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RESEARCH ARTICLE

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Individual and Collective Interorganizational *Guanxi*: The Dynamics of *Guanxi* and Knowledge Sharing

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Abstract The significance of interorganizational relationship is discussed in multiple streams of literature. However, many studies assume that interorganizational relationship is a uni-level construct. This paper suggests that interorganizational *guanxi* presents at both the individual and collective levels, and discusses how the dynamics of interorganizational *guanxi* influences knowledge sharing between alliances. The paper reinforces the concept of collective level interorganizational *guanxi*, reveals the link between individual level and collective level *guanxi*, and distinguishes the two levels of *guanxi* by analyzing their impacts on knowledge sharing between organizations. A theoretical model is developed and calls for further investigation through empirical research.

1 Introduction

The significance of interorganizational relationship is discussed in multiple bodies of literature. For example, the literature on alliance management suggests that relationships among alliances predict the performance and the learning capacity of the focal organization (McEvily and Marcus, 2005; Dyer and Nobeoka, 2000). Research on network discusses how boundary spanners secure opportunities through ties covering the structural hole between organizations (Burt, 2004). Similarly, research on social capital maintains that knowledge transfer between organizations is determined by the degree of embeddedness of

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the organization in its social network (Uzzi, 1997). The development of *guanxi* literature also reveals the significance of the interorganizational relationship in the context of Chinese market (Park and Luo, 2001; Ramasamy and Yeung, 2006).

Interestingly, many studies assume that interorganizational relationship is a uni-level construct. Further, there is discrepancy in the literatures in terms of at which level the interorganizational relationship is maintained. Specifically, while the alliances research set the interorganizational relationship at the collective level, the literature on *guanxi* often equates interorganizational *guanxi* to cross-boundary interpersonal *guanxi* (Fan, 2002b; Li and Sheng, 2011; Standfird, 2006; Yeung and Tung, 1996). Finally, the tendency to identifying interorganizational *guanxi* as an individual level construct results in the inconsistency between the levels of *guanxi* and that of its dependent variables as organizational outcomes (e.g., companies' ROI, knowledge sharing) (Park and Luo, 2001; Ramasamy, Goh, and Yeung, 2006). This leads to our research questions: Does interorganizational *guanxi* develop at the collective level? If yes, what is the relationship between the individual and the collective *guanxi* under the umbrella of interorganizational *guanxi*? Further, how do these two levels of *guanxi* influence organizational level dependent variables such as knowledge sharing?

The purpose of this paper is to explore the mechanism that facilitates the development of interorganizational *guanxi* at both the individual and collective levels, and discuss how the complexity of interorganizational *guanxi* influence knowledge sharing among alliances. The paper makes three major contributions to the literature. First, it reinforces the concept of collective level interorganizational *guanxi*. Although several studies have investigated the collective level *guanxi*, there is a lack of formal conceptualization of this construct. This paper intends to provide a comprehensive definition upon which the construct can be further operationalized and its validity can be tested. Second, this paper reveals the link between individual level and collective level *guanxi*, and illustrates how an organization may promote interorganizational *guanxi* at the collective level. Finally, this paper distinguishes the individual and collective *guanxi* by analyzing their impacts on knowledge sharing between organizations. It establishes a theoretical model and calls for further investigation through empirical research.

In the following sections, the paper first explains the dynamics of the multi-level interorganizational *guanxi*. It then demonstrates the effect of both individual and collective level *guanxi* on knowledge sharing, and explores the

interactions between the two levels of interorganizational *guanxi*.

2 Interorganizational *Guanxi*: Individual Level vs. Collective Level

Guanxi is the Chinese term of relationship. In the business context, it refers to "the credit which a person or a group has with others, based on the giving of assistance or favors, or deriving from personal recommendations" (Boisot and Child, 1999: 246). It is argued that *guanxi* is a personal asset that is intertwined with culturally significant elements such as *mianzi* (i.e., face) and *renqing* (i.e., favor). *Mianzi* is roughly translated to prestige. Standifird (2006: 173) maintains that "once embroiled in a network, one maintains face or *mianzi* by reciprocating favor for favor... How much face an individual has depends partly on his/her *guanxi* network." Related to *mianzi, renqing* is "unpaid obligation" that nurtures *guanxi* (Standifird, 2006: 172). According to Chen and Chen (2004: 314), "the compound of *renqing* emphasizes the sense of obligation owed to each other."

Individual *guanxi* receives much attention ever since the mainland of China implemented its reform and open-up policy in 1978. When foreign companies tried to initiate their business in China, they realized that *guanxi* has to be established with their Chinese counterparts at the personal level (Yeung and Tung, 1996). The notion of personalizing a formal business relationship was a hard sell to the MNCs initially, although later they had to recognize this cultural element. Meanwhile, as China was lack of a regulated market in the early period of economic reform, individuals in certain positions sometimes could make big differences in spite of formal rules set by their organizations. The highlight of personalization in relationship, combined with the significance of key individuals, resulted in a literature focused on the individual level *guanxi*. When investigating interorganizational *guanxi*, individual managers' cross-boundary *guanxi* with other organizations are often used as either the equivalence or a proxy to the interorganizational *guanxi* (Fan, 2002a; Gu, 2008; Zhang and Zhang, 2006).

While individual *guanxi* prevails in the Chinese business, the literature debates over whether *guanxi* can be demonstrated at the collective level. Many emphasize that *guanxi* dwells with individuals and only its benefits can be extended to the collective of the organization (Fan, 2002b; Standifird, 2006). Nevertheless, some researchers advocate interorganizational *guanxi* at the collective level (Yang, 1994; Tsang, 1998). For example, Tsang (1998) cautions that those organizations depending on a single cross-boundary interpersonal *guanxi* take over the *guanxi* development to the hands of multiple managers or

representatives. However, there is a lack of a consistent definition for the construct of collective level *guanxi*, which leads to confusion about its presence, difficulties in its operationalization, and neglect of its significance in the alliances relationship.

Toward a definition of collective level interorganizational guanxi. This paper suggests that interorganizational *guanxi* can be observed at both the individual and the collective levels. The individual level *guanxi* is represented by cross-boundary activities of key *guanxi* persons such as executives and sales/purchasing representatives of the linked organizations. Whereas the individual level *guanxi* has received extensive discussion, the collective level *guanxi* is less investigated in the literature. According to Park and Luo (2001), the collective level *guanxi* is developed when a shared understanding about the interorganizational *guanxi* is achieved by the employees of the organization.

The collective level *guanxi* can be identified in two dimensions, the structural dimension and the cognitive dimension. The structural dimension is represented by the network characteristics. The collective level *guanxi* is strong when multiple entities (e.g., individuals, teams, departments) of the organization have cross-boundary relationships with the corresponding entities of the other collective. In the case of strong collective *guanxi*, we may see that the structural hole between the two collectives does not exist, and it is so well covered that breaking one of the cross-boundary relationships does not result in a structural hole. For example, when an important *guanxi* is established, managers may join the *guanxi* building process so the *guanxi* is not exclusively attended by the individual representative (Tsang, 1998). In the case of supplier-buyer relationship, once the contract is sealed, cooperation may involve contact between the operation departments, administration departments, and top management of both organizations. *Guanxi* between individual representatives is not powerful enough to support the cooperation between the two parties.

The cognitive demonstration refers to the extent to which people in one organization take the related organization (i.e., *guanxihu* in Chinese) as a whole identity. With regard to this dimension, the collective level *guanxi* is high when (1) employees of one organization treat employees of the other according to their organizational identity rather than their individual identities, and (2) employees of one organization assume shared benefit in the favors from the other organization. For example, the employees in one organization may treat a stranger as a friend because the stranger comes from the *guanxihu*. In such a case, the individual identity of the stranger is not as important as the organizational identity, which prescribes the level of *guanxi* with the entities of the host

organization.

The cognitive aspect and the structural aspect are related but distinct. While an employee's colleagues with cross-boundary *guanxi* may help the employee get familiar with the *guanxi* person in the other organization, he/she does not have to recognize a stranger by his/her organizational identity. However, it is plausible that the more interwoven the structural dimension, the higher the cognitive dimension of the collective level *guanxi*.

Diffusion of interorganizational guanxi: from individual level to collective level. In the literature of social capital among alliances, interorganizational relationship is often referred to as a collective level construct that represent the institutionalization of employees' cross-boundary interactions. As illustrated in Fig. 1a, studies in these areas typically view an organization as one integrated entity. Accordingly, the interorganizational relationship is viewed as a single tie between the organizations (McEvily and Marcus, 2005). This illusion depersonalizes the interorganizational relationship and ignores the dynamics among individuals or groups within the organization.

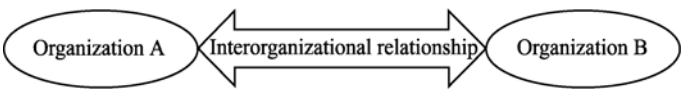

Fig. 1a Interorganizational Relationship as a Uni-Level (Collective) Construct

It is important for researchers applying theories of social capital and social network to realize the function of individual level *guanxi* and its direct and indirect impact on organizational outcomes. This is because there are fundamental differences between the strategies adopted by the western and Chinese organizations. Unlike the Western organizations that are designed as the aggregations of multiple decomposable units with the purpose of reducing the complexity (Simon, 1962), Chinese organizations allow distinctive units to exist simultaneously in order to increase flexibility and absorb complexity (Boisot and Child, 1999). Therefore, it is necessary to take a comprehensive view of the interorganizational *guanxi* and recognize both the individual and the collective level *guanxi*.

In contrast to the constructs of social capital and social network, *guanxi* is inherently personal and regarded as being maintained at the individual level. Fig. 1b indicates the definition of interorganizational *guanxi* in previous literature on business in China. In general, researchers agree that interorganizational *guanxi* is individual *guanxi* that benefits organizations. For example, Park and

Luo (2001: 457) suggest that "*guanxi* becomes an asset at the organizational level as personal relationships are dedicated to and used by the organization… Interfirm *guanxi* specifically refers to cross-organizational connections among managers." This idea is embraced by the literature and elaborated by Zhang and Zhang (2006), who maintain that several reasons explain why individual *guanxi* can benefit the organization. Generally, "*guanxi* remains a product of individuals and becomes an organizational asset only to the extent that individuals are willing to use their *guanxi* in order to achieve organizational objectives" (Standifird, 2006: 171). This trend of thoughts does not distinguish personalization and individualization of *guanxi* and consequently constrains the conceptualization of collective level interorganizational *guanxi*. Once the concepts of personalization and individualization are disentangled, it will be easier to understand the personalization of *guanxi* at the collective level. Consequently, the definition of collective level *guanxi* will make sense both theoretically and empirically.

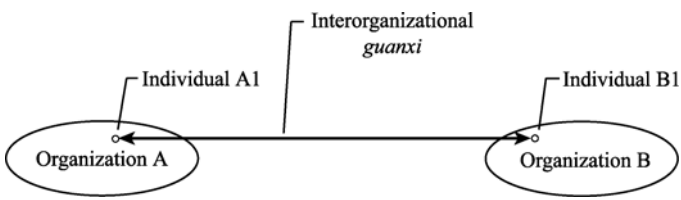

Fig. 1b Interorganizational *Guanxi* as a Uni-Level (Individual) Construct

It is essential for the *guanxi* literature to realize the collective level interorganizational *guanxi* and understands its antecedents and consequences. This does not only increases the understanding to the *guanxi* phenomena, but also benefits the organizations doing business in China (Tsang, 1998). Fig. 1c illustrates the mechanism through which one individual level interorganizational

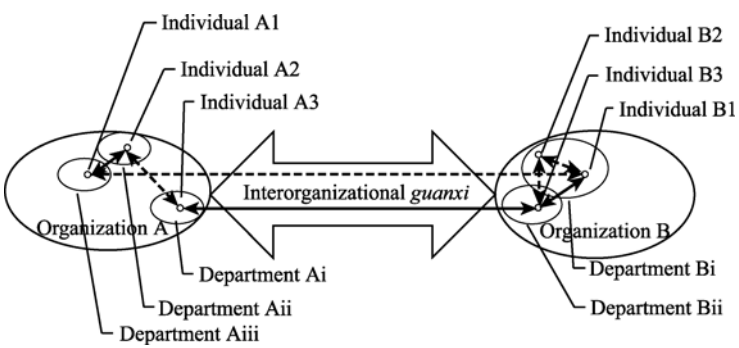

Fig. 1c Interorganizational *Guanxi* as a Multi-Level Construct

guanxi diffuses to multiple individuals and departments and eventually evolves into collective *guanxi*. The figure demonstrates the simplified sustaining status of the intertwined *guanxi* between Organizations A and B, consists of the week interpersonal *guanxi* between Individuals A1 and B1, the strong interpersonal *guanxi* between Individuals A3 and B3, and the personalized collective level *guanxi* between departments (i.e., Ai and Bi, Aiii and Biii). The status, however, is not static. Next, the paper takes a process view and discusses how an initial individual *guanxi* development evolves into a collective asset.

Interorganizational *guanxi* is typically established and maintained by key *guanxi* persons of the organizations, who are often executives or sales/purchasing representatives. Many researchers found it difficult to discuss *guanxi* beyond the individual level (Fan, 2002a; Zhang and Zhang, 2006). Typically, *guanxi* development will be limited if the goal of interaction is a short-term contract-based transaction. Nevertheless, when the organizations intend to build a strategic alliance relationship, the interactions between organizations are necessarily extensive, and no individual can single handedly handle the collaboration. This is especially true in industries that value vertical integration, where organizations are likely to pursue wide-ranging and long term collaboration.

To build an alliance relationship between Organizations A and B, Individual A3 starts to develop *guanxi* with Individual B3 (see Fig. 1c). This *guanxi* is likely to become increasingly stronger as the alliance relationship is likely and the two individuals social along through banquets, gifts giving, and favor exchange. With the key *guanxi* persons (i.e., A3 and B3) establishing interpersonal *guanxi* and promoting interorganizational collaboration, they need to have more colleagues who are experts in the products involved in the interaction. For example, R&D and product departments of both organizations may need to meet on the process design of the operations. Sometimes, top management of both organizations is also involved when the linked organization is strategically important (Tsang, 1998). As the personnel in various departments of the linked organizations interacts across the organizational boundaries, the diffusion from individuals to the collective starts.

In post-contract collaboration, direct conversations between parallel departments from linked organizations are necessary for problem solving. For example, many suppliers form project teams after a contract is signed by the sales representatives. The project teams usually include personnel from design, engineering, production, logistics, and administration departments. They regularly communicate with their counterparts in the buyer's organization and

involve the sales representative only when new problems affect the contract terms. This is not only a common practice, but also a necessary part of the cooperation process. To make sure the two organizations benefit from the combined pool of expertise, functions of both organizations need to be constantly informed and sometime cross-educated. Besides, training programs may be offered to employees from both organizations. Some companies offer degree earning programs to both their own employees and those of the linked organizations so they become classmates and friends. These practices provide both the *guanxi* base and the context for *guanxi* development at the collective level.

The initial relationship between departments may not be personal, which means that it is a depersonalized relationship other than *guanxi*. Nevertheless, at a certain point, the collective interactions can become personalized by groups of employees. Helping behaviors that are not defined in the contracts occur as long-term collaboration is desired, expertise is complimentary, and trust is developed. Accordingly, gifts and *renqing* (i.e., favor) are offered at the collective level as collective *guanxi* is built (Yang, 1994). For example, one organization may send local specialty to all the employees of the other organization. Same as individual *guanxi*, the essence of the collective *guanxi* is not the monetary value of the gift, but the personal care expressed through gift-giving. Moreover, when someone from a *guanxi* organization asks for help from the focal organization, employees of the focal organization will try to help by recognizing the organizational identity rather than the individual's identity. People of one organization will call the other organization as *guanxihu* (*guanxi* household) (Yang, 1994), and the *guanxi* between the two organizations is said to be *tie* (iron strong).

Proposition 1 Interorganizational *guanxi* at the individual level nurtures such *guanxi* at the collective level.

Guanxi is distinguished from other concepts of social relation in the degree of its personalization. When *guanxi* is very close, it is difficult to separate a work issue from an individual's identity. This leads to not only the confusion in the way of dealing with work relationship but also the opportunities to motivate people through personal appealing. The culture difference between the strategies of coping with complexity by Chinese and Western organizations determines that the power of grapevine in Chinese organizations exceeds that in their Western counterparts. Specifically, Chinese organizations adopt the absorption strategy and maintain the complexity of each unit within, which allows much more

autonomy of individuals (Boist and Child, 1999). In the following, the discussion clarifies the function of several factors that influence the diffusion of *guanxi* from the individual to the collective level.

Collective guanxi sensemaking. Park and Luo (2001) suggest that *guanxi* can be transferred from one individual to another. To promote the transfer of an interorganizational *guanxi*, employees of an organization need to make sense of the *guanxi* at the micro level.

Since *guanxi* practices follow implicit rules and they are personalized, they are unlikely to be diffused through formal means. One way of making sense of a *guanxi* is through *guanxi* base, referring to the shared similarity between individuals such as classmates and same hometown. One does not have to have direct or indirect interaction with the focal individual in order to be included in the *guanxi* network. Rather, one's *guanxi* base determines the initial quality of *guanxi*. Once an individual enter another individual's network, *guanxi* is gradually developed from static and loose *guanxi* base (e.g., schoolmates, from the same hometown) to dynamic and close interactions that is supported by the rules of reciprocity, mutual trust, and emotion involvement (Park and Luo, 2001; Tsang, 1998; Yeung and Tung, 1996).

Whereas influential key *guanxi* persons as well as organizational routines provide guidelines on how to respond to the inquiries of a linked organization, people further differentiate such inquiries through sensemaking of the strength of the interorganizational *guanxi* with their own circles. Fei (1948) suggests that the range of *guanxi* is like circles around a focal individual. He uses the metaphor of ripples on the water caused by a falling pebble to describe such network. This indicates that each individual's *guanxi* network is guided by distinctive rules. When two individuals are connected through *guanxi*, two sets of circles meet with each other. One needs to figure out where he/she is the owner and where he/she needs to abide by others' rules. Employees who make better sense of the key *guanxi* person understand better of that person's *guanxi* rules. Consequently, they know what behavior is desired in handling the interorganizational *guanxi* transferred from this person.

It is likely that the diffusion of an interorganizational *guanxi* is a result of the interactions of the individuals' *guanxi* circles. In Fig. 1c, the initially strong individual level *guanxi* between key *guanxi* persons A3 and B3 eventually becomes moderate as their task of starting the cross-boundary *guanxi* is accomplished and their interactions reduce. However, the interorganizational *guanxi* is strengthened by transferred interpersonal *guanxi* between other individuals and the collective *guanxi* between various departments in the two

organizations. Take a look within Organization A in Fig. 1c, where departments are not interacting frequently and the key *guanxi* person A3 does not have a strong *guanxi* with A1. Although the relationship between A1 and B1 is nurtured by joint meetings and problem solving, A1 finds it difficult to get in sync with B1. A1 is in need of the transfer of A3's interpersonal *guanxi*. However, the only source that A1 can learn about A3's *guanxi* is through the strongly linked A2, who is yet in another department and only weakly linked with A1. As a result, the information A3 learned about A1's *guanxi* tends to be inaccurate, incomplete and sometimes biased. This restricted sensemaking process prevents A1 from building an interpersonal *guanxi* with B1 in an efficient way. When there are problems in collaboration between A1 and B1, A3 and B3 may have to be involved to resolve the conflict. In this scenario, the interorganizational *guanxi* remains with individuals A3 and B3 and is not successfully diffused.

The situation of Organization B in Fig. 1c is another scenario. First, the departments are overlapping with each other, indicating that structures such cross-functional protect teams exist in this organization. This provides opportunities for employees from different departments to get along with each other and develop *guanxi* over time. The key *guanxi* person B3 has strong *guanxi* with B1, who will benefit from an interpersonal *guanxi* with A3. B1 can easily make sense of the interorganizational *guanxi* that B3 established at the individual level because B1 understands B3's personality and *guanxi* rules. The interorganizational *guanxi* is thus efficiently transferred.

The interactions of personal *guanxi* circles allow the multiple interpretations of the interorganizational *guanxi*, motivate repeated tests to the quality of the *guanxi*, and support the sensemaking process with the dynamics of the overlaps among individual circles (Boisot & Child, 1999; Weick, Sutcliffe & Obstfeld, 2005). Through such process, people perceive the relevance of the interorganizational *guanxi* and their control over it. Eventually, shared understanding to the interorganizational *guanxi* is established in both linked organizations, and the *guanxi* is personalized and finds its position in each employee's circles. Consequently, the organization's capacity to facilitate collective sensemaking of the interorganizational *guanxi* is likely to promote the diffusion of such *guanxi*.

Internal guanxi closure. A close-knit internal *guanxi* network within and among departments indicates salient organizational identity (Scott and Lane, 2000), facilitating a high level of trust and high accuracy in communication (Uzzi, 1997) and enhancing role clarity (Morrison, 2002). The key *guanxi* persons are willing to share their *guanxi* assets with other employees in the

organization because the organizational identity highlights the perceived belongingness to the organization. The internal *guanxi* networks are likely to follow the rule of reciprocity and convey appreciation to the key *guanxi* individual so he/she has a bigger *mianzi* (face).

On the other hand, the organizations with internal *guanxi* closure are able to gain comprehensive understanding to the interorganizational *guanxi* due to high accuracy in communication. This assists the collective to obtain and further develop the interorganizational *guanxi* as it is carefully passed through the formal organizational structure and informal internal *guanxi* network. Internal *guanxi* closure also ensures that employees involved in the diffusion process coordinate smoothly and contribute to the collective level *guanxi* in a complementary way.

Finally, internal *guanxi* closure analogs organizational social capital, with the difference that *guanxi* is more personalized by nature. As stated previously, it is often difficult to separate work issues from personal ones when close *guanxi* is involved. More stakes are put in the interpersonal support by each individual employee, as internal *guanxi* closure enhances. The ability to monitor the behavior of each employee is advanced due to the closure structure (Nahapiet and Ghoshal, 1998). At the same time, sanction for opportunistic behavior is very high. Those who take advantage of the interorganizational *guanxi* without contribution are likely to "lose face" and "cannot hold his/her head high" in front of his/her colleagues. Hence, internal *guanxi* closure tends to facilitate the diffusion of interorganizational *guanxi* from the individual level to the collective level.

As illustrated in Fig. 1c, Organization A does not have a high level of internal *guanxi* closure. A2 learns about the interorganizational *guanxi* from weakly linked key *guanxi* person A3, but there is no need for A2's department to interact with Organization B. The diffusion of interorganizational *guanxi* is limited. On the other hand, Organization B enjoys a high level of internal *guanxi* closure. Although Individual B2 is not closely related to either B1 or B3, the department's collective activities allow B2 to get familiar with B1's and B3's activities. The *guanxi* with B1 and B3, although weak, helps B2 to get information about the interorganizational *guanxi* from different perspectives. Thus, B2 is prepared to further develop the interorganizational *guanxi* and contribute to the cognitive dimension of the collective level *guanxi*.

Collective guanxi competence. The process of *guanxi* development and maintenance can be viewed as the use of competence to control *guanxi* at the desired strength. At the individual level, this competence includes the ability to use potential *guanxi* base to initiate *guanxi* with individuals in the other

organization (Chen, Chen, and Xin, 2004), the knowledge of the general implicit rules of *guanxi* in the cultural and business contexts (Lee, Pae, and Wong, 2001), the skills of negotiating the shared expectation on the specific *guanxi* (Batjargal and Liu, 2004), and the capacity of not only reinforcing, but discouraging *guanxi* as desired so the benefit of *guanxi* matches the investment in it.

At the collective level, *guanxi* competence is reflected in the shared understanding of the relationship with the linked organization, the ability to maintain the *guanxi* in the absence of the key *guanxi* persons (Yang, 1994), and the ability to personalize the collective relationship beyond business interactions (Tsang, 1998). In a sense, the collective *guanxi* competence provides the capacity to absorb the interorganizational *guanxi* from individual level. Thus, the collectively shared know-how of initiating, building, and using *guanxi* is likely to facilitate the diffusion of interorganizational *guanxi* from individual level to collective level.

In an organization with high collective *guanxi* competence, the quality of an individual level *guanxi* is closely observed and accurately interpreted by the collective. The transfer of the *guanxi* from one individual to another is efficient because employees are consistent in the way how certain *guanxi* is handled. And the evolution of *guanxi* from individual level to collective level is smooth due to the shared understanding of the *guanxi* organization.

Proposition 2 Collective *guanxi* competence, collective *guanxi* sensemaking, and internal *guanxi* closure facilitate the diffusion of interorganizational *guanxi* from the individual level to the collective level.

Guanxi and knowledge sharing. For the purpose of this paper, knowledge sharing refers to the strategy of alliances making their own important knowledge available for learning and use by each other. For example, Dyer and Nobeoka (2000) report that Toyota suppliers shared their know-how through the supplier network activities such as workshops and plant visits. Knowledge sharing among alliances is regarded as an approach toward firms' competitive advantage (McEvily & Marcus, 2005). Previous literature suggests that social networks within and between organizations have an impact on knowledge sharing (Dyer and Nobeoka, 2000; Hansen, 1999).

The effect of individual level guanxi. Individual level *guanxi* facilitates interorganizational knowledge sharing in decision making, resources provision, and process facilitation. First, key *guanxi* persons, typically executives or sales/purchase/public relationship representatives, have the authority to make decisions on whether the knowledge sharing is allowed. In many cases, as the

individual level *guanxi* evolve through the process of negotiation, agreements on exchange of technology and other knowledge are included or implied in written contracts. In addition, key *guanxi* persons may require the department or personnel who own the desired knowledge to offer it for sharing.

Second, key *guanxi* persons are obliged to provide resources to support the agreed knowledge sharing activities. Interpersonal trust reduces the perceived risk of opportunistic behavior. The way the key *guanxi* persons are linked also facilitates sustainable reciprocal exchange activities. Thus, training, facility, or personnel exchange will be promoted as the key *guanxi* persons in the linked organization required.

Third, due to its interpersonal nature, individual level *guanxi* implies the key *guanxi* persons as the beneficiaries of the interorganizational *guanxi*. As such, key *guanxi* persons feel personal responsibility to facilitate the process of knowledge sharing. To ensure the successful cooperation, they will look over the implementation and make sure that resources are provided with the right amount and at the right time.

On the other hand, turnover of key *guanxi* persons inevitably affect the commitment of linked organizations on knowledge sharing. The established interpersonal trust and personal responsibility will be leaving together with the key *guanxi* persons. And it takes time to restore such properties between new comers.

Proposition 3 Interorganizational *guanxi* at the individual level facilitates knowledge sharing between linked organizations.

Proposition 4 Turnover of key *guanxi* persons has a negative impact on knowledge sharing between linked organizations.

The effect of collective level guanxi. Collective level *guanxi* promotes interorganizational knowledge sharing by increasing employees' willingness to engage in knowledge sharing, and the organization's capacity of knowledge delivery and acquisition. First, Walsh, and Ungson (1991) suggest that individual employees are important knowledge reservoirs of the organization. Therefore, the effectiveness and efficiency of knowledge sharing depends on the individuals' willingness to engage in the sharing activities. Collective level *guanxi* indicates the trustworthiness of the linked organization and ensures collective control over the reciprocal behavior so that the knowledge owners will be motivated to pursue mutual benefits for both the organization and themselves (Ramasamy, Goh, and Yeung, 2006).

Second, collective level *guanxi* provides the structure to support information

flows between organizations. It offers means to directly convey information from one organization to groups of employees in the other organization, which is impossible when only the key *guanxi* persons hold the connection. Collective level *guanxi* also increases shared experience through close cooperation. This allows transfer of contextual information on how the knowledge components are combined in application, which is unlikely to be conveyed through any individual. Zhao and Anand (2009) compare the effect of individual and collective teaching activities and absorptive capacity and found that the latter better predict the effective knowledge transfer than the former.

Third, frequent contacts provide the opportunities to update knowledge in a timely manner. Because the business environment is dynamic, the validity of knowledge varies with the changes in related factors such as application of innovations and availability of resources. Frequent interactions enable people to respond to changes promptly and save cost on learning the outdated knowledge. This tends to result in proactive adjustment that promotes efficient knowledge sharing process in the future (Uzzi, 1997; Uzzi and Spiro, 1997).

Proposition 5 Interorganizational *guanxi* at collective level facilitates knowledge sharing between linked organizations.

The interaction between individual and collective guanxi. Collective level *guanxi* complement individual level *guanxi* because each contributes to distinctive perspectives that are essential for knowledge sharing. First, expertise knowledge is communicated more efficiently, as compared to communication through key *guanxi* persons. Labor division determines that people are specialized in different competences. The key *guanxi* persons are less likely to be able to understand and/or acquire knowledge on all aspects of the organizations. To share knowledge on specific areas, the organizations need to make their absorptive capacity (Cohen and Levinthal, 1990) not only sufficient, but also accessible. Moreover, when collective level *guanxi* presents, knowledge shared through key *guanxi* persons can be verified through various means. This reduces the chance of misunderstanding and reinforces the mutual governance of the information flow.

When individual level *guanxi* is damaged, the collective level *guanxi* may partially substitute the role of individual level *guanxi* and sustain the knowledge sharing activities. This is because that an organization with high *guanxi* competence is likely to find effective substitution for the leaving key *guanxi* persons. The collective level *guanxi* is embedded in the organization in the form of collective competence and organizational routines. It registers the organizational

identity as a *guanxi* base for interactions with the linked organization and reduces the loss of *guanxi* assets due to turnover of the key *guanxi* persons.

Also, the interorganizational *guanxi* is not only supported by one individual's circles but many employees interweaving circles. When new individuals are assigned to the key *guanxi* position, they are likely to know the implication of the interorganizational *guanxi*, have already had interactions with the linked organization, and is supported by the collective that continues with the *guanxi* practices. The order set by the leaving key *guanxi* persons will be quickly restored and updated so the interpersonal trust and personal responsibility will not be damaged by the turnover. Thus, the organization's ability to maintain *guanxi* moderates the effect of turnover on knowledge sharing.

Proposition 6 Interorganizational *guanxi* at the collective level strengthens the positive effect of individual level *guanxi* on knowledge sharing between linked organizations.

Proposition 7 Interorganizational *guanxi* at the collective level reduces the negative effect of key *guanxi* person turnover on knowledge sharing between linked organizations.

3 Conclusion

This research has profound implications to the literature as well as practitioners. Different levels of *guanxi* indicate distinctive practices in *guanxi* management. Specifically, if interorganizational *guanxi* is maintained mainly by key *guanxi* persons, managers should focus more on selection of those who are well connected to fulfill the *guanxi* positions. Corresponding financial resources should also be allocated based on the individuals' activities. On the other hand, if interorganizational *guanxi* presents itself at the collective level, relevant resources may need to be directed to training programs and collective reward systems. Thus, it is essential to understand the levels of interorganizational *guanxi*, their effect and interactions on knowledge sharing.

There is an urgent need for the measurement of interorganizational *guanxi*, especially the collective level *guanxi*. Most research on interorganizational *guanxi* focuses on individual level *guanxi* (Li et al., 2008; Park and Luo, 2001; Zhang & Zhang, 2006). Ramasamy et al. (2006) are among the few researchers that attempted to measure collective level *guanxi*. They maintained that *guanxi* consists of three components: trust, communication, relationship commitment. Although their measure is reliable for these three components, its construct validity can be challenged. Future research is called for to develop a measure that

reflects the culture-specific components such as *renqing* (favor), *mianzi* (face), and reciprocity (Park and Luo, 2001; Tsang, 1998). It is possible that these components contribute to the preferences and capacity of Chinese organizations in their adoption of complexity absorption strategy.

It is evidenced that interorganizational *guanxi* at the individual level contributes to knowledge sharing and organizational performance (Park and Luo, 2001; Zhao and Anand, 2009). This paper focuses on the effect on knowledge sharing. The relationship between collective level *guanxi* and organizational performance remains unexplored. It would be interesting to examine how the clusters of internal *guanxi* circles handle the interorganizational *guanxi* and influence organizational performance.

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