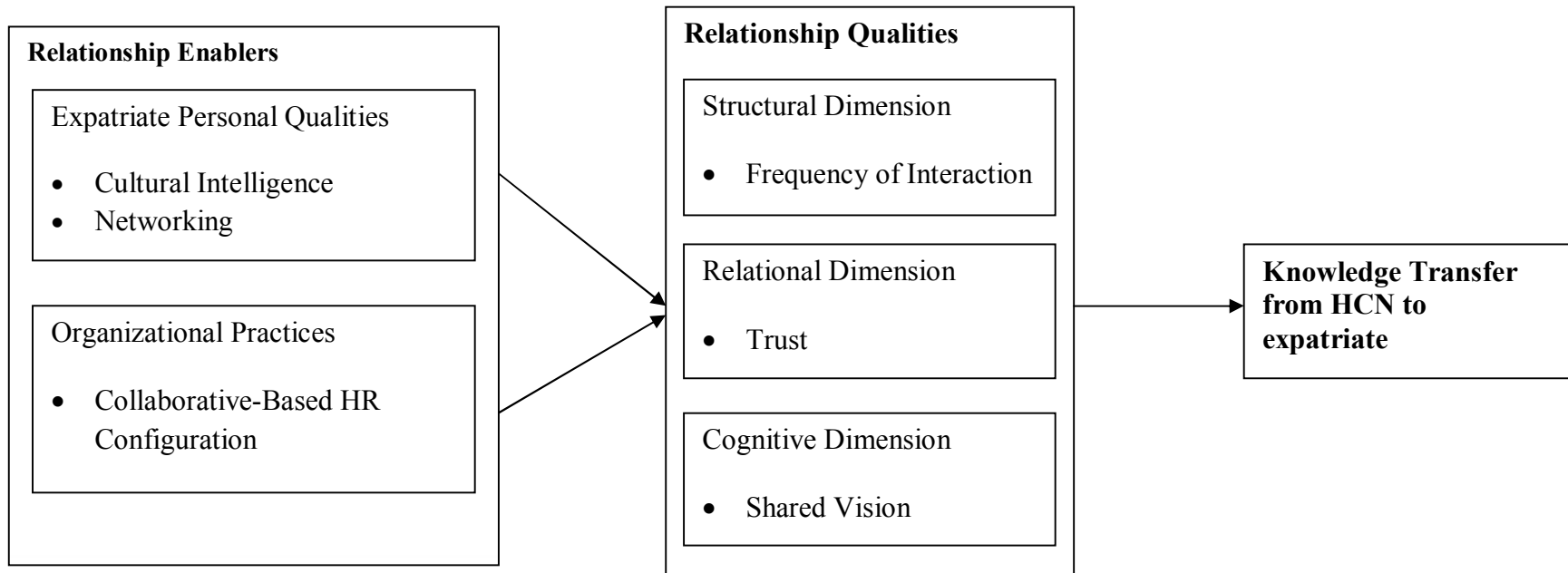


FIGURE 5

A Measurement Model of Knowledge Transfer from HCN to Expatriate (Tested with Expatriate-HCN Dyads)

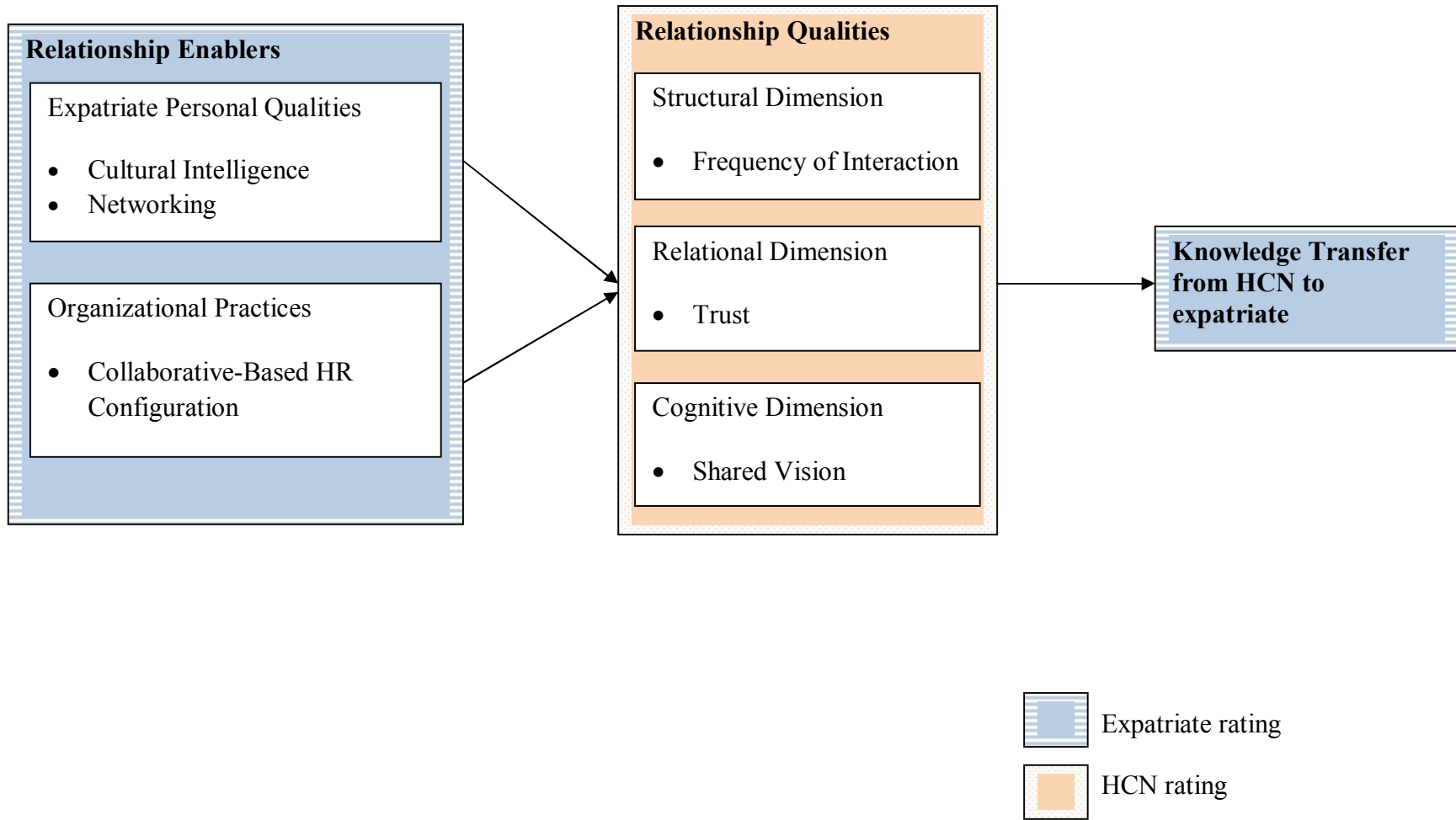




FIGURE 6

A Measurement Model of Knowledge Transfer from Expatriate to HCN (Tested with HCN sample)

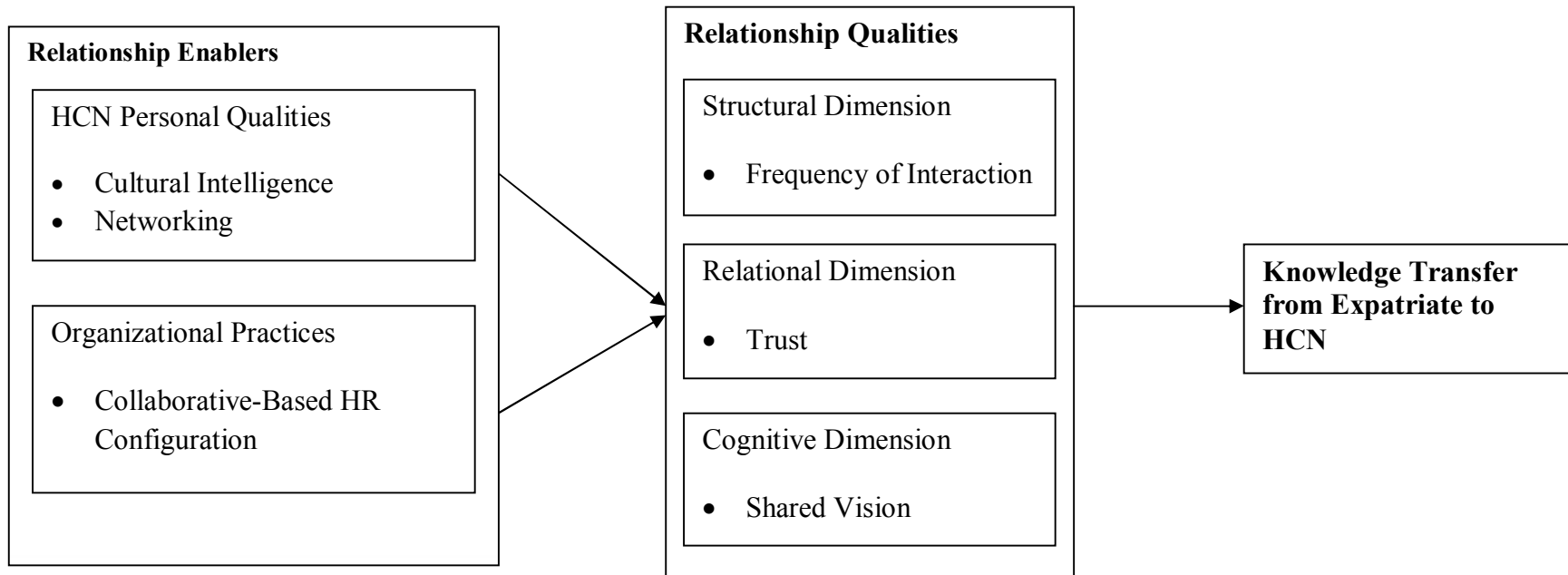
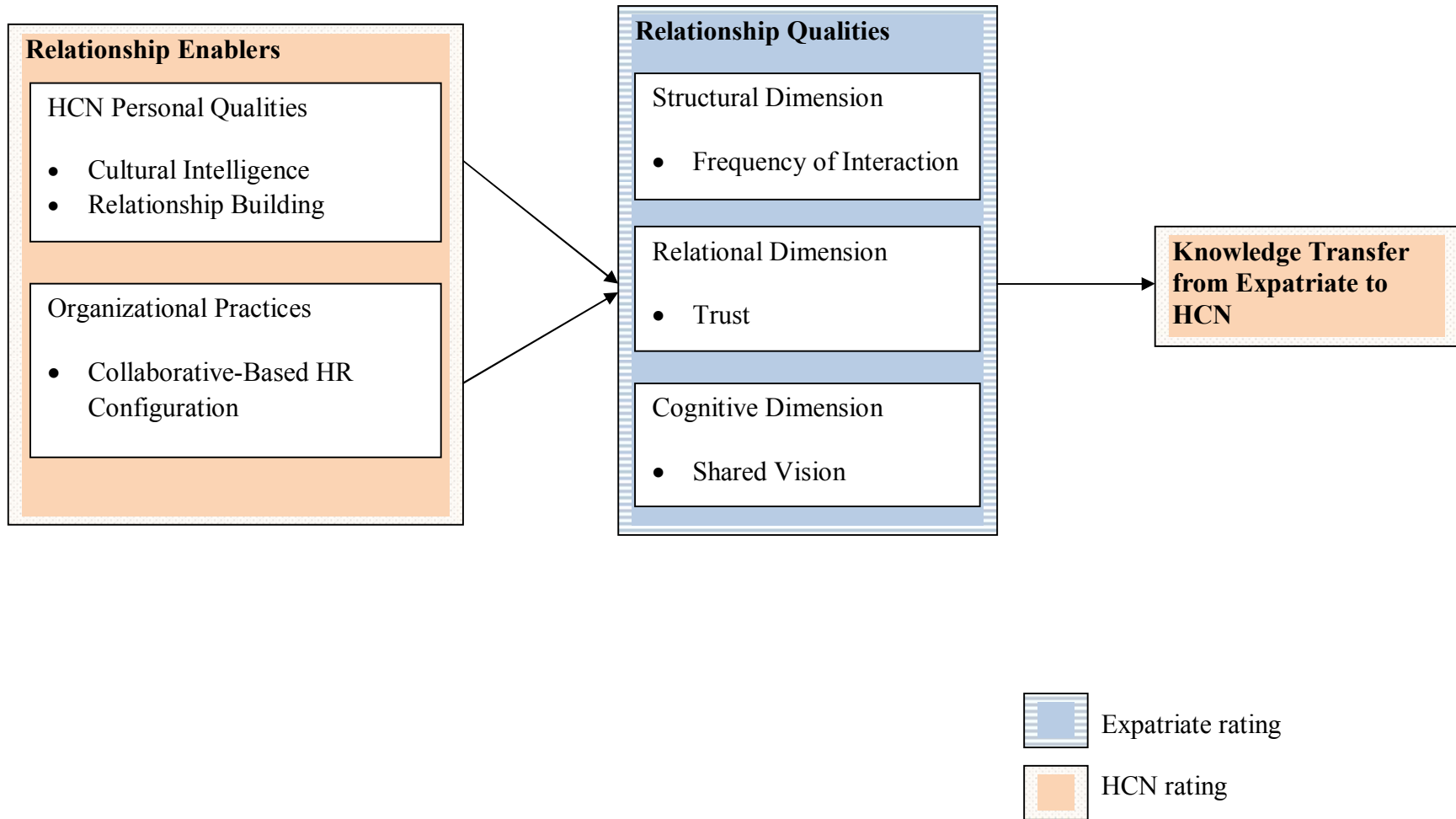


FIGURE 7

A Measurement Model of Knowledge Transfer from Expatriate to HCN (Tested with Expatriate-HCN Dyads)



953.3,  $p < .001$ , CFI = .891, NNFI = .868, RMSEA = .058] which suggested that this 8-factor measurement model was acceptable.

### **Hypothesis Testing**

To test hypotheses, I used multiple regression except for the model using expatriate sample (sample size is large enough for Structural Equation Modeling). The first model (Figure 4) is to test the process of knowledge transfer from HCNs from the perspective of expatriates using expatriate sample. That is, I used expatriate rated relationship enablers, relationship qualities, and knowledge transfer. Results of the path analysis revealed a good fit [ $\chi^2(872) = 1066.042$ ,  $p < .001$ , CFI = .967, NNFI = .961, RMSEA = .028]. Path coefficient will be discussed in the next section. The second model (Figure 5) is also to test the process of knowledge transfer from HCNs to expatriates using multiple sources of data. That is, I used expatriate rated relationship enablers and knowledge transfer and HCN rated relationship qualities. The third model (Figure 6) is to test the process of knowledge transfer from expatriates from the perspective of HCNs using HCN sample. That is, I used HCN rated relationship enablers, relationship qualities, and knowledge transfer. The fourth model (Figure 7) is to test the process of knowledge transfer from expatriates to HCNs using multiple sources of data. That is, I used expatriate rated relationship enablers and knowledge transfer and HCN rated relationship qualities.

#### *Results for Access to Social Capital*

Hypotheses 1 to 3 concern the relationships between CQ and three dimensions of relationship qualities (frequency of interaction, trust, and shared vision). As shown in

FIGURE 8

Results of Knowledge Transfer from HCNs to Expatriates Using Expatriate Sample

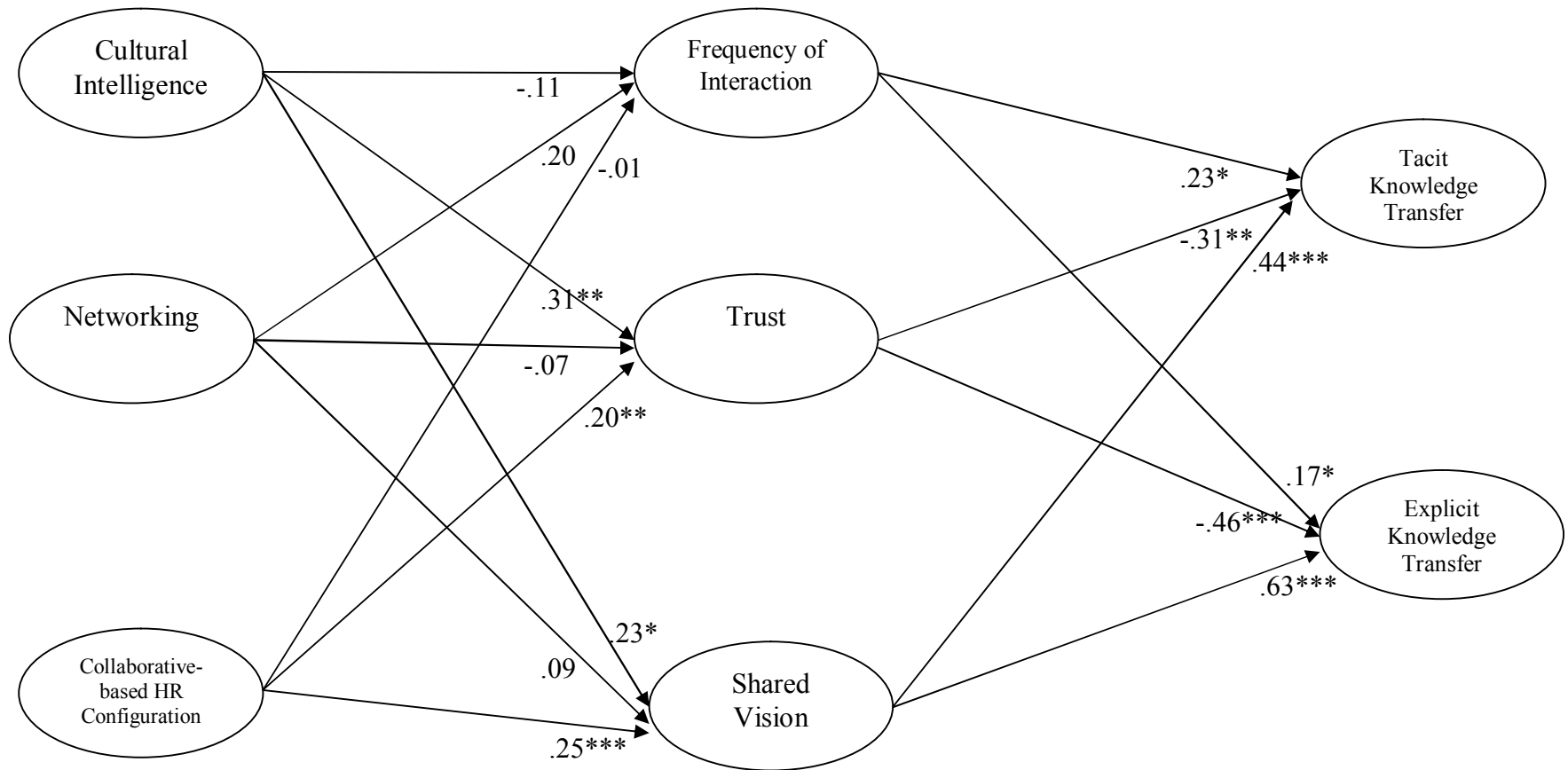


Figure 8, expatriates' CQ was only positively and significantly related to trust ( $\beta = .31, p < .01$ ) and shared vision ( $\beta = .23, p < .05$ ). Thus, Hypotheses 2a and 3a were supported with the single source data, but none of the hypotheses were supported with the matched data, as shown in Table 11. As shown in Figure 8, Hypothesis 1a was not supported with either the single source data or the matched data, as shown in Table 11. For HCNs, as shown in Table 10, their CQ was positively and significantly related to frequency of interaction ( $\beta = .33, p < .05$ ) and trust ( $\beta = .36, p < .05$ ) with their expatriate colleagues. Thus, Hypotheses 1b and 2b were supported with the single source data, but none of the hypotheses were supported with the matched data, as shown in Table 11. Also as shown in Table 10, Hypothesis 3b was not supported with either the single source data or the matched data, as shown in Table 11.

Hypotheses 4 to 6 concern the relationships between networking and three dimensions of relationship qualities. As shown in Figure 8, Table 9, Table 10 and Table 11, networking behaviors do not significantly predict any forms of relationship qualities with either the single source data or the matched data. Thus, Hypotheses 4a to 6b were not supported.

Hypotheses 7 to 9 concern the relationships between collaborative-based HR configuration and three dimensions of relationship qualities. As shown in Figure 8, expatriates' perceived collaborative-based HR configuration was only positively and significantly related to trust ( $\beta = .20, p < .01$ ) and shared vision ( $\beta = .25, p < .001$ ) with their HCN colleagues. Thus, Hypotheses 8a and 9a were supported with the single source data, but none of the hypotheses were supported with the matched data, as shown in Table 11. Also as shown in Figure 8, Hypothesis 7a was not supported with either the

TABLE 10

## Result of Regression Analysis for Relationship Qualities (Single Source, HCN sample)

<i>Predictors</i>	<b>Standardized Regression Coefficients</b>		
	<b>Frequency of Interaction</b>	<b>Trust</b>	<b>Shared Vision</b>
<i>Controls</i>			
Length of relationship	.11	.18	-.17
Level difference	.01	.15	.14
<i>Relationship Enablers</i>			
CQ	.33*	.36*	.19
Networking	.08	.19	.15
Collaborative-based HR configuration	-.01	-.01	.12
Overall R <sup>2</sup>	.15	.33	.22
Adjusted R <sup>2</sup>	.08	.27	.16
Overall F	2.13	5.89***	3.48**
df	(5,61)	(5,61)	(5,61)

Notes: \*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

<sup>a</sup>TABLE 11**Result of Regression Analysis for Relationship Qualities (Multiple Source)**

<i>Predictors</i>	Standardized Regression Coefficients					
	Frequency of Interaction		Trust		Shared Vision	
	Expatriate	HCN	Expatriate	HCN	Expatriate	HCN
<i>Controls</i>						
Length of relationship <sup>a</sup>	.28*		.17		.04	
Length of relationship		.25		.17		-.04
Level difference <sup>a</sup>	-.08		.26*		.11	
Level difference		-.04		.28*		.11
<i>Relationship Enablers</i>						
CQ <sup>a</sup>	.02		-.04		-.14	
CQ		.20		.13		.19
Networking <sup>a</sup>	.18		-.00		.01	
Networking		.01		.05		.17
Collaborative-based HR configuration <sup>a</sup>	.12		.29*		.35*	
Collaborative-based HR configuration		-.20		-.10		.14
Overall R <sup>2</sup>	.12	.12	.20	.15	.12	.17
Adjusted R <sup>2</sup>	.05	.05	.14	.08	.04	.10
Overall F	1.72	1.74	3.10*	2.19	1.60	2.49*
df	(5,61)	(5,61)	(5,61)	(5,61)	(5,61)	(5,61)

<sup>a</sup> Rated by HCNsNotes: \* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$

single source data or the matched data. As to HCNs, as shown in Table 10, their perceived collaborative-based HR configuration was not significantly related to any dimensions of relationship qualities with their expatriate colleagues. However, as shown in Table 11, HCNs' perceived collaborative-based HR configuration was positively and significantly related to expatriate rated trust ( $\beta = .29, p < .05$ ) and shared vision ( $\beta = .35, p < .05$ ), but not frequency of interaction with their HCN colleagues; thus, Hypotheses 7b was not supported by either the single source data or the matched data. However, Hypotheses 8b and 9b were supported by the matched data.

*Results for Mobilization of Social capital*

Hypotheses 10 to 12 concern the relationships between three dimensions of relationship qualities and knowledge transfer. As shown in Figure 8, expatriates' frequency of interaction and shared vision with their HCN colleagues were positively and significantly related to both tacit ( $\beta = .23, p < .05$  for frequency of interaction;  $\beta = .44, p < .001$  for shared vision) and explicit knowledge transfer ( $\beta = .17, p < .05$  for frequency of interaction;  $\beta = .63, p < .001$  for shared vision). Thus, Hypotheses 10a and 12a were supported with the single source data, but none of the hypotheses were supported with the matched data, as shown in Table 13. Although as shown in Figure 8, trust was significantly related to both tacit ( $\beta = -.31, p < .01$ ) and explicit ( $\beta = -.46, p < .001$ ) knowledge transfer, the betas are negative, which contradict my prediction. Same result ( $\beta = -.40, p < .01$  for tacit knowledge transfer) was found in the matched data, as shown in Table 13. Therefore, Hypothesis 11a was not supported by either the single source data or the matched data. As to HCNs, as shown in Table 12, HCNs' frequency of interaction with their expatriate colleagues was positively and significantly related to



both tacit ( $\beta = .38, p < .01$ ) and explicit knowledge transfer ( $\beta = .41, p < .001$ ). However, as shown in Table 13, expatriate rated frequency of interaction was only positively and significantly related to HCN rated tacit knowledge transfer ( $\beta = .30, p < .05$ ), but not explicit knowledge transfer. Thus, Hypothesis 10b was fully supported by the single source data but partially supported by the matched data. Also as shown in Tables 12 and 13, HCNs' trust and shared vision were not significantly related to tacit or explicit knowledge transfer. As a result, Hypotheses 11b and 12b were not supported by either the single source data or the matched data.

TABLE 12

## Result of Regression Analysis for Knowledge Transfer (Single Source, HCN sample)

<i>Predictors</i>	Standardized Regression Coefficients					
	Tacit Knowledge Transfer			Explicit Knowledge Transfer		
<i>Controls</i>						
Length of relationship	-.06	-.09	-.08	.03	-.06	-.04
Level difference	-.10	-.13	-.13	.01	-.02	-.03
<i>Relationship Enablers</i>						
CQ	.15		-.02	.23		.01
Networking	-.01		-.07	.18		.10
Collaborative-based HR configuration	.29*		.28*	-.01		-.01
<i>Relationship Qualities</i>						
Frequency of interaction		.38**	.37**		.41***	.39**
Trust		.03	.04		.26	.22
Shared vision		.19	.14		.07	.06
Overall R <sup>2</sup>	.14	.22	.28	.13	.31	.31
Adjusted R <sup>2</sup>	.07	.15	.18	.06	.25	.22
Overall F	2.02	3.40**	2.82*	1.87	5.36***	3.30**
df	(5,61)	(5,61)	(8,58)	(5,61)	(5,61)	(8,58)

Notes: \*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

<sup>a</sup>TABLE 13

## Result of Regression Analysis for Knowledge Transfer (Multiple Source)

<i>Predictors</i>	Standardized Regression Coefficients											
	Tacit Knowledge Transfer						Explicit Knowledge Transfer					
	Expatriate			HCN			Expatriate			HCN		
<i>Controls</i>												
Length of relationship <sup>a</sup>												
Length of relationship	.04	.15	.11							.03	-.17	-.09
Level difference <sup>a</sup>										.01	.14	.03
Level difference	-.34*	-.22	-.25									
<i>Relationship Enablers</i>												
CQ <sup>a</sup>												
CQ	-.07		-.04							.23		.24
Networking <sup>a</sup>										.18		.14
Networking	.04		.05							.07		.07
Collaborative-based HR configuration <sup>a</sup>										.29*		.17
Collaborative-based HR configuration	.24*		.19							.31**		.27*
<i>Relationship Qualities</i>												
Frequency of interaction <sup>a</sup>												
Frequency of interaction		-.06	-.02									
Trust <sup>a</sup>												
Trust		-.40**	-.36*									
Shared vision <sup>a</sup>												
Shared vision		.16	.10									
Overall R <sup>2</sup>												
Overall R <sup>2</sup>	.16	.22	.25							.13	.09	.17
Adjusted R <sup>2</sup>	.09	.16	.15							.06	.02	.06
Overall F	2.37*	3.48**	2.48*									
Overall F	2.37*	3.48**	2.48*									
df	(5,61)	(5,61)	(8,58)									
df	(5,61)	(5,61)	(8,58)							(5,61)	(5,61)	(8,58)

<sup>a</sup>Rated by HCNsNotes: \*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

*Results for the Mediation Roles Played by Relationship Qualities*

Hypotheses 13 to 21 are the mediation hypotheses. For the model tested with expatriate sample, I performed bootstrapping procedures with 1000 bootstrap samples (Preacher & Hayes, 2004) to confirm mediation. For other models, the one with HCN sample, and the ones with expatriate-HCN matched sample, I first followed the three-step procedures outlined by Baron and Kenny (1986) and then used Sobel Test to confirm mediation.

Hypothesis 13 concerns the mediation role played by frequency of interaction on CQ-knowledge transfer relation. For the model tested with expatriate sample, the bootstrap results indicate that the indirect effect of CQ on either tacit ( $r = -.030$ ,  $p = .72$ , 95% CI [-1.45, .53]) or explicit ( $r = -.016$ ,  $p = .83$ , 95% CI [-1.03, .62]) knowledge transfer through frequency of interaction was insignificant. Also, as shown in Table 13, expatriates' CQ was not significantly related to expatriate rated tacit or explicit knowledge transfer. Thus, Hypothesis 13a was not supported by either the single source data or the matched data. As for HCNs, as shown in Tables 12 and 13, HCNs' CQ was not significantly related to either tacit or explicit knowledge transfer. Thus, Hypothesis 13b was not supported by either the single source data or the matched data.

Hypothesis 14 concerns the mediation role played by frequency of interaction on networking-knowledge transfer relation. For the model tested with expatriate sample, the bootstrap results indicate that the indirect effect of networking on either tacit ( $r = .224$ ,  $p = .19$ , 95% CI [-.17, 1.73]) or explicit ( $r = .268$ ,  $p = .21$ , 95% CI [-.20, 1.25]) knowledge transfer through frequency of interaction was insignificant. Also, as shown in Table 13, expatriates' networking was not significantly related to expatriate rated tacit or

explicit knowledge transfer. Thus, Hypothesis 14a was not supported by either the single source data or the matched data. For HCNs, as shown in Tables 12 and 13, HCNs' networking with their expatriate colleagues was not significantly related to either tacit or explicit knowledge transfer. As a result, Hypothesis 14b was not supported by either the single source data or the matched data.

Hypothesis 15 concerns the mediation role played by frequency of interaction on collaborative-based HR configuration-knowledge transfer relation. For the model tested with expatriate sample, the bootstrap results indicate that the indirect effect of collaborative-based HR configuration on either tacit ( $r = .100$ ,  $p = .53$ , 95% CI [- .42, .41]) or explicit ( $r = .15$ ,  $p = .32$ , 95% CI [- .24, .50]) knowledge transfer through frequency of interaction was insignificant. As shown in Table 13, expatriates' perceived collaborative-based HR configuration was positively and significantly related to expatriate rated tacit ( $\beta = .24$ ,  $p < .05$ ) and explicit ( $\beta = .31$ ,  $p < .01$ ) knowledge transfer. However, as shown in Table 11, expatriate rated collaborative-based HR configuration does not significantly relate to HCN rated frequency of interaction. Thus, Hypothesis 15a was not supported by either the single source data or the matched data. For HCNs, as shown in Table 12, HCNs' perceived collaborative-based HR configuration was positively and significantly related to tacit knowledge transfer ( $\beta = .29$ ,  $p < .05$ ), so the first step for mediation holds. However, as shown in Table 10, collaborative-based HR configuration does not significantly relate to frequency of interaction, so the second step for mediation does not hold. As shown in Table 11, although HCNs' perceived collaborative-based HR configuration was positively and significantly related to HCN rated tacit knowledge transfer ( $\beta = .29$ ,  $p < .05$ ), HCNs' perceived collaborative-based HR

configuration does not significantly relate to expatriate rated frequency of interaction; thus, Hypothesis 15b was not supported by either the single source data or the matched data.

Hypothesis 16 concerns the mediation role played by trust on CQ-knowledge transfer relation. For the model tested with expatriate sample, the bootstrap results indicate that the indirect effect of CQ on either tacit ( $r = -.030$ ,  $p = .72$ , 95% CI [-1.45, .53]) or explicit ( $r = -.016$ ,  $p = .83$ , 95% CI [-1.03, .62]) knowledge transfer through trust was insignificant. As shown in Table 13, expatriates' CQ was not significantly related to expatriate rated tacit or explicit knowledge transfer. Thus, Hypothesis 16a was not supported by either the single source data or the matched data. For HCNs, First, as shown in Table 10, HCNs' CQ ( $\beta = .36$ ,  $p < .05$ ) was positively and significantly related to trust with their expatriate colleagues, so the first condition of mediation holds. Second, as shown in Table 12, HCNs' CQ was not significantly related to either tacit or explicit knowledge transfer, the second condition of mediation does not hold. Moreover, as shown in Table 13, HCNs' CQ was not significantly related to HCN rated tacit or explicit knowledge transfer; thus, Hypothesis 16b was not supported by either the single source data or the matched data.

Hypothesis 17 concerns the mediation role played by trust on networking-knowledge transfer relation. For the model tested with expatriate sample, the bootstrap results indicate that the indirect effect of networking on either tacit ( $r = .224$ ,  $p = .19$ , 95% CI [-.17, 1.73]) or explicit ( $r = .268$ ,  $p = .21$ , 95% CI [-.20, 1.25]) knowledge transfer through trust was insignificant. As shown in Table 13, expatriates' networking was not significantly related to expatriate rated tacit or explicit knowledge transfer.

Hypothesis 17a was not supported by either the single source data or the matched data. For HCNs, as shown in Table 12, HCNs' networking behaviors were not significantly related to either tacit or explicit knowledge transfer. Moreover, as shown in Table 13, HCNs' networking was not significantly related to HCN rated tacit or explicit knowledge transfer; thus, Hypothesis 17b was not supported by either the single source data or the matched data.

Hypothesis 18 concerns the mediation role played by trust on collaborative-based HR configuration-knowledge transfer relation. For the model tested with expatriate sample, the bootstrap results indicate that the indirect effect of collaborative-based HR configuration on either tacit ( $r = .100$ ,  $p = .53$ , 95% CI [-.42, .41]) or explicit ( $r = .15$ ,  $p = .32$ , 95% CI [-.24, .50]) knowledge transfer through trust was insignificant. Moreover, as shown in Table 13, expatriates' perceived collaborative-based HR configuration was positively and significantly related to expatriate rated tacit ( $\beta = .24$ ,  $p < .05$ ) and explicit ( $\beta = .31$ ,  $p < .01$ ) knowledge transfer. However, as shown in Table 11, expatriate rated collaborative-based HR configuration does not significantly relate to HCN rated trust. Thus, Hypothesis 18a was not supported by either the single source data or the matched data. For HCNs, as shown in Table 12, although HCNs' perceived collaborative-based HR configuration was positively and significantly related to tacit knowledge transfer ( $\beta = .29$ ,  $p < .05$ ), as shown in Table 10, HCNs' perceived collaborative-based HR configuration was not significantly related to trust. Moreover, as shown in Table 13, HCNs' perceived collaborative-based HR configuration was positively and significantly related to HCN rated tacit knowledge transfer ( $\beta = .29$ ,  $p < .05$ ), so the first step of mediation holds. Furthermore, as shown in Table 11, HCNs' perceived collaborative-

based HR configuration is positively and significantly related to expatriate rated trust ( $\beta = .29, p < .05$ ), so the second step of mediation also holds. However, when I regressed HCN rated tacit knowledge transfer on both expatriate rated trust and HCN rated collaborative-based HR configuration, expatriate rated trust does not significantly relate to HCN rated tacit knowledge transfer; thus, Hypothesis 18b was not supported by either the single source data or the matched data.

Hypothesis 19 concerns the mediation role played by shared vision on CQ-knowledge transfer relation. For the model tested with expatriate sample, the bootstrap results indicate that the indirect effect of CQ on either tacit ( $r = -.030, p = .72, 95\% \text{ CI } [-1.45, .53]$ ) or explicit ( $r = -.016, p = .83, 95\% \text{ CI } [-1.03, .62]$ ) knowledge transfer through shared vision was insignificant. As shown in Table 13, expatriates' CQ was not significantly related to expatriate rated tacit or explicit knowledge transfer. Thus, Hypothesis 19a was not supported by either the single source data or the matched data. For HCNs, as shown in Table 12, HCNs' CQ was not significantly related to either tacit or explicit knowledge transfer. Moreover, as shown in Table 13, HCNs' CQ was not significantly related to HCN rated tacit or explicit knowledge transfer; thus, Hypothesis 19b was not supported by either the single source data or the matched data.

Hypothesis 20 concerns the mediation role played by shared vision on networking-knowledge transfer relation. For the model tested with expatriate sample, the bootstrap results indicate that the indirect effect of networking on either tacit ( $r = .224, p = .19, 95\% \text{ CI } [-.17, 1.73]$ ) or explicit ( $r = .268, p = .21, 95\% \text{ CI } [-.20, 1.25]$ ) knowledge transfer through shared vision was insignificant. As shown in Table 13, expatriates' networking was not significantly related to expatriate rated tacit or explicit



knowledge transfer. Thus, Hypothesis 20a was not supported by either the single source data or the matched data. For HCNs, as shown in Table 12, HCNs' networking was not significantly related to either tacit or explicit knowledge. Moreover, as shown in Table 13, HCNs' networking was not significantly related to HCN rated tacit or explicit knowledge transfer; thus, Hypothesis 20b was not supported by either the single source data or the matched data.

Hypothesis 21 concerns the mediation role played by shared vision on collaborative-based HR configuration-knowledge transfer relation. For the model tested with expatriate sample, the bootstrap results indicate that the indirect effect of collaborative-based HR configuration on either tacit ( $r = .100$ ,  $p = .53$ , 95% CI [- .42, .41]) or explicit ( $r = .15$ ,  $p = .32$ , 95% CI [- .24, .50]) knowledge transfer through shared vision was insignificant. As shown in Table 13, expatriates' perceived collaborative-based HR configuration was positively and significantly related to expatriate rated tacit ( $\beta = .24$ ,  $p < .05$ ) and explicit ( $\beta = .31$ ,  $p < .01$ ) knowledge transfer. However, as shown in Table 11, expatriate rated collaborative-based HR configuration does not significantly relate to HCN rated shared vision. Thus, Hypothesis 21a was not supported by either the single source data or the matched data. For HCNs, as shown in Table 12, HCNs' perceived collaborative-based HR configuration was not significantly related to either tacit or explicit knowledge transfer. Moreover, as shown in Table 13, HCNs' perceived collaborative-based HR configuration was positively and significantly related to HCN rated tacit knowledge transfer ( $\beta = .29$ ,  $p < .05$ ), so the first step of mediation holds. Furthermore, as shown in Table 11, HCNs' perceived collaborative-based HR configuration is positively and significantly related to expatriate rated shared

vision ( $\beta = .35, p < .05$ ), so the second step of mediation also holds. However, when I regressed HCN rated tacit knowledge transfer on both expatriate rated shared vision and HCN rated collaborative-based HR configuration, expatriate rated shared vision does not significantly relate to HCN rated tacit knowledge transfer; thus, Hypothesis 21b was not supported by either the single source data or the matched data.

Table 14 presents and summarizes the results of all the hypotheses tested. Supported hypotheses are highlighted. Figures 9, 10, 11, 12 show significant relationships.

TABLE 14

## "Summary of Hypotheses Results

	<b>Expatriate Sample (Process of Knowledge transfer from HCN)</b>	<b>Results</b>	<b>HCN Sample (Process of Knowledge transfer from Expatriate)</b>	<b>Results</b>
H1: CQ and frequency of interaction	H1a: Expatriates' cultural intelligence is positively related to frequency of interaction with their HCN colleagues.	Not supported by either the single source data or matched data	H1b: HCNs' cultural intelligence is positively related to frequency of interaction with their expatriate colleagues.	Supported by the single source data
H2: CQ and trust	H2a: Expatriates' cultural intelligence is positively related to trust with their HCN colleagues.	Supported by the single source data	H2b: HCNs' cultural intelligence is positively related to trust with their expatriate colleagues.	Supported by the single source data
<i>H3: CQ and shared vision</i>	H3a: Expatriates' cultural intelligence is positively related to shared vision with their HCN colleagues.	Supported by the single source data	H3b: HCNs' cultural intelligence is positively related to shared vision with their expatriate colleagues.	Not supported by either the single source data or matched data
<i>H4: Networking and frequency of interaction</i>	H4a: Expatriates' networking behaviors are positively related to frequency of interaction with their HCN colleagues.	Not supported by either the single source data or matched data	H4b: HCNs' networking behaviors are positively related to frequency of interaction with their expatriate colleagues.	Not supported by either the single source data or matched data
<i>H5: Networking and trust</i>	H5a: Expatriates' networking behaviors are positively related to trust with their HCN colleagues.	Not supported by either the single source data or matched data	H5b: HCNs' networking behaviors are positively related to trust with their expatriate colleagues.	Not supported by either the single source data or matched data
<i>H6: Networking and shared vision</i>	H6a: Expatriates' networking behaviors are positively related to shared vision with their HCN colleagues.	Not supported by either the single source data or matched data	H6b: HCNs' networking behaviors are positively related to shared vision with their expatriate colleagues.	Not supported by either the single source data or matched data

H7: Collaborative-based HR configuration and frequency of interaction	H7a: Expatriates' perceived collaborative-based HR configuration in the host organization is positively related to frequency of interaction with their HCN colleagues.	Not supported by either the single source data or matched data	H7b: HCNs' perceived collaborative-based HR configuration in the host organization is positively related to frequency of interaction with their expatriate colleagues.	Not supported by either the single source data or matched data
H8: Collaborative-based HR configuration and trust	H8a: Expatriates' perceived collaborative-based HR configuration in the host organization is positively related to trust with their HCN colleagues.	Supported by the single source data	H8b: HCNs' perceived collaborative-based HR configuration in the host organization is positively related to trust with their expatriate colleagues.	Supported by the matched data
H9: Collaborative-based HR configuration and shared vision	H9a: Expatriates' perceived collaborative-based HR configuration in the host organization is positively related to shared vision with their HCN colleagues.	Supported by the single source data	H9b: HCNs' perceived collaborative-based HR configuration in the host organization is positively related to shared vision with their expatriate colleagues.	Supported by the matched data
H10: Frequency of interaction and knowledge transfer	H10a: Expatriates' frequency of interaction with their HCN colleagues is positively related to knowledge transfer.	Supported by the single source data	H10b: HCNs' frequency of interaction with their expatriate colleagues is positively related to knowledge transfer.	Supported by the single source data and the matched data
H11: Trust and knowledge transfer	H11a: Expatriates' trust with their HCN colleagues is positively related to knowledge transfer.	Not supported by either the single source data or matched data	H11b: HCNs' trust with their expatriate colleagues is positively related to knowledge transfer.	Not supported by either the single source data or matched data
H12: Shared vision and knowledge transfer	H12a: Expatriates' shared vision with their HCN colleagues is positively related to knowledge transfer.	Supported by the single source data	H12b: HCNs' shared vision with their expatriate colleagues is positively related to knowledge transfer.	Not supported by either the single source data or matched data
H13: CQ-->frequency of interaction--	H13a: Expatriates' frequency of interaction with their HCN colleagues mediates CQ-knowledge transfer relation.	Not supported by either the single source data or matched data	H13b: HCNs' frequency of interaction with their expatriate colleagues mediates CQ-knowledge transfer relation.	Not supported by either the single source data or matched data

>knowledge transfer				
H14: Networking-- >frequency of interaction-- >knowledge transfer	H14a: Expatriates' frequency of interaction with their HCN colleagues mediates networking-knowledge transfer relation.	Not supported by either the single source data or matched data	H14b: HCNs' frequency of interaction with their expatriate colleagues mediates networking-knowledge transfer relation.	Not supported by either the single source data or matched data
H15: Collaborative-based HR configuration-- >frequency of interaction-- >knowledge transfer	H15a: Expatriates' frequency of interaction with their HCN colleagues mediates collaborative-based HR configuration-knowledge transfer relation.	Not supported by either the single source data or matched data	H15b: HCNs' frequency of interaction with their expatriate colleagues mediates collaborative-based HR configuration-knowledge transfer relation.	Not supported by either the single source data or matched data
H16: CQ-->trust-- >knowledge transfer	H16a: Expatriates' trust with their HCN colleagues mediates CQ-knowledge transfer relation.	Not supported by either the single source data or matched data	H16b: HCNs' trust with their expatriate colleagues mediates CQ-knowledge transfer relation.	Not supported by either the single source data or matched data
H17: Networking-- >trust-- >knowledge transfer	H17a: Expatriates' trust with their HCN colleagues mediates networking -knowledge transfer relation.	Not supported by either the single source data or matched data	H17b: HCNs' trust with their expatriate colleagues mediates networking -knowledge transfer relation.	Not supported by either the single source data or matched data
H18: Collaborative-based HR configuration-- >trust-- >knowledge	H18a: Expatriates' trust with their HCN colleagues mediates collaborative-based HR configuration-knowledge transfer relation.	Not supported by either the single source data or matched data	H18b: HCNs' trust with their expatriate colleagues mediates collaborative-based HR configuration-knowledge transfer relation.	Not supported by either the single source data or matched data

transfer				
H19: CQ-- >shared vision-- >knowledge transfer	H19a: Expatriates' shared vision with their HCN colleagues mediates CQ-knowledge transfer relation.	Not supported by either the single source data or matched data	H19b: HCNs' shared vision with their expatriate colleagues mediates CQ-knowledge transfer relation.	Not supported by either the single source data or matched data
H20: Networking-- >shared vision-- >knowledge transfer	H20a: Expatriates' shared vision with their HCN colleagues mediates networking-knowledge transfer relation.	Not supported by either the single source data or matched data	H20b: HCNs' shared vision with their expatriate colleagues mediates networking-knowledge transfer relation.	Not supported by either the single source data or matched data
H21: Collaborative-based HR configuration-- >shared vision-- >knowledge transfer	H21a: Expatriates' shared vision with their HCN colleagues mediates collaborative-base HR configuration-knowledge transfer relation.	Not supported by either the single source data or matched data	H21b: HCNs' shared vision with their expatriate colleagues mediates collaborative-base HR configuration-knowledge transfer relation.	Not supported by either the single source data or matched data

FIGURE 9

**Significant Relationships: Knowledge Transfer from HCNs (Expatriate Sample)**

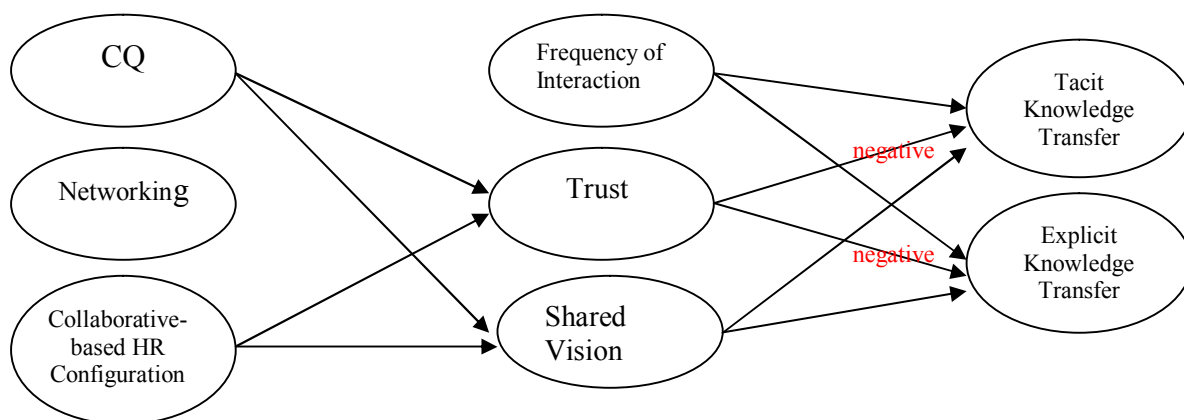
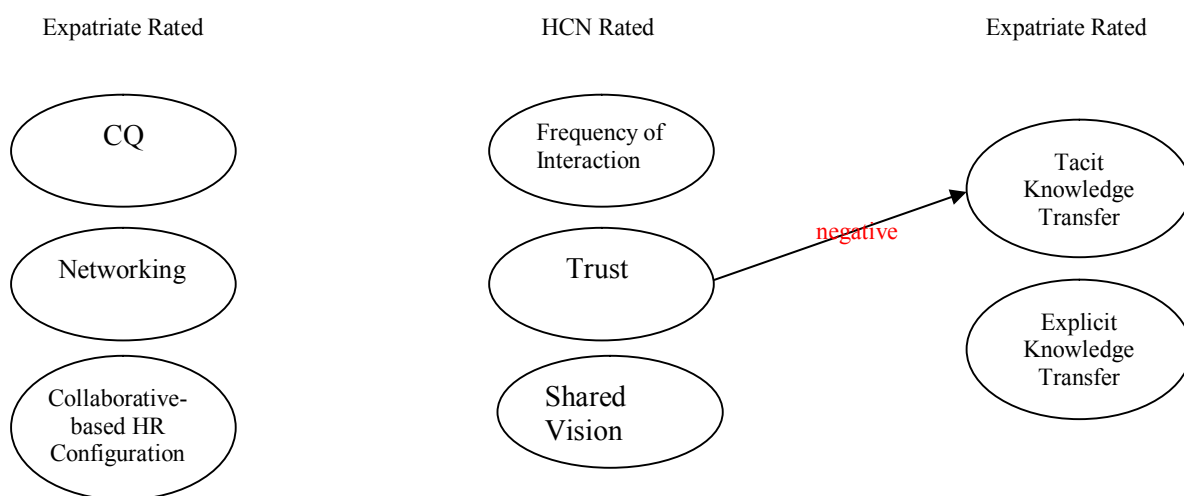


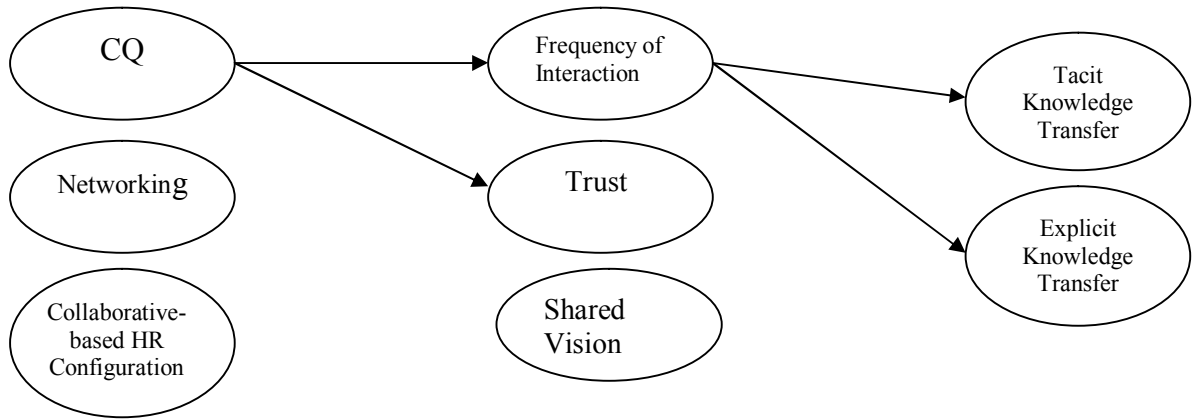
FIGURE 10

**Significant Relationships: Knowledge Transfer from HCNs (Matched Sample)**



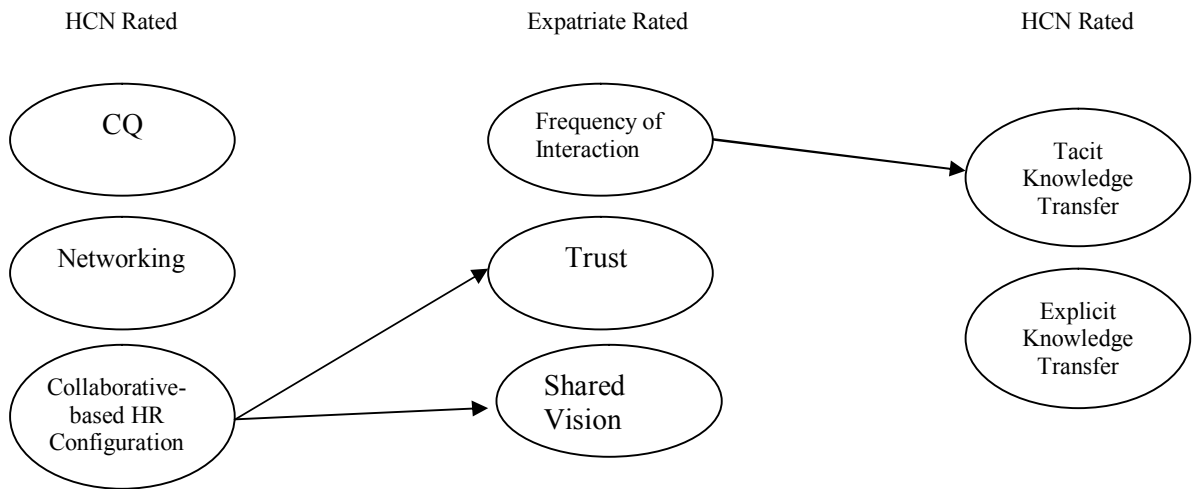
**FIGURE 11**

**Significant Relationships: Knowledge Transfer from Expatriates (HCN Sample)**



**FIGURE 12**

**Significant Relationships: Knowledge Transfer from Expatriates (Matched Sample)**





**CHAPTER 6: DISCUSSION AND CONCLUSION**

In this chapter, I discuss results of my data analysis. I also discuss theoretical and practical implications as well as limitations and suggestions for future research.

### **Discussion**

This dissertation attempts to answer the overarching question: How can expatriates and HCNs overcome the differences inherent between them and develop and maintain relationship qualities instrumental for knowledge transfer? To answer this, I addressed four underlying questions.

The first question asks whether CQ and networking enable positive relationship qualities between expatriates and HCNs. Results show that CQ is a relationship enabler for both expatriates and HCNs, although its influence on establishing relationship qualities differs for expatriates and HCNs. For both expatriates and HCNs, CQ is helpful in building trust with each other. These results highlight that for cross-cultural dyads, understanding how to manage interactions in a culturally diverse setting is important for building trust with each other.

Although for both expatriates and HCNs, CQ facilitates trust between each other, CQ is only instrumental in facilitating frequency of interaction from the perspective of HCNs, but not from the perspective of expatriates. Moreover, from the perspective of expatriates, CQ helps to build shared vision with their HCN colleagues; however, from the perspective of HCNs, their CQ does not help to build shared vision with their expatriate colleagues. It is possible that expatriates consider themselves as minorities whose beliefs about organizational goals and missions might be quite different from HCNs, the majority in the host country. Thus, CQ may play a more important role in helping them reduce anxiety and uncertainty toward HCNs and then assimilate with HCN

colleagues in terms of organizational goals and mission. However, for HCNs, as the majority, they may not need to utilize their CQ to assimilate their organizational goals and mission with their expatriate colleagues. Instead, they may find CQ helps them overcome cultural barriers so they can have more frequent interactions with their expatriate colleagues without anxiety and uncertainty. CQ does not enable relationship qualities between the expatriate-HCN dyads when interpreting results from the expatriate-HCN matched sample. A possible explanation is the small sample size.

Overall, based on the results derived from expatriate and HCN samples, this dissertation contributes to social capital theory by identifying CQ as an important factor that helps cross-cultural dyads get access to social capital. These results also contribute to the expatriate literature by acknowledging the importance of CQ for both expatriates and HCNs. Past research generally focuses on the importance of expatriates' CQ (Shaffer & Miller, 2008), but seldom discusses that their counterpart, HCNs, also need CQ in order to enhance their relationship qualities with their expatriate colleagues. Given that HCNs usually serve as a socializing agent for expatriates (Toh & DeNisi, 2007), it is important to not overlook the role of HCNs' CQ.

In addition to CQ, I also explored whether networking, another personal quality, enables relationship qualities for both expatriates and HCNs. It is surprising to find that networking does not enable their relationship qualities with each other, although according to the correlation tables (Tables 7, 8, 9), networking does significantly and positively correlate with some forms of relationship qualities. It might be because the operationalization of networking is more about one's tendency to network with people from other departments or different sections of the company. Even though one may like

to network with other colleagues, when it comes to his/her direct report/subordinate or peer that has common business goals or a stake with each other (e.g., one evaluates/determines the other's performance or compensation), an expatriate or HCN may not utilize this networking tendency to build relationship qualities with each other. Having said that, it does not mean networking is not important in building relationship qualities between expatriates and HCNs. Networking has been found to be positively associated with newcomer socialization outcomes in terms of adjustment and social integration (Bauer, et al., 2007), so more research is needed to further clarify whether networking enables relationship qualities for cross-cultural dyads.

The second underlying question is, in addition to personal qualities such as CQ and networking behaviors, do organizational practices, such as a collaborative-based HR configuration, also play a role in enabling relationship qualities? Result shows that for expatriates, when their host organizations adopt a collaborative-based HR configuration, they are more likely to build trust and shared vision with their HCN colleagues. However, from the perspective of HCNs, a collaborative-based HR configuration in their organizations does not enable relationship qualities with expatriates. It is possible that for the HCN sample, which is composed of a large percentage of people from collectivist cultural backgrounds, trust and shared vision may not be developed solely at the work setting. For example, Chinese like to engage in after work social activities ("social intercourse"), such as drinking and karaoke, in order to enhance their relationship qualities with colleagues (Chang & Holt, 1991). For them, the boundaries between work and non-work life are blurred, so in order to build trust and shared vision with expatriates and HCNs, a collaborative-based HR configuration alone may not be sufficient.

Based on analyses from the expatriate-HCN matched data, when HCNs perceived that their host organizations adopt a collaborative-based HR configuration, expatriates have higher levels of trust and shared vision with their HCN colleagues. Given that this result is derived from a small but multi-source sample, it is convincing that a collaborative-based HR configuration is still a set of HR practices that enable trust and shared vision between expatriates and HCNs. Taking these findings as a whole, we may conclude that similar to CQ, a collaborative-based HR configuration is also a relationship enabler for expatriate-HCN dyads. However, in the context of collectivist culture, a collaborative-based HR configuration alone may not sufficiently facilitate HCNs to enable relationship qualities with their expatriate colleagues. More unofficial, after work social events might be used to accompany collaborative-based HR configurations in order to enable relationship qualities.

In sum, although more tests are needed to confirm the relationship between collaborative-based HR configurations and relationship qualities between expatriates and HCNs, these findings go beyond existing expatriate literature that seldom discusses what organizational practices may enhance relationship qualities between expatriates and HCNs by confirming that in host organizations, collaborative-based HR configurations facilitate trust and shared vision between expatriates and HCNs.

Generally, the knowledge transfer literature using social capital theory has supported the effect of social capital on knowledge transfer (van Wijk, et al., 2008), especially when assessed at the firm level. In this dissertation, however, I used expatriate, HCN, and expatriate-HCN matched samples to see if this relationship holds for cross-cultural knowledge transfer at the individual level. Results show that for

expatriates and HCNs, different types of social capital lead to knowledge transferred from their counterparts. For expatriates, frequency of interaction and shared vision with their HCN colleagues are instrumental for knowledge transfer. These results are consistent with existing knowledge transfer literature. However, surprisingly, the more trust that expatriates have with their HCN colleagues, the less knowledge expatriates learn from their HCN colleagues. This result shows again when using an expatriate-HCN matched sample. Specifically, when HCNs trust their expatriate colleagues more, their expatriate colleagues learn less from their HCN colleagues. It is possible because the operationalization of trust in this dissertation is focused on ability-based trust. The positions of participating expatriates are generally senior to their HCN colleagues, so in the process of knowledge transfer from HCNs to expatriates, HCNs are less likely to transfer knowledge to their expatriate colleagues whom they trust their ability and hold higher positions in the organization.

To sum up, in the process of knowledge transfer from HCNs to expatriates, frequency of interaction and shared vision, but not trust with each other, are instrumental for knowledge transfer. Given that trust is generally positively associated with knowledge transfer according to existing literature, more tests are needed to confirm in the context of knowledge transfer between expatriate-HCN dyads, what the direction of trust on knowledge transfer is.

As to the process of knowledge transfer from expatriates to HCNs, it is consistent that whether this process is tested with a single source sample (i. e., HCN sample) or a matched sample, it is the frequency of interaction and not trust or shared vision with each other that helps HCNs get access to their expatriate colleagues' knowledge. One

explanation for this finding could be attributed to the fact that most HCNs are subordinate to expatriates. From their perspectives, having frequent interactions with their expatriate colleagues might be more important than shared vision or trust, which are difficult for them to gauge.

Taking these results of the relationship between relationship qualities and knowledge transfer as a whole, this dissertation generally confirms that this relationship holds for cross-cultural knowledge transfer at the individual level, especially for expatriate-HCN dyads.

Building on the previous two questions, the third underlying question is, do expatriate-HCN relationship qualities mediate the relationship between personal qualities, such as CQ and networking, organizational practice, such as collaborative-based HR configuration, and knowledge transfer? None of the mediation hypotheses were supported in my dissertation. However, given the main focus of this dissertation is to understand what contributes to relationship qualities between expatriates and HCNs that are instrumental to knowledge transfer, and mediation is seldom tested in the knowledge transfer studies (cf. Minbaeva, 2003; van Wijk, 2008), mediation relationships are more exploratory in nature. Therefore, it is understandable that mediation hypotheses were not supported. Although mediation hypotheses do not hold, we can still conclude that in the process knowledge transfer from HCNs to expatriates, although no significant relationship is found from the multi-source sample (expatriate-HCN matched sample) given the small sample size, single source data (expatriate sample) shows that CQ and collaborative-based HR configurations enable trust and shared vision between expatriates and HCNs. Shared vision between the two parties then facilitates expatriates to gain

knowledge from their HCN colleagues. Looking at the process of knowledge transfer from expatriates to HCNs, the single source sample (HCN sample) shows that when HCNs have high CQ, they are more likely to enable frequent interaction and trust with their expatriate colleagues. Frequent interaction with expatriate colleagues helps them acquire knowledge from their expatriate colleagues. Although results from the multi-source data (expatriate-HCN matched sample) do not show that higher CQ of HCNs enable frequency of interaction, they do show that frequency of interaction helps HCN gain knowledge from expatriate colleagues, consistent with the single source results.

In sum, results from both single source and multi-source data generally support the idea that AUM theory can be used to explain how individuals get access to social capital, and thereby mobilize social capital to achieve desirable outcomes, knowledge transfer. This dissertation therefore contributes to both AUM theory and social capital theory in that it expands our understanding of how AUM theory can be linked to social capital theory and how we can use AUM theory to understand more antecedents of social capital. However, since the mediation hypotheses do not hold in this dissertation, more future tests are warranted to confirm the linkage between AUM theory and social capital theory.

Based on previous discussion, with regard to the fourth underlying question, whether the process of knowledge transfer from expatriates is the same as the process of knowledge transfer from HCNs, we may conclude that there are similarities and differences for both processes. The similarity is that CQ and collaborative-based HR configurations enable relationship qualities regardless of whether it is expatriates transfer knowledge to HCNs or HCNs transfer knowledge to expatriates. The difference lies in



that when HCNs transfer knowledge to expatriates, frequency and shared vision facilitate knowledge transfer, but when expatriates transfer knowledge to HCNs, only frequency of interaction matters. These findings contribute to both expatriate and knowledge transfer literature in that most knowledge transfer research focuses on unidirectional knowledge transfer from expatriates to HCNs, this dissertation underscores the importance of bidirectional knowledge transfer and shows that difference does exist for the two processes. Moreover, these findings contribute to the expatriate literature in two ways. First, traditional expatriate research generally focuses on areas such as selection, adjustment, and training. This dissertation goes beyond this tradition by understanding a relatively less-researched but important issue, expatriate knowledge transfer. Second, traditional expatriate research is expatriate-centric in that it neglects the roles of HCNs. This dissertation fills this research gap by incorporating the HCN perspectives in the process of knowledge transfer.

### **Strengths and Limitations**

There are a number of strengths and limitations that should be acknowledged, and this will provide some implications for future research.

First, the hypothesized model was tested using expatriate and HCN samples. To the best of my knowledge, this is the first study that collected data from both expatriate-HCN dyads. Most studies only focus on expatriates (See Harrison, Shaffer, & Bhaskar-Shrinivas, 2004 for a review). A handful of studies only focus on HCNs (e.g., Liu & Shaffer, 2005). Thus, one strength of this dissertation is to understand the knowledge transfer process from the perspectives of both expatriates and HCNs.

Along the same line, another strength of this dissertation is that I collected data from cross-cultural dyads. Participating expatriates are from 32 different countries and participating expatriates are from 15 different countries. The diversity of both samples increases the cross-cultural validity of the results.

Another strength of this dissertation is that process of knowledge transfer from expatriates and process of knowledge transfer from HCNs were tested with single source data as well as multi-source data. Although the sample size of the HCN sample and the expatriate-HCN matched sample is small, testing a model with both single and multi-source data still increases the rigor of the study.

There are also limitations related to the dissertation. One potential limitation of this dissertation rests with the sample, which limits the generalizability of my findings. Results of this dissertation are derived from expatriate-HCN dyads; therefore, results may not be generalizable to other types of dyads such as leader-member or mentor-protégé dyads, although many expatriate-HCN dyads in my sample are in superior-subordinate relations. Thus, future researchers are urged to consider using samples comprising different types of dyads.

Another limitation of this study has to do with the low response rate as well as the small sample size, especially for the HCN sample and expatriate-HCN matched sample. For expatriate sample, one potential explanation for the low response rate is that expatriates in Asia are over-researched these years given the burgeoning of expatriate research during the past decades. Another explanation is that the website that hosts my surveys is sometimes reported as prohibited from access in some countries where my potential respondents located. As to the low response rate and small sample size for the

HCN sample and expatriate-HCN matched sample, it is possible that expatriates are reluctant to forward the survey to their HCN colleagues given that they may not understand the importance to understand the perspective from their HCN colleagues or they deem their HCN colleagues too busy to complete the survey. Given the small sample size of HCNs and expatriate-HCN dyads, using a larger sample to retest the models is highly warranted.

Moreover, the alphas for frequency of interaction across samples are not ideal, which may reduce the accuracy of the results. Given that this scale was newly created for the dissertation, which means this scale was not a firmly established one, it might be understandable why the alphas are not ideal. Future research is needed to create a more valid scale of frequency of interaction.

Last, for the sake of time and feasibility of my dissertation, I did not conduct a longitudinal study to test the knowledge transfer process over time. Although the majority of knowledge transfer studies are also cross-sectional, it is warranted to conduct longitudinal study to confirm the causality of relationships hypothesized in the model.

### **Theoretical Implications**

The findings present several potential avenues for continued research. First, this dissertation shows that personal qualities such as CQ, and organizational practices, such as collaborative-based HR configurations do influence expatriate-HCN relationship qualities. Future research could extend these findings and unveil more personal qualities and organizational practices contributing to expatriate-HCN relationship qualities. Potential relationship enablers include cross-cultural training, mentoring, proactive personality, and pro-social motivation.

Second, along a similar line, this study draws on AUM theory to clarify relationship enablers that contribute to positive work relationships. Specifically, I argue that by reducing levels of uncertainty and anxiety toward each other, positive work relationships are likely to be enabled. Future research might draw on different theoretical perspectives to identify potential relationship enablers.

Third, the results of this study show that more studies focusing on micro processes that pay attention to the human beings involved in the knowledge transfer process are warranted. After all, it is human beings that are carrying out the knowledge transfer process. Future knowledge transfer research might benefit by focusing on more individual level factors and processes that contribute to effective knowledge transfer. Multi-level models that take micro, meso, and macro factors into consideration will shed light on existing understanding about knowledge transfer.

Fourth, based on the finding of the research, future research might examine the career outcomes for both expatriates and HCNs that are involved in the knowledge transfer process. Whether expatriate-HCN relationship qualities and the knowledge transferred influence their career outcomes might be a research question that warrants future research attention, as there is a dearth on the career consequences of expatriate assignment, not to mention the career consequences of HCNs who are involved.

Fifth, future research on cross-cultural knowledge transfer at the individual level might want to pay more attention to the operationalization of knowledge transfer. In this dissertation, I adopted one of the most commonly used scale to measure tacit and explicit knowledge transfer. However, these measures were initially developed to measure knowledge transfer at the firm level, which may not be appropriate at the individual level.

Also, feedback from a few participants show that what they learn more from their expatriate or HCN counterparts are cultural related knowledge instead of specific work knowledge, such as managerial techniques or marketing expertise. Thus, a knowledge transfer scale that fits the focal context better might be needed. To my best knowledge, there is no knowledge transfer scale specifically for cross-cultural knowledge transfer, so more work in this area is needed given that globalization makes cross-cultural knowledge transfer inevitable.

Sixth, given that the process of knowledge transfer from expatriates and the process of knowledge transfer from HCNs are not exactly the same, future research might want to adopt this approach to understand interpersonal work experiences from more than one perspective. For example, when examining leader-member exchange, mentoring, employee/spouse adjustment or work-life balance processes, researchers can compare and contrast the similarities and differences from both perspectives in order to get a holistic understanding about the phenomenon.

Last but not least, future research might want to examine whether the model tested in the dissertation could be applied to repatriates or inpatriates. Repatriates are expatriates who finish their assignment and then return to their home country. It is important that they transfer what they have learned to their colleagues in their home country. Thus, future research might test the knowledge transfer process using repatriate and home country colleague samples. Furthermore, more and more MNCs are beginning to send employees (inpatriates) from subsidiaries to parent organizations to transfer local knowledge (Reiche, 2011). Thus, testing the dissertation model using inpatriates and parent country colleague samples also warrant future research attention.

### **Managerial Implications**

There are also practical implications useful for HRM practitioners in terms of selection, training, work design, and compensation.

For selection, since CQ of both expatriates and HCNs are instrumental to their relationship qualities with each other, organizations may want to select employees who are high in CQ for expatriate assignments, in addition to other work related qualities. Also, for host organizations, a good candidate that is responsible for working with expatriates for knowledge transfer should be one that is high in CQ too. Moreover, based on the result that collaborative-based HR configurations are positively related to relationship qualities, in addition to CQ, organizations may also want to select those who can be a good team player for expatriate assignments. Likewise, for host organizations, a good candidate for working with expatriates for knowledge transfer should be one who is a good team player.

In terms of training, since it is the flip side of selection, if organizations have ideal candidates to be expatriates or HCNs who are in charge of knowledge transfer with expatriates, but do not have high CQ or are not good team players, organizations can always try to train them to enhance these personal qualities. CQ training and team building trainings might be approaches organizations can adopt.

For work design, given that collaborative-based HR configurations in host organizations are instrumental for expatriate-HCN relationship qualities and in turn facilitates knowledge transfer, organizations may create jobs that require both input from expatriates and HCNs in order to enhance their relationship qualities and knowledge transfer between each other.

In terms of compensation, given that collaborative-based HR configurations are positively associated with expatriate-HCN relationship qualities and then further enhances knowledge transfer, organizations may want to evaluate team performance, ask expatriates and HCNs for their input on each other's performance evaluation, and include team-based compensation.

### **Conclusion**

Successfully transferring knowledge between expatriates and HCNs creates competitive advantages for MNCs. While existing literature shows that firms with more social capital are more likely to acquire knowledge, this dissertation takes a further step to understand how expatriates and HCNs involved in knowledge transfer could acquire and transfer more knowledge to each other by building relationship qualities. Extending social capital theory, I draw on AUM theory to identify personal qualities and organizational practices that reduce anxiety and uncertainty in order to enable positive relationship qualities instrumental to knowledge transfer.

I found that for both expatriates and HCNs, CQ is a relationship enabler. This finding contributes to social capital theory by identifying CQ as an important factor that helps cross-cultural dyads get access to social capital. Moreover, it also contributes to the expatriate literature by acknowledging the importance of CQ for both expatriates and HCNs.

In addition to CQ, collaborative-based HR configurations in host organizations also facilitate building relationship qualities. This finding goes beyond existing expatriate literature that seldom discusses what organizational practices may enhance relationship qualities between expatriates and HCNs by confirming that in host organizations,

collaborative-based HR configurations facilitate trust and shared vision between expatriates and HCNs. Although the mediation hypotheses about the mediating roles played by relationship qualities on relationship enablers-knowledge transfer relations do not hold, results from both single source and multi-source data generally support the idea that AUM theory can be used to explain how individuals get access to social capital so that social capital can be mobilized to achieve desirable outcomes, knowledge transfer. This dissertation therefore contributes to both AUM theory and social capital theory in that it expands our understanding of how AUM theory can be linked to social capital theory and how we can use AUM theory to understand more antecedents of social capital.

I also found that with regard to the process of knowledge transfer from expatriates and the process of knowledge transfer from HCNs, there are some similarities and differences. The similarity is that CQ and collaborative-based HR configurations enable relationship qualities regardless of whether it is expatriates transferring knowledge to HCNs or HCNs transferring knowledge to expatriates. The difference lies in that when HCNs transfer knowledge to expatriates, frequency and shared vision facilitate knowledge transfer, but when expatriates transfer knowledge to HCNs, only frequency of interaction matters. These findings contribute to both expatriate and knowledge transfer literature in that most knowledge transfer research focuses on unidirectional knowledge transfer from expatriates to HCNs. This dissertation underscores the importance of bidirectional knowledge transfer and shows that differences do exist for the two processes. Moreover, these findings contribute to the expatriate literature in two ways. First, traditional expatriate research generally focuses on areas such as selection, adjustment, and training. This dissertation goes beyond this tradition by understanding a



relatively less-researched but important issue, expatriate knowledge transfer. Second, traditional expatriate research is expatriate-centric in that it neglects the roles of HCNs. This dissertation fills this research gap by incorporating HCN perspectives in the process of knowledge transfer.

In sum, findings from my dissertation have important implications, both theoretically and professionally. I hope my dissertation can provide guidance to researchers who work on similar endeavors.

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## APPENDIX A

### Letter to Recruit Organizations

<<Date>>  
 «salutation» «contact\_name» «last\_name»  
 «Title»  
 «Company\_Name»  
 «Street\_Address»  
 «City», «State» «Zip\_Code»

«GreetingLine»

For multinational corporations, the successful transfer of organizational knowledge (e.g., marketing know-how, process design, management systems and practices) across subsidiaries provides a key competitive advantage. To help improve the transfer of knowledge between expatriates and host country colleagues, I am conducting the *Knowledge Management Project* for my PhD dissertation research. I am writing to invite your organization to participate in this study.

#### **What is the Knowledge Management Project?**

The purpose of this project is to understand the process of knowledge transfer between expatriates and host country colleagues. While most knowledge transfer studies focus on systems and technology, I believe that it is the quality of the relationship between individuals that drives the exchange of information. Therefore, in this study, I address the following questions:

- What are the personal qualities of expatriates and host country colleagues that promote positive interpersonal relationships?
- What organizational practices facilitate positive interpersonal relationships between expatriates and host country colleagues?
- What role does the relationship between expatriates and host country colleagues play in determining knowledge transfer?
- Is the process of transferring knowledge from expatriates to host country colleagues the same as from host country colleagues to expatriates?

#### **What will participation require?**

Participation is simple – I just ask that I be allowed to survey your expatriates and at least one of their host country colleagues with whom they exchange organizational information. There is no cost to your organization. I have developed questionnaires for your expatriates and their host country colleagues. These questionnaires will be available online and will only require approximately 20 minutes to complete.

#### **How will this benefit your organization?**

In return for your participation in this project, I will provide you with a summary of the research results and recommendations for how your firm can better facilitate knowledge transfer between expatriates and host country coworkers. Within this report, all company names will be kept anonymous and all results will be aggregated to protect the confidentiality of the respondents.

If you would like to discuss this further or have any questions, please contact me at [yhsu@uwm.edu](mailto:yhsu@uwm.edu) or 612-229-8249. Or, you may contact my supervisor, Dr. Margaret Shaffer, at [shafferm@uwm.edu](mailto:shafferm@uwm.edu) or 414-229-4544. Thank you so much for your consideration!

Sincerely,

Yu-Shan Hsu  
PhD Candidate  
Sheldon B. Lubar School of Business  
University of Wisconsin-Milwaukee

Margaret A. Shaffer, PhD  
Richard C. Notebaert Distinguished Chair of International Business and Global Studies  
Sheldon B. Lubar School of Business  
University of Wisconsin-Milwaukee



## APPENDIX B

### Letter to Expatriates Recruited through Their Organizations

<Date>

<name>

<Company>

<Address>

Dear <name>,

I am writing to you because your organization has agreed to participate in the *Knowledge Management Project*, which is for my PhD dissertation research. The purpose of this project is to understand the process of knowledge transfer between cross-cultural colleagues.

If you agree to participate – and I sincerely hope you will – all you need to do is complete “The Knowledge Management Project – Expatriate Survey” by going to this website:  
<http://www.uwm.edu/~yhsu>

It will only take you about 20 minutes to do the survey.

In return for your participation in this project, you will have an opportunity to win a **lucky draw for a US\$100 Visa gift certificate**. As 10 prizes will be awarded out of 400 participants, you will have a 4% chance of winning one of the gift certificates. Please complete the survey by **XXXX, 2012** to be included in the lucky draw.

I assure you that *all survey responses will be completely confidential*. No one other than the researchers will ever see them. All results and conclusions from the survey will be summarized so no individual answers can be identified.

Thank you for your time and your honest responses! If you have any questions, please contact me at [yhsu@uwm.edu](mailto:yhsu@uwm.edu) or 612-229-8249. Or, you may contact my supervisor, Dr. Margaret Shaffer, at [shafferm@uwm.edu](mailto:shafferm@uwm.edu) or 414-229-4544. *Also, if you have questions about your rights as a research participant, you can contact the UWM Institutional Review Board at 414-229-3173.* The IRB approval number for this project is 12.140.

Sincerely,

Yu-Shan Hsu  
 PhD Candidate  
 Sheldon B. Lubar School of Business  
 University of Wisconsin-Milwaukee

Margaret A. Shaffer, PhD  
 Richard C. Notebaert Distinguished Chair  
 of International Business and Global  
 Studies  
 Sheldon B. Lubar School of Business  
 University of Wisconsin-Milwaukee

## APPENDIX C

### Letter to HCNs

<Date>

Dear Host Country Colleague (xxx),

Your expatriate colleague, XXX, suggested that I contact you to invite you to participate in the *Knowledge Management Project*, which is for my PhD dissertation research. The purpose of this project is to understand the process of knowledge transfer between cross-cultural colleagues.

If you agree to participate – and I sincerely hope you will – all you need to do is complete the “Host Country Colleague Survey” by going to [this link](#). It will only take you about 20 minutes.

In return for your participation in this project, you will have an opportunity to win a **lucky draw for a US\$100 Visa gift certificate**. As 10 prizes will be awarded out of 400 participants, you will have a 4% chance of winning one of the gift certificates. Please complete the survey by **XXXX** to be included in the lucky draw.

I assure you that *all survey responses will be completely confidential*. No one other than the researchers will ever see them.

Thank you for your time and your honest responses! If you have any questions, please contact me at [yhsu@uwm.edu](mailto:yhsu@uwm.edu) or 612-229-8249. Or, you may contact my supervisor, Dr. Margaret Shaffer, at [shafferm@uwm.edu](mailto:shafferm@uwm.edu) or 414-229-4544. *Also, if you have questions about your rights as a research participant, you can contact the UWM Institutional Review Board at 414-229-3173*. The IRB approval number for this project is 12.140.

Sincerely,

Yu-Shan Hsu  
PhD Candidate  
Sheldon B. Lubar School of Business  
University of Wisconsin-Milwaukee

Margaret A. Shaffer, PhD  
Richard C. Notebaert Distinguished Chair  
of International Business and Global  
Studies  
Sheldon B. Lubar School of Business  
University of Wisconsin-Milwaukee

## APPENDIX D

### Letter to Expatriates Recruited through Directories of American Chamber of Commerce

<Date>

<name>

<Company>

<Address>

Dear <name>,

I am writing to you invite you, and other members of the American Chamber of Commerce in XXX, to participate in the *Knowledge Management Project*, which is for my PhD dissertation research. The purpose of this project is to understand the process of knowledge transfer between cross-cultural colleagues.

If you agree to participate – and I sincerely hope you will – all you need to do is complete “The Knowledge Management Project – Expatriate Survey” by going to this website:  
<http://www.uwm.edu/~yhsu>

It will only take you about 20 minutes to do the survey.

In return for your participation in this project, you will have an opportunity to win a **lucky draw for a US\$100 Visa gift certificate**. As 10 prizes will be awarded out of 400 participants, you will have a 4% chance of winning one of the gift certificates. Please complete the survey by **XXXX, 2012** to be included in the lucky draw.

I assure you that *all survey responses will be completely confidential*. No one other than the researchers will ever see them. All results and conclusions from the survey will be summarized so no individual answers can be identified.

Thank you for your time and your honest responses! If you have any questions, please contact me at [yhsu@uwm.edu](mailto:yhsu@uwm.edu) or 612-229-8249. Or, you may contact my supervisor, Dr. Margaret Shaffer, at [shafferm@uwm.edu](mailto:shafferm@uwm.edu) or 414-229-4544. *Also, if you have questions about your rights as a research participant, you can contact the UWM Institutional Review Board at 414-229-3173.* The IRB approval number for this project is 12.140.

Sincerely,

Yu-Shan Hsu  
PhD Candidate  
Sheldon B. Lubar School of Business  
University of Wisconsin-Milwaukee

Margaret A. Shaffer, PhD  
Richard C. Notebaert Distinguished Chair  
of International Business and Global  
Studies  
Sheldon B. Lubar School of Business  
University of Wisconsin-Milwaukee

## APPENDIX E

### Measures

#### **KNOWLEDGE TRANSFER**

Responses were made on a seven-point Likert scale ranging from 1 = not at all to 7 = to a great extent.

To what extent have you learned each of the following from your host country/expatriate colleague?

#### **Tacit Knowledge**

1. New marketing expertise
2. Knowledge about customer tastes
3. Managerial techniques

#### **Explicit Knowledge**

1. Written knowledge about the firm's technology
2. Procedural or technical information
3. Written knowledge about management technique

#### **FREQUENCY OF INTERACTION**

Responses were made on a seven-point Likert scale ranging from 1 = never, 2 = rarely, 3 = on occasion, 4 = sometimes, 5 = often, 6 = very often, 7 = all the time

How frequently do you communicate with your host country/expatriate colleague via

1. face-to-face meetings?
2. video conferences ?
3. phone calls?
4. e-mail?
5. instant messages?
6. text-messaging?

#### **TRUST**

Responses were made on a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree.

Please rate the extent to which you agree with the following statements.

1. If I got into difficulties at work, I know my host country/expatriate colleague would try and help me out.
2. I can trust my host country/expatriate colleague to lend me a hand if I need it.
3. My host country/expatriate colleague can be relied upon to do as s/he says s/he will do.
4. I have full confidence in the skills of my host country/expatriate colleague.

5. My host country/expatriate colleague would get on with his/her work even if supervisors were not around.
6. I can rely on my host country/expatriate colleague not to make my job more difficult by careless work.

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### **SHARED VISION**

Responses were made on a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree.

My host country/expatriate colleague and I .....

1. share a clear vision guiding the strategic goals and missions of the organization.
2. share a common vision of the organization's future.
3. believe that the shared vision guiding change, in the organization, is appropriate.
4. agree on what is important for our organization.
5. share the same ambitions and vision at work.
6. are enthusiastic about pursuing the collective goals and missions of the whole organization.

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### **CULTURAL INTELLIGENCE**

Responses were made on a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree.

Please rate the extent to which you agree with the following statements.

1. I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.
2. I check the accuracy of my cultural knowledge as I interact with people from different cultures.
3. I know the legal and economic systems of other cultures.
4. I know the values and religious beliefs of other cultures.
5. I know the rules (e.g., grammar) of other languages.
6. I enjoy interacting with people from different cultures.
7. I am sure I can deal with the stresses of adjusting to a culture that is new to me.
8. I change my verbal behavior (e.g., accent, tone) when a cross-cultural interaction requires it.
9. I change my non-verbal behavior when a cross-cultural situation requires it.

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### **NETWORKING**

Responses were made on a five point Likert scale ranging from 1 = to no extent to 5 = to a great extent.

Please rate the extent to which you engage in the following behaviors.

1. Started conversations with people from different segments of the company.
2. Tried to socialize with people who are not in your department.
3. Tried to get to know as many people as possible in other sections of the company on a personal basis.

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### **COLLABORATIVE-BASED HR CONFIGURATION**

Responses were made on a five-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree.

Please rate the extent to which you agree with the following statements about your job and your host organization.

1. I perform jobs that require me to participate in cross-functional teams and networks. (work design)
2. Our jobs involve a lot of teamwork. (work design)
3. Interpersonal skill is one criterion that the host organization uses to select job candidates. (selection)
4. The recruitment/selection process of our organization emphasizes my ability to collaborate and work in teams. (selection)
5. The training activities for me focus on team building and interpersonal relations. (training)
6. Performance appraisals for me are based on team performance. (performance appraisal)
7. Performance appraisals for me focus on my ability to work with others. (performance appraisal)
8. The performance appraisal system in our host organization uses multiple inputs (peers, customers, subordinates, etc.). (performance appraisal)
9. Compensation/rewards for me have a group-based incentive component (gainsharing, etc.) (compensation)

## Yu-Shan Hsu

### Curriculum Vitae

1260 Ave Docteur Penfield, Apt 706  
 Montreal, QC H3G1B6, Canada  
 Phone: 514-506-0798 • E-mail: yhsu@uwm.edu

## **Education**

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### **Sheldon B. Lubar School of Business, University of Wisconsin-Milwaukee**

*Milwaukee, WI*

Doctor of Philosophy in Organizational Behavior and Human Resource Management  
 (December 2012); Minor: Social Psychology

*Dissertation:* "Knowledge Transfer between Expatriates and Host Country Nationals:  
 A Social Capital Perspective"

*Committee:* Margaret A. Shaffer (Chair), Mark Mone, Romila Singh, Sarah  
 Freeman, Hong Ren

*Proposal defended:* April 21, 2011

*Final defense date:* October 8, 2012

### **Carlson School of Management, University of Minnesota**

*Minneapolis, MN*

Master of Arts in Human Resources and Industrial Relations (2007)

### **National Taiwan University**

*Taipei, Taiwan*

Bachelor of Science in Agricultural Extension (2004)

## **Research Interests**

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Interpersonal and interdomain relationships, international human resource management

## **Refereed Publications**

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- Shaffer, M. A., Joplin, J. R. W., & Hsu, Y.-S. (2011). Expanding the boundaries of work-family research: A review and agenda for future research. *International Journal of Cross-Cultural Management*, 11(2), 221-268.
- Chen, Y.-P., Hsu, Y.-S., & Yip, F. W.-K. (2011). Friends or rivals: Comparative perspectives of human resource and middle managers on perceived future firm performance. *International Journal of Human Resource Management*, 22(8), 1703-1722.
- Fu, C. K., Hsu, Y.-S., & Shaffer, M. A. (2008). Socialization tactics, fit, and expatriate outcomes. *Best Paper Proceedings of 2008 Academy of Management*.

## **Other Publications**

---

- **Hsu, Y.-S.** (forthcoming). Training of older workers: A Review. In C Cooper, R. Burke, & J. Field (Eds.), *Sage Handbook on Aging, Work and Society*. Sage: Thousand Oaks, CA.
- Lau, V. P., **Hsu, Y.-S.**, & Shaffer, M. A. (forthcoming). Global careers in China. In Y. Baruch & C. Reis (Eds.), *Critical Perspectives on Global Careers*. Routledge: New York, NY.

## **Work in Progress**

---

- **Hsu, Y.-S.**, Dimitrova, M., Miller, G. J., Shaffer, M. A., & Luk, D. M. Interplay between role, social identities, and self-Esteem in the work-family interface. (Manuscript writing in progress for submission to *Academy of Management Journal*)
- **Hsu, Y.-S.** Knowledge transfer between expatriates and host country nationals: A social capital perspective. (Data collection in progress for submission to *Academy of Management Journal*)
- **Hsu, Y.-S.**, Shaffer, M. A., & Reiche, S. Expatriate knowledge creation. (Manuscript writing in progress for submission to *Journal of International Business Studies*)
- **Hsu, Y.-S.** & Chen, Y.-P. Host country nationals' social undermining to expatriates: A job deprivation perspective. (Manuscript writing in progress for submission to *Journal of World Business*)
- Fu, C. K., Shaffer, M. A., **Hsu, Y.-S.**, & Ren, H. Using latent growth modeling to track change in expatriates' organizational socialization and adjustment. (Data analysis in progress for submission to *Journal of International Business Studies*)
- Shaffer, M. A., Joplin, J. R. W., Singh, R., **Hsu, Y.-S.**, Francesco, A. M., & Lau, T. Managing multiple role identities: A balancing act. (Manuscript writing in progress for submission to *Academy of Management Review*)

## **Conference Presentations**

---

- **Hsu, Y.-S.** (2012). Knowledge transfer between expatriates and host country nationals. Paper presented at the 2012 Annual Society for Industrial and Organizational Psychology Conference, San Diego.



- **Hsu, Y.-S.** (2012). Knowledge transfer in organizations: A social capital perspective. Paper presented at the 2012 Annual Society for Industrial and Organizational Psychology Conference, San Diego.
- **Hsu, Y.-S.** (2012). Work-family measures critique. Presented at symposium " Cross-Cultural Work-Family Research: Does the Dominance of Westernized Methods and Measures Occlude Cultural Realities?" at Work and Family Researchers Network Inaugural Conference, New York.
- Chen, Y.-P. & **Hsu, Y.-S.** (2011). Career motivation and development of self-initiated expatriates: A self-determination perspective. Paper presented at the 2011 Academy of Management Annual Meeting, San Antonio.
- Chen, Y.-P. & **Hsu, Y.-S.** (2011). Am I too emotional at work? Attachment styles, emotion regulation, and employee well-being. Paper presented at the 2011 Academy of Management Annual Meeting, San Antonio.
- **Hsu, Y.-S.** & Chen, Y.-P. (2010). P-E fit and prosocial behaviors across life domains: A conservation of resources perspective. Paper presented at the 2010 Academy of Management Annual Meeting, Montreal.
- **Hsu, Y.-S.** & Joplin, J. R. W. (2010). Expanding the boundaries of work-family research: A review and agenda for future research. Paper presented at the 2010 Academy of Management Annual Meeting, Montreal.
- **Hsu, Y.-S.**, Chen, Y.-P., & Yip, F. W.-K. (2009). Comparative perspectives of HR and middle managers on their relationships and firm performance. Paper presented at the 2009 Academy of Management Annual Meeting, Chicago.
- **Hsu, Y.-S.**, Shaffer, M. A., & Miller, G. J. (2009). Cultural intelligence and the work-family interface: The experience of Asian American professionals. Paper presented in the professional development workshop "Cultural Intelligence in the Global Leadership Context" at the 2009 Academy of Management Annual Meeting, Chicago.
- Fu, C. K., Shaffer, M. A., **Hsu, Y.-S.**, & Ren, H. (2009). Socialization tactics and expatriate outcomes: The mediating roles of social integration and adjustment. Paper presented at the Academy of International Business 2009 Annual Meeting, San Diego.
- Miller, G. J., Luk, D. M., **Hsu, Y.-S.**, & Shaffer, M. A. (2009). Cultural intelligence's moderating role on the fit of Asian American employees: A social exchange view. Paper presented at the Academy of International Business 2009 Annual Meeting, San Diego.

- Luk, D. M., & Hsu, Y.-S. (2009). Work-family interface and career success of Asian American employees. Paper presented at the 2009 Annual Society for Industrial and Organizational Psychology Conference, New Orleans.
- Fu, C. K., Hsu, Y.-S., Shaffer, M. A. (2008). Socialization tactics, fit, and expatriate outcomes. Paper presented at the 2008 Academy of Management Annual Meeting, Anaheim.
- Hsu, Y.-S. (2008). Training of older workers: A review. Paper presented at the 2008 Academy of Management Annual Meeting, Anaheim.

### **Awards and Distinctions**

- Eric Schenker Summer Doctoral Dissertation Scholarship, Sheldon B. Lubar School of Business, University of Wisconsin-Milwaukee (2011)
- Dissertation Fellowship, Graduate School, University of Wisconsin-Milwaukee (2010-2011)
- International Management Division Doctoral Consortium (invited participant), Academy of Management Annual Meeting, San Antonio (2011)
- Gold Star (Top 10) Teaching Award (2009)
- Business Advisory Council Doctoral Scholarship, Sheldon B. Lubar School of Business, University of Wisconsin-Milwaukee (2009)
- Doctoral Travel Stipend, Academy of International Business (2009)
- Elected to Beta Gamma Sigma National Honor Society (2009)
- Sheldon B. Lubar Doctoral Scholarship, Sheldon B. Lubar School of Business, University of Wisconsin-Milwaukee (2008, 2010)
- Teaching/Project Assistantship, Sheldon B. Lubar School of Business, University of Wisconsin-Milwaukee (2007-2012)
- Presidential Award, National Taiwan University (2001-2003)

### **Practitioner-Oriented Publication**

- Hsu, Y.-S. (2007). Expatriate compensation: Alternative approaches and challenges, *Worldatwork Journal*, 16(1), 15-19.

### **Teaching Interests**

International business, cross-cultural management, organizational behavior, and human resource management

### **Teaching Experience**

Sheldon B. Lubar School of Business, University of Wisconsin-Milwaukee

Adjunct Professor of International Business (Undergraduate)	<i>Fall 2009</i>
Section 001 -- Instructor mean: 4.48/5 (Adjunct Professor mean 4.2/5)	
Course mean: 4.48/5 (Adjunct Professor mean 4.1/5)	
Section 002 -- Instructor mean 4.85/5 (Adjunct Professor mean 4.2/5)	
Course mean 4.56/5 (Adjunct Professor mean 4.1/5)	
Adjunct Professor of Organizations (Undergraduate)	<i>Fall 2011</i>
Section 007 -- Instructor mean: 4.63/5 (Adjunct Professor mean 4.3/5)	
Course mean: 4.48/5 (Adjunct Professor mean 4.2/5)	
Teaching Assistant of Introduction to Business (Undergraduate)	
Teaching evaluation rating: 4.26/5	<i>Fall 2007</i>
Teaching evaluation rating: 4.59/5	<i>Spring 2008</i>

## **Professional and Service Activities**

### **Organizations and Strategic Management Area, University of Wisconsin-Milwaukee**

- *President*, Organizations and Strategic Research Management Area Research Club

### **Academy of Management (AOM)**

- *Reviewer*, the AOM Annual Meeting -- OB, HR, and IM Divisions (2008-present)

### **Academy of International Business**

- *Reviewer*, International Human Resources Management Division (2009, 2011)

### **Ad hoc Reviewing**

- *International Journal of Human Resources Development and Management*, special issue: Aging Workforce and HRM - Challenges, Chances, Perspectives (2008)

## **Professional Affiliations**

- Academy of Management, OB, HR, and IM Division
- Academy of International Business
- Society for Industrial and Organizational Psychology

## **Professional Experience**

### **Carlson School of Management, Human Resource Intern *Minneapolis, MN (2006-2007)***

- Conducted on-site survey
- Wrote technical reports for organizations that participated in the survey

### **Diageo Taiwan Inc., Human Resource Specialist *Taipei, Taiwan (2004-2005)***

- Managed recruiting, administrative, and logistical functions

- Processed monthly payroll
- Coordinated various training events
- Edited internal communications newsletter
- Prepared personnel analysis reports
- Monitored HR budget