

# *The impact of trust, guanxi orientation and face on the intention of Chinese employees and managers to engage in peer-to-peer tacit and explicit knowledge sharing*

Qian Huang,<sup>\*†</sup> Robert M. Davison<sup>\*</sup> & Jibao Gu<sup>†</sup>

<sup>\*</sup>Department of Information Systems, City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong, China, email: hqvivian@mail.ustc.edu.cn; isrobert@cityu.edu.hk, and <sup>†</sup>School of Management, University of Science and Technology of China, Jinzhai Road 96, Hefei, Anhui, China, email: jibao@ustc.edu.cn

**Abstract.** *Knowledge sharing is recognised as one of the most critical components of knowledge management. Successful and efficient knowledge sharing could directly facilitate knowledge creation and so help a firm to maintain its competitive advantage. Consequently, identifying which factors could encourage or inhibit people to share knowledge is potentially of great value. In this study, we explore the impact of selected socio-cultural factors, viz. trust, guanxi orientation and face, on the intention to share explicit and tacit knowledge in Chinese firms. Two hundred and four employees from Chinese organisations were surveyed on their knowledge-sharing practices. Our findings indicate that while cognition-based trust has no significant effect on the intention to share either tacit or explicit knowledge, affect-based trust has a significant effect on both. Meanwhile, face-gaining behaviours have a positive effect, while face-saving behaviours have a negative effect on the intention to share knowledge. Finally, guanxi orientation also has a strong impact on knowledge sharing. The implications of these findings for organisations and their knowledge management initiatives are discussed.*

**Keywords:** knowledge sharing, cognition-based trust, affect-based trust, guanxi orientation, tacit knowledge, explicit knowledge

## INTRODUCTION

With the development of China's economy, knowledge is increasingly regarded as both an important organisational asset and a source of competitive advantage. However, Chinese firms tend to trail their Western competitors where formal knowledge management (KM) initiatives are concerned. Moreover, it has been noted that 'the Chinese tend to manage

knowledge more informally and personally than their American and Japanese counterparts' (Burrows *et al.*, 2005, p. 74).

Given the unique cultural background of the Chinese people (cf. Davison *et al.*, 2008), lessons gained from knowledge management (KM) practices in Western countries are unlikely to be directly applicable in the Chinese context, not least because of differences in the manner of interpersonal knowledge sharing (Martinsons, 2008; Westrup & Liu, 2008). Indeed, while information technology (IT) applications have been widely applied in China since the mid-1980s (Davison *et al.*, 2008), there are few cases of successful IT-based KM applications in China: 'in the digital era, there is still no perfect substitute for the motivational effects of human bonding and social connectedness' (Lu *et al.*, 2006). Consequently, research into the antecedents of knowledge sharing needs to incorporate psychological and social factors that do relate to 'human bonding and social connectedness' (*ibid.*). However, research into these antecedents has been limited in the Chinese context to date, which has prompted our research question: how do socio-cultural factors influence tacit and explicit knowledge-sharing intentions in the Chinese context?

Among the various social and cultural factors, we select *guanxi* orientation, face and trust as independent variables in our research model. Both *guanxi* and face are indigenous concepts in Chinese culture and are embedded in every aspect of Chinese social life (Chow & Ng, 2004). Yang (2005) noted that *guanxi* orientation and social orientation embody the cultural character of the Chinese people during social interaction processes. The literal meaning of *guanxi* is 'a relationship' between two or more individuals that is implicitly based on reciprocity and mutual interest (Yang, 1994). *Guanxi* orientation relates to the critical attention Chinese people place on maintaining harmonious relations with others. It is regarded as a kind of basic interaction mode in China and is thus an important and influential concept when analysing and defining Chinese people's behaviour (Zuo, 2002).

Social orientation demonstrates that Chinese people care about others' opinions of them. This in turn ensures that people develop a strong intention both to avoid losing face and to gain face in front of other people. Face is defined as 'the respect, pride and dignity of an individual as a consequence of his/her social achievement and the practice of it' (Leung & Chan, 2003). Research on face is also believed to constitute a method to understand Chinese people's character and behaviour (Chu, 2006).

Face and *guanxi* orientation are thus two fundamental socio-cultural factors that relate to the way Chinese people engage in interpersonal interaction. While trust is regularly researched in the IS and marketing literatures, face and *guanxi* orientation have seen less attention, despite their importance for communication, negotiation and social interaction in the Chinese context (Ko, 2005). Since we aim to investigate the intentions of Chinese employees to share knowledge with one another, so all independent variables are measured at the peer level. We include intention in our research model because intention has been regarded as an important predictor of behaviour (Komiak & Benbasat, 2006) and knowledge-sharing intentions have already been investigated by several researchers (e.g. Bock *et al.*, 2005).

Since knowledge sharing can be affected by cultural factors (Ardichvili *et al.*, 2006), a considerable body of research has investigated knowledge-sharing practices in and between

a variety of cultures, particularly in North America and Western Europe, but also in China, Japan and the Middle East (e.g. Chow *et al.*, 2000). In China, it has been found that, given high levels of in-group collectivism and the willingness of employees to sacrifice their own interests for their collective in-group (Chow *et al.*, 2000), it is easier to stimulate knowledge sharing between the members of in-groups. A desire to improve personal reputation is also positively associated with knowledge sharing (Voelpel & Han, 2005). However, the Chinese context has been inconsistently represented in this prior research, with the result that factors such as face and guanxi have been inadequately investigated leading to an incomplete understanding of the phenomenon.

Given the limited scope of prior research into knowledge sharing in Chinese organisations, our research focuses on enhancing our understanding of the social and cultural antecedents of explicit and tacit knowledge-sharing intentions which may facilitate the successful design and implementation of organisational, IT-based KM initiatives, particularly in the Chinese context.

## LITERATURE REVIEW

### Affect-based and cognition-based trust

McAllister (1995) defined trust as 'the extent to which a person is confident in, and willing to act on the basis of, the words, actions and decisions of another'. He suggested that trust could be classified into affect-based trust and cognition-based trust, which is congruent with Lewis & Weigert's (1985) view that interpersonal trust is always found to have cognitive and affective foundations. Cognition-based trust will be established through factors such as competence and reliability (McAllister, 1995). On the other hand, affect-based trust will be formed through people's investment in emotions, expressing care and understanding (McAllister, 1995). Prior research suggests that cognition-based trust could lead to affect-based trust (McAllister, 1995), both of which are relevant and meaningful in the Chinese context (Ng & Chua, 2006).

McAllister (1995) found that citizenship behaviour and interaction frequency influence affect-based trust building while peer reliable role performance, cultural-ethnic similarity and professional credentials lead to cognition-based trust. Individual competence and ability are also important elements and can be regarded as necessary for trust building. Doney *et al.*'s (1998) proposition that national culture would have an influence on the trust-building process is supported by Tan & Chee (2005) who demonstrated that in the Singaporean context (strongly influenced by Confucian norms), affective factors of trustworthiness are much more important than cognitive factors during the trust-building process. This suggests that in China, the cradle of Confucianism, there should also be a stronger focus on affect-based trust. Since Confucian ideology focuses on the importance of relationships, it is natural that interpersonal trust in a Confucian-influenced society would be based primarily on emotional factors (Tan & Chee, 2005).

A number of researchers have investigated the role of different forms of trust in stimulating knowledge sharing, notably: Nahapiet & Ghoshal (1998), who proposed that trust, including its

cognitive and affect-based components, could lead to knowledge exchange; Holste & Fields (2005), who found that both affect-based and cognition-based trust could increase an individual's willingness to share tacit knowledge; and Chowdhury (2005), who also confirmed that both cognition-based and affect-based trust could facilitate knowledge sharing between two persons. However, few studies have focused on the relationship between the two types of trust and the sharing of explicit and implicit knowledge.

### **Guanxi and guanxi orientation**

Notwithstanding its specific relevance for China, guanxi has been accepted as a valid socio-cultural construct in a variety of disciplines including business, management and marketing (Chen & Chen, 2004). Guanxi involves 'dyadic relationships that are based implicitly (rather than explicitly) on mutual interest and benefit' (Yang, 1994).

There are many different classifications of guanxi. Jacobs (1980) suggested that guanxi ranged from closer to more distant persons: family ties, familiar persons and strangers. Hwang (1987) based his classification of guanxi on the motivation for two persons to interact with one another: socio-affective, instrumental and mixed. Socio-affective guanxi involves people who exchange feelings and satisfy their need for care and a sense of belonging. Instrumental guanxi applies to people who share their social resources in order to facilitate their personal development. Mixed guanxi involves exchanges of both feelings and resources.

One of the most important characteristics of guanxi lies in its dynamic reciprocity (Chen & Chen, 2004). People in need will ask for a favour from those sharing good guanxi with them and expect to return the favour when the other is in need. Yum (1988) shows that Western society highlights short-term and equal reciprocity in relationship exchanges, whereas the Chinese are inclined to maintain personal guanxi for their whole lifetime. This could also explain why Chinese people pay considerable attention to their own guanxi with other people. If reciprocity has not been achieved, then a balance between the two parties would be destroyed and the guanxi would suffer.

Given the importance of guanxi in the social life of Chinese people, guanxi orientation can be considered to constitute a primary mode of social network operation (Martinsons, 2008). The term 'guanxi orientation' refers to a psychological inclination and behavioural mode based on guanxi, whereby individual people consider both themselves and others for the purpose of fixing their own role and reacting to outsiders (Zuo, 2002). Yang (2005) included guanxi orientation as an important component of social orientation, adopting 'relational determinism' as a way of emphasizing the importance of this concept: during social interactions, Chinese people tend to use different ways of treating their fellow interlocutors according to the level of shared guanxi. Generally speaking, Chinese people will highlight responsibility and obligation when interacting with their family members but highlight reciprocity and doing favours for each other when interacting with familiar persons (Yang, 2005). In general, Chinese people value harmonious relationships. This then helps to explain why they take considerable effort to pursue harmony, aiming to meet others' expectations and so avoids causing conflict (Yang, 2005).

## Face

The concept of face is often associated with Chinese culture and society. Face has been defined as 'respect, pride and dignity as a consequence of his/her social achievement and the practice of it' (Leung & Chan, 2003). Face also refers to the image that one cultivates and manages in order to gain acceptance and recognition from others. Chinese people have a strong consciousness towards face and in consequence tend to invest considerable effort to maintain their face (King, 1988). The concept of 'face work' has been developed to refer to 'projection of self-image and impression management' (Hwang, 1987). All of this attention to face reflects the fact that Chinese people's traditional character is based on social orientation, i.e. the personal behavioural standard is dependent on evaluations from groups and other people (Chu, 2006).

If Chinese people could not gain face during social interactions, then at minimum they will work out how to protect their face from being damaged (Ho, 1976). Since the loss of face causes embarrassment, saving one's face is an important social skill (King, 1988). In prior research, several methods of gaining and saving face have been identified. For example, Chu (2006) suggests that in order not to lose face, one should not make mistakes in public. On the other hand, one can gain face by displaying one's strengths, especially those that are expected by the public. Ho (1976) suggested that face could be gained through recognition by others and enhancement of one's social status. People with a 'thin' face tend to be highly sensitive to public opinion and they make considerable effort to maintain their good reputation, even to the extent of avoiding situations where they might perform poorly.

Researchers have also realised the importance of face for knowledge sharing. Huang *et al.* (2008) indicate that face saving has a negative impact on the intention to share knowledge while face gaining has a positive impact. However, prior research into the impact of face on knowledge-sharing behaviour has not examined the specific effects on explicit and tacit knowledge. This is a serious omission, since knowledge is multifaceted and can reasonably be shared in different places and through different media. The impact of face may thus be different where different types of knowledge (i.e. tacit and explicit) are involved.

## Tacit and explicit knowledge

Knowledge has been classified into two different dimensions: tacit and explicit (Nonaka & Konno, 1998). McInerney (2002) defined tacit knowledge as 'the expertise and assumptions that individuals develop' and explicit knowledge as 'knowledge has been explained, recorded or documented'. It has been suggested that tacit knowledge is subconscious, difficult to articulate and based on experience. Since tacit knowledge is commonly embedded in stories, it can only be transferred effectively when the narratives of those stories are preserved (Snowden, 2008). On the other hand, explicit knowledge is formally articulated, fixed, codified and well documented; it can be contained in reports, cases and documents and stored in knowledge repositories (McInerney, 2002).

Nonaka & Konno (1998) proposed the Socialization, Externalization, Combination, and Internalization (SECI) model to explain the functions of these two kinds of knowledge in the

knowledge creation process, making the assumption that knowledge can be transformed freely between tacit and explicit states through four stages: socialization, externalization, combination and internalization. However, not all researchers agree that all forms of tacit knowledge can be converted into explicit knowledge. It is suggested that much of the richness and potential value of the content will be lost during the conversion or transformation process (Voelpel & Han, 2005). This loss of richness has been termed the 'tacit-explicit paradox' (Jasimuddin *et al.*, 2005). Indeed, it has also been suggested (Kogut & Zander, 1992) that knowledge should be viewed as occupying a continuum, with tacit knowledge on one extreme and explicit knowledge on the other.

Prior research into tacit and explicit knowledge in organisations has taken one of two perspectives. Those who have focused on explicit knowledge have considered how tacit knowledge can be transformed into explicit knowledge. This is relevant to organisations that wish to preserve the knowledge that would otherwise be lost when an employee leaves the organisation. Much of this work has focused on formal knowledge codification systems such as electronic knowledge repositories. On the other hand, other researchers have focused on how to encourage tacit knowledge sharing, and have sought to identify and overcome barriers to tacit knowledge sharing. Physical distance, time and different cultural values have all been found to hinder effective tacit knowledge sharing (Herrgard, 2000) while face-to-face interaction, trust and informal/emergent structures facilitate tacit knowledge sharing between individuals (Koskinen *et al.*, 2003).

The four areas of literature reviewed above, viz. affect-based and cognition-based trust, guanxi and guanxi orientation, face and knowledge (tacit and explicit) are all directly related to our research question where we aim to enhance our understanding of the social and cultural antecedents of explicit and tacit knowledge-sharing intentions in the Chinese context. Following this literature review, we now present our research model and the associated hypotheses.

## RESEARCH MODEL AND HYPOTHESES

The structural model (Figure 1) considers the relative impact of cognition and affect-based trust, as well as guanxi, on the intention to share both tacit and explicit knowledge. Although the antecedents of knowledge-sharing intention are the same – trust, face and guanxi orientation – we assume that these factors have a different impact on the intention to share tacit knowledge and explicit knowledge.

The importance of trust for knowledge sharing has been investigated at length and confirmed by many scholars (e.g. Abrams *et al.*, 2003). It is believed that in the context of trust-based relationships, people are more willing both to offer their knowledge and to accept others' knowledge. Cognition-based trust is based on people's capability and reliability. It could 'promote professional collaboration and help develop shared professional experience' (Chowdhury, 2005). Thus, we propose the following hypotheses:

H1a: Cognition-based trust will have a positive effect on tacit knowledge-sharing intention.

H1b: Cognition-based trust will have a positive effect on explicit knowledge-sharing intention.

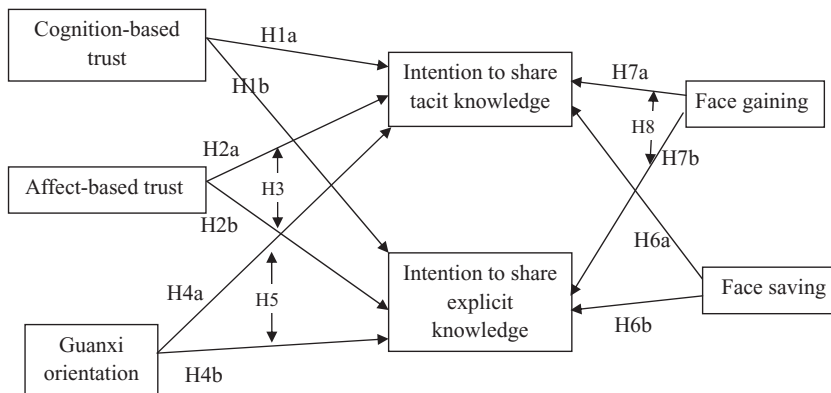


Figure 1. Research model.

Previous research has shown that a closer interpersonal relationship could make people more inclined to act so as to benefit the other (Epstein, 2000). Sharing knowledge is a good example of such an action that can benefit others and so would be a plausible outcome of a close relationship between two people. Affect-based trust is emotionally based and can be established through frequent and close interaction (McAllister, 1995). Moreover, affect-based trust could enhance individuals' shared values and perceptions, which are important stimulants of knowledge sharing. Thus, we hypothesise:

H2a: Affect-based trust will have a positive effect on tacit knowledge-sharing intention.

H2b: Affect-based trust will have a positive effect on explicit knowledge-sharing intention.

As mentioned above, tacit knowledge sharing would most frequently occur in informal and casual situations between people with close relationships. People are naturally more inclined to interact with those with whom they possess more affect-based trust. Prior research has also found that people with more affect-based trust towards each other are more willing to communicate their experience and share knowledge that is highly complex and hard to codify (Chowdhury, 2005). Thus, we hypothesise:

H3: Affect-based trust has a stronger effect on tacit knowledge-sharing intention than on explicit knowledge-sharing intention.

Following on from the definition of guanxi, two people with a guanxi relationship are bound by a mutual obligation (Chen & Chen, 2004). During the course of their interaction, they are likely to exchange many different resources. Organisational employees share their knowledge with others and expect to be helped reciprocally when they are in need in the future. Since guanxi and harmony are related (Leung *et al.*, 2002), it is quite awkward for Chinese employees (or managers) to decline others' requests for knowledge if they wish to preserve harmonious relationships. Knowledge sharing is thus an appropriate activity to engage in since it



provides an opportunity for employees to improve their mutual guanxi. Prior research has also found that guanxi could facilitate knowledge transfer (Ramasamy *et al.*, 2006). Thus, we hypothesise:

H4a: The stronger the guanxi orientation, the stronger the intention to share tacit knowledge.

H4b: The stronger the guanxi orientation, the stronger the intention to share explicit knowledge.

Since guanxi is based on and strengthened through interaction, tacit knowledge sharing could be better supported through direct interaction and interpersonal networking such as face-to-face social interaction and practical experiences (Herrgard, 2000). We believe that people with a high guanxi orientation focus more on human relationships and thus would be more likely to maintain close relationships with people around them. This in turn can create opportunities for tacit knowledge sharing.

H5: Guanxi orientation has a stronger impact on tacit knowledge-sharing intention than on explicit knowledge-sharing intention.

A common theme in our earlier discussion of face concerns the ways in which one can gain and save face. Chu (2006) suggests that one way in which one can gain face is to show one's strengths and advantages. Knowledge sharing provides an appropriate means for this display of strength/advantage to occur, thereby satisfying the need for people to gain face. Face-gaining activities are thus more proactive and require the subject to engage in activities which, it is hoped, will result in face gain. Face-saving activities; on the other hand, tend to be associated with avoiding situations such as conflicts or disagreements where face might be damaged. Knowledge sharing is an activity that can generate conflict, for example when there are differences of opinion about the value of the knowledge. Since Chinese employees will be loath to create an atmosphere of disharmony, they will also seek to avoid sharing knowledge that has a high potential for conflict. For this reason, if they are more inclined to save face, they are less inclined to share knowledge at all.

H6a: Face saving will have a negative effect on the intention to share tacit knowledge.

H6b: Face saving will have a negative effect on the intention to share explicit knowledge.

H7a: Face gaining will have a positive effect on the intention to share tacit knowledge.

H7b: Face gaining will have a positive effect on the intention to share explicit knowledge.

Based on their respective characteristics, explicit knowledge is much easier to codify and preserve formally than tacit knowledge (Dholakia *et al.*, 2002). Moreover, people find it much easier to obtain explicit knowledge from an information system or a document (Johnson *et al.*, 2002). Furthermore, explicit knowledge that has already been formally codified and stored in an electronic repository is generally taken as belonging to the organisation (which controls documents and formal systems). On the other hand, tacit knowledge is often perceived as being either an exclusively personal resource, or is shared by the organisation and its members (Jasimuddin *et al.*, 2005). Tacit knowledge is generally more personalised and includes important professional knowledge and precious experiences whereas explicit knowl-



edge is more common and 'embedded in standard procedures' (Dhanaraj *et al.*, 2004). Thus, we suggest that sharing tacit knowledge could embody one's ability to a greater extent than could sharing explicit knowledge and so more respect, pride and dignity can be claimed for the knowledge contributor. This leads to our last hypothesis:

H8: Face gaining has a stronger impact on the intention to share tacit knowledge than explicit knowledge.

## RESEARCH METHODOLOGY

### Measurement and data collection

Given the nature of our research model, it was appropriate for us to use a survey to collect data to test our hypotheses. We developed our questionnaire primarily from previously validated measures. Seven-point Likert scales ranging from 'strongly agree' to 'strongly disagree' were used to measure all items. The questions in section A measuring affect-based trust and cognition-based trust were derived from McAllister (1995). Section B includes the questions about guanxi orientation, which come from Zuo (2002). Questions in section C about face were divided into two parts: face saving and face gaining. Based on the literature, we developed new measures for face gaining based on prior research. Measures for face saving were based on the work of Cheung *et al.* (2001). The items in section D measuring intention to share tacit and explicit knowledge were adopted from previous research (Bock *et al.*, 2005). Since we collected data in China, it was appropriate to use a Chinese language questionnaire. Questions originally developed in English were translated into Chinese and then back-translated to ensure equivalence of meaning. The English version of the questionnaire is provided in the Appendix B. A face-validity pre-test on 19 randomly selected managers from different organisations was conducted before the formal data collection process. The results of this pre-test demonstrated the validity of the questionnaire and no changes were made.

The respondents to our survey are all part-time Master of Business Administration (MBA) students who are working full-time in Chinese organisations, many in senior positions. All the respondents had already taken KM courses in their first year of MBA study. Thus, while they undeniably constitute a convenience sample, they are also reasonably heterogeneous given that they are employed by a wide variety of different sized organisations and come from a number of different industry sectors. Given their academic experience with KM topics, we could be reasonably certain that they would understand our questions about knowledge sharing in the organisational context. The data was collected in two stages. In the first round, 200 students were invited to complete the questionnaire and 159 valid responses were received, giving a valid response rate of 79.5%. We later conducted a second round of data collection, inviting a further 61 students to complete the questionnaire, 45 (73.8%) of whom did so, for an aggregate response rate of 78.2%. We performed chi-square and *t*-tests to compare the two populations and found that they did not have any significant differences. We thus combined

**Table 1.** Demographic information

Measure	Items	Freq.	Percent
Gender	Female	50	24.51
	Male	154	75.49
Age	20–30	113	55.39
	31–40	87	42.65
	41–50	4	1.96
Industry	Manufacturing	60	29.41
	Finance	32	15.69
	Service	19	9.31
	Transportation	10	4.90
	Commerce	27	13.24
	Education	16	7.84
	Government	15	7.35
	Others	25	12.25
Position	Employee	78	38.24
	Department director	72	35.29
	Manager	44	21.57
	Others	10	4.90
Org size	50 or below	33	16.18
	51–100	27	13.24
	101–500	52	25.49
	501–1000	22	10.78
	1001 or more	70	34.31

these two sets of data to test the research model. Table 1 provides demographic information about the respondents.

### Data analysis and results

We used a structural equation modelling technique, partial least squares (PLS), to validate our research model. PLS is 'a second generation regression model that combines a factor analysis with linear regressions, making only minimal distribution assumptions' (Gefen, 2000). Given the exploratory nature of this investigation, the minimal distribution assumptions of PLS are more appropriate and so we considered that PLS was a suitable structural equation modelling technique. PLS-Graph Version 3.00 (PLS Soft Modeling Inc., Houston, TX, USA) was used to analyse our research model.

### Results of the measurement model

Based on two-stage analytical procedures (Hair *et al.*, 1998), we first conducted confirmatory factor analysis to obtain the measurement model. Second, we examined the structural relationships.

To validate our research model, content validity, convergent validity and discriminant validity were assessed. Content validity could be achieved if the measurement items were consistent

**Table 2.** Results of the confirmatory factor analysis

Measures	Items	Cronbach's alpha	Composite reliability	Average variance extracted
Cognition-based trust (CBT)	5	0.876	0.911	0.672
Affect-based trust (ABT)	5	0.876	0.891	0.621
Guanxi orientation (GXO)	6	0.901	0.928	0.686
Face gaining (FG)	2	0.768	0.896	0.812
Face saving (FS)	3	0.673	0.799	0.572
Tacit knowledge-sharing intention (TKSI)	3	0.756	0.865	0.684
Explicit knowledge-sharing intention (EKSI)	2	0.816	0.916	0.845

**Table 3.** Correlation between constructs

	CBT	ABT	GXO	FG	FS	EKSI	TKSI
CBT	0.820						
ABT	0.708	0.788					
GXO	0.375	0.404	0.828				
FG	0.152	0.152	0.423	0.901			
FS	-0.055	-0.151	-0.030	0.309	0.756		
EKSI	0.419	0.492	0.375	0.213	-0.146	0.919	
TKSI	0.410	0.484	0.499	0.279	-0.257	0.736	0.827

The shaded numbers in the diagonal row are the square roots of the average variance extracted.

with the extant literature. Convergent reliability could be assessed by examining composite reliability and average variance extracted from the measures (Hair *et al.*, 1998). As shown in Table 2, composite reliability ranges from 0.799 to 0.928 (i.e. above the recommended value of 0.7) (Chin, 1998). The average variance extracted ranges from 0.572 to 0.845, also above the 0.50 recommended level (Fornell & Larcker, 1981). Finally, discriminant validity was verified by examining the square root of the average variance extracted (Fornell & Larcker, 1981). The results in Table 3 confirm the discriminant validity: the square root of the average variance extracted for each construct was greater than the correlations between constructs.

### Results of the structural model

After examining the measurement model, we tested the proposed hypotheses with PLS. The results of the analysis are shown in Figure 2. Our research model explained 30.3% to 41.4% of the variance. We now discuss the results in detail.

The results show no significant relationships between cognition-based trust and explicit and tacit knowledge-sharing intention. So both Hypothesis 1a and Hypothesis 1b are not supported. Since affect-based trust is found to influence tacit knowledge-sharing intention ( $\beta = 0.235$ ,  $P < 0.05$ ) and explicit knowledge-sharing intention ( $\beta = 0.311$ ,  $P < 0.01$ ), both

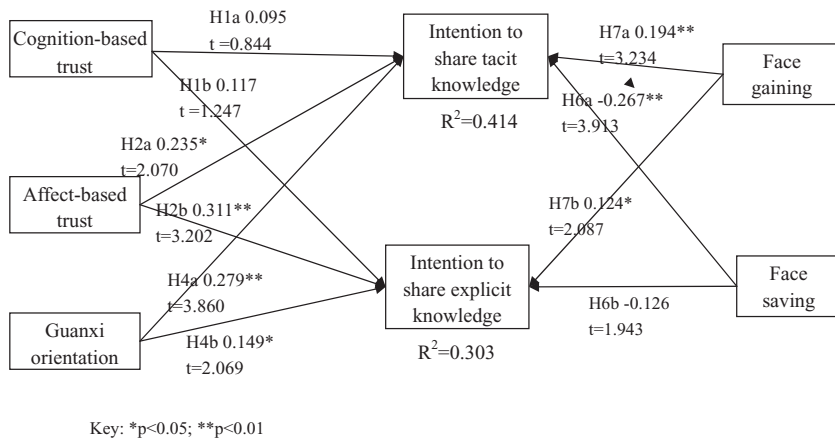


Figure 2. Results of the PLS analysis.

Hypothesis 2a and Hypothesis 2b are supported. Guanxi orientation has a significant effect on both tacit knowledge-sharing intention ( $\beta = 0.279$ ,  $P < 0.01$ ) and explicit knowledge-sharing intention ( $\beta = 0.149$ ,  $P < 0.05$ ), both Hypothesis 4a and Hypothesis 4b are supported. Face gaining was found to have significant relationships with both tacit knowledge-sharing intention ( $\beta = 0.194$ ,  $P < 0.01$ ) and explicit knowledge ( $\beta = 0.124$ ,  $P < 0.05$ ) sharing intention, thus Hypothesis 7a and Hypothesis 7b are supported. Meanwhile, face saving negatively influences only tacit knowledge-sharing intention ( $\beta = 0.267$ ,  $P < 0.01$ ), showing that Hypothesis 6a is supported while Hypothesis 6b is not supported.

To test Hypothesis 3, Hypothesis 5 and Hypothesis 8, we adopted the method suggested by Chin (2003) and Pavlou & Dimoka (2006). We separately evaluated the statistical difference between the two relationships using a  $t$ -test so as to compare their path coefficients. It is notable that Hypothesis 3 is not supported. The relationship between affect-based trust and tacit knowledge-sharing intention is weaker than the relationship between affect-based trust and explicit knowledge-sharing intention, with path coefficients significantly different ( $t = 7.369$ ,  $P < 0.01$ ). Hypothesis 5 is strongly supported because the relationship between guanxi orientation and tacit knowledge-sharing intention is much stronger than the relationship between guanxi orientation and explicit knowledge-sharing intention ( $t = 18.197$ ,  $P < 0.01$ ). Finally, Hypothesis 8 is supported because the relationship between tacit knowledge-sharing intentions and face gaining is stronger than the relationship between face gaining and explicit knowledge-sharing intentions ( $t = 11.842$ ,  $P < 0.01$ ).

We also used the same method as Chin (2003) and Pavlou & Dimoka (2006) to test which factors are more important to tacit and explicit knowledge-sharing intentions. Table 4 shows the  $t$ -values for each comparison. For tacit knowledge-sharing intentions, guanxi orientation and face saving are the two most important antecedents, followed by affect-based trust and face gaining. For explicit knowledge-sharing intentions, affect-based trust exerts the strongest

**Table 4.** Comparison of path coefficients

TKSI	t-values	EKSI	t-values
GXO → TKSI vs. FG → TKSI	12.922***	GXO → EKSI vs. FG → EKSI	3.826***
GXO → TKSI vs. ABT → TKSI	4.670***	GXO → EKSI vs. ABT → EKSI	-19.555***
GXO → TKSI vs. FS → TKSI	1.724	GXO → EKSI vs. FS → EKSI	3.391***
FS → TKSI vs. ABT → TKSI	3.4517***	FS → EKSI vs. ABT → EKSI	-26.160***
FS → TKSI vs. FG → TKSI	11.478***	FS → EKSI vs. FG → EKSI	0.325
FG → TKSI vs. ABT → TKSI	-4.561***	FG → EKSI vs. ABT → EKSI	-24.038***

ABT, affect-based trust; GXO, guanxi orientation; FG, face gaining; FS, face saving.

\*\*\* $P < 0.01$ .

impact, and guanxi orientation has a stronger impact than face saving and face gaining. The  $t$ -values between guanxi orientation and face saving for tacit knowledge-sharing intentions, and between face gaining and face saving for explicit knowledge-sharing intentions are not significant, so we cannot tell which one is the more important of these two factors. We summarise all the results of our findings in Appendix A.

## DISCUSSION

In this research, we have identified two major social and cultural antecedents of tacit and explicit knowledge-sharing intentions in the Chinese context, viz. face and guanxi orientation. Cognition-based trust has no significant effect on either tacit or explicit knowledge-sharing intentions. One possible explanation for this phenomenon is that if employee A has cognition-based trust with employee B, he might think B is capable so there is no need to share knowledge with B. Ng & Chua (2006) have suggested that a high level of cognition-based trust will lead to free riding because an employee may think that his/her colleagues are perfectly capable of completing a task successfully and unaided.

Prior research has found that both cognition-based trust and affect-based trust exert a positive effect on the intention to share knowledge (Huang *et al.*, 2006). What is now clear is that the dominant factor leading to knowledge-sharing intention is affect-based trust. This is reinforced by Holste (2003), who found that cognition-based trust leads a person into using knowledge while affect-based trust leads a person into sharing knowledge. Thus, we conclude that in the area of sharing knowledge, affect-based trust does play a key role.

Contrary to our expectation, affect-based trust has a stronger influence on explicit knowledge-sharing intentions than on tacit knowledge-sharing intentions. This may relate to loss of knowledge power. Although affect-based trust could encourage people to help each other by offering them useful knowledge, we should also acknowledge that tacit knowledge may be derived from highly valued personal experiences; sharing this knowledge may be perceived as causing the contributor to lose either status in or value for the organisation. On

the other hand, explicit knowledge that has been relatively easily obtained can be shared with a greater degree of comfort and less risk of negative impact.

We found that face gaining has a significantly stronger effect on tacit knowledge-sharing intentions than on explicit knowledge-sharing intentions. Therefore, we conclude that Chinese employees engage in both tacit and explicit knowledge sharing out of a desire to gain face, with the sharing of tacit knowledge particularly likely to make them feel satisfied. Face saving's negative effect on the intention to share tacit knowledge is stronger than it is on the intention to share explicit knowledge. One possible explanation for this is that explicit knowledge which might be shared in the organisation relates to some standard knowledge, such as official documents, methodologies and so on, and the likelihood of making mistakes or causing conflict during the sharing of this kind of knowledge is much lower than for tacit knowledge sharing. If people are afraid of losing face, then inclination to save face will block tacit knowledge-sharing intentions to a greater extent.

Finally, we find that different factors have different levels of impact on tacit and explicit knowledge-sharing intentions. For tacit knowledge-sharing intentions, guanxi orientation and face saving have a much stronger impact. Affect-based trust's impact on tacit knowledge-sharing intentions has a greater effect than face gaining's impact, suggesting that Chinese people are conservative in their knowledge-sharing behaviour. For explicit knowledge-sharing intentions, affect-based trust has the most significant impact. Face gaining has a greater effect than face saving, which is consistent with prior research (Hwang *et al.*, 2003), where it was suggested that people who want to gain face will prefer to use formal communication channels to display their knowledge.

## IMPLICATIONS FOR THEORY

This study makes a contribution to theory in terms of the antecedents of the intention to share tacit and explicit knowledge in Chinese organisations. Trust, guanxi orientation and face are all identified as potential sources of influence on employees' intention to share tacit and explicit knowledge. This is an important contribution because hitherto little research has investigated knowledge-sharing practices in the Chinese context, and so the antecedents of knowledge sharing have not been apparent. Indeed, it is notable that tacit and explicit knowledge-sharing intentions could be affected in different ways. We not only compare the relative importance of the antecedents of explicit and tacit knowledge-sharing intention, but also analyse the same factors' different impacts on tacit knowledge and explicit knowledge-sharing intentions, producing a more sophisticated understanding of each factor's role with respect to knowledge-sharing intention.

Unlike other research that has focused on knowledge sharing, we have also introduced two Chinese cultural factors – guanxi orientation and face – which are prevalent in the social life of the Chinese people. Understanding how these two factors function in knowledge sharing should greatly enhance our understanding of knowledge-sharing topics, especially in the

Chinese context. Finally, we found that face has a compound effect on knowledge-sharing intentions with face saving exerting a stronger negative effect on tacit knowledge-sharing intentions.

## IMPLICATIONS FOR PRACTICE

Although the scope of this study is restricted to the Chinese context, we suggest that a harmonious working environment is a critical facilitator of effective tacit knowledge sharing in organisations. Such an environment has the potential to make employees feel comfortable to communicate with each other freely. In this context, affect-based trust and *guanxi* may be developed and strengthened. Moreover, managers need to highlight how sharing knowledge can help employees to gain face – a socially important activity in Chinese societies – and thereby encourage employees to share their knowledge.

Organisations which particularly value the sharing of explicit knowledge need to focus their attention on the facilitation of affect-based trust and face-gaining behaviours. Managers can usefully encourage employees both to engage in mutual interaction and to cultivate their sense of identity within the organisation, since this can facilitate employees establishing affect based trust with each other (McAllister, 1995).

Although the limitations of IT-supported knowledge-sharing initiatives have already been acknowledged (cf. Lu *et al.*, 2006), these findings do have implications for the design of IT-driven knowledge-sharing platforms. For example, in order to avoid the face-saving behaviours that are associated with tacit knowledge not being shared, an interface design that permits anonymous knowledge sharing may be welcomed. At the same time, highly rated knowledge items can be 'voted for' as a sign of appreciation (face gaining) and a 'share with friends' feature can be enabled as a way of stimulating *guanxi* development.

The key findings of this study are relevant to the way knowledge is shared in organisations. Face gaining and saving have already been identified as critical characteristics of Chinese society. In consequence, potential knowledge contributors who want to gain face may be more comfortable to contribute their knowledge in an open, identified manner. In contrast, potential knowledge contributors who are more concerned with saving their face and avoiding conflict may be more comfortable contributing knowledge anonymously. Moreover, the importance of *guanxi* orientation suggests that individual employees may prefer to share knowledge with members of their *guanxi* network and with whom they have developed affect-based trust, but not with relative strangers. This is problematic, since knowledge shared within the organisation is generally assumed (at least by the organisation itself) to be a form of public good (Lu *et al.*, 2006), not a private good that can be restricted to certain individuals. Overcoming this issue may be as much to do with organisational culture as personal preferences.

## LIMITATIONS AND FUTURE RESEARCH

There are a number of limitations that should be discussed. First, the individual employee in a Chinese organisation is our object of investigation. However, the factors in this research,



including trust, face and guanxi, are both mutually interrelated and interwoven elements in the highly nuanced and dynamic knowledge-sharing process that characterises Chinese firms. Given the natural richness and complexity of the research context, it is clearly not possible to embody all aspects of reality through survey-based research. Nor is it safely possible to generalise the research findings beyond the Chinese context, though this is a limitation that applies to all geographically restricted research designs. Second, we only focused on knowledge sharing that occurred between individuals in organisations, without considering psychosocial factors such as the relative proximity of dyadic pairs in a knowledge-sharing arrangement and aspects of professional and organisational culture, though these factors could have exerted a significant impact on the intention to share knowledge.

Based on the limitations we list above, we suggest that future research should incorporate a variety of methodological approaches (e.g. intensive case studies, surveys and ethnographic techniques) to investigate: how do factors such as face and guanxi orientation affect knowledge-sharing intention, as well as the eventual knowledge-sharing behaviour? What are the organisational impacts of knowledge sharing? How do differences between tacit and explicit knowledge-sharing processes manifest themselves? How can IT applications facilitate the sharing of tacit knowledge?

## CONCLUSIONS

Knowledge sharing is increasingly recognised as a critical issue for organisations globally, and this is no less true in China. However, knowledge-sharing practices in Chinese organisations have been the focus of relatively little attention to date and in consequence we have known little about the relative importance of the antecedents of knowledge sharing. The results of the current research indicate that affect-based trust, guanxi orientation and face exert a significant impact on both tacit and explicit knowledge-sharing intentions. In addition, the three factors exert different impacts on both tacit and explicit knowledge sharing. While these findings are primarily relevant to Chinese organisations, non-Chinese organisations that are considering establishing a presence in China, where most of their employees will be local, should also heed them (cf. Davison *et al.*, 2008). Furthermore, the results can usefully be tested in other cultural contexts that both share a Confucian heritage (such as Japan, Korea, Singapore and Taiwan) where guanxi, face and trust are rated as significant influences in the knowledge-sharing environment.

## REFERENCES

- Abrams, L.C., Cross, R., Lesser, E. & Levin, D.Z. (2003) Nurturing interpersonal trust in knowledge-sharing networks. *Academy of Management Executive*, **17**, 64–76.
- Ardichvili, A., Maurer, M., Li, W., Wentling, T. & Stuedemann, R. (2006) Cultural influences on knowledge sharing through online communities of practice. *Journal of Knowledge Management*, **10**, 94–107.
- Bock, G.W., Zmud, R.W., Kim, Y.-G. & Lee, J.-N. (2005) Behavioral intention formation in knowledge sharing: examining the roles of extrinsic motivators,

- social-psychological forces, and organizational climate. *MIS Quarterly*, **29**, 87–111.
- Burrows, G.R., Drummond, D.L. & Martinsons, M.G. (2005) Knowledge management in China. *Communications of the ACM*, **48**, 73–76.
- Chen, X.P. & Chen, C.C. (2004) On the intricacies of the Chinese guanxi: a process model of guanxi development. *Asia Pacific Journal of Management*, **21**, 305–324.
- Cheung, F.M., Leung, K., Zhang, J.-X., Sun, H.-F., Gan, Y.-Q., Song, W.-Z. *et al.* (2001) Indigenous Chinese personality constructs: is the five-factor model complete? *Journal of Cross-Cultural Psychology*, **32**, 407–433.
- Chin, W.W. (1998) The partial least squares approach to structural equation modeling. In: *Modern Methods for Business Research*, Marcoulides, G.A. (ed.), pp. 295–336. Lawrence Erlbaum Associates, Mahwah, NJ, USA.
- Chin, W.W., Marcolin, B.L. & Newsted, P.R. (2003) A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study. *Information Systems Research*, **14**, 189–217.
- Chow, I.H.S. & Ng, I. (2004) The characteristics of Chinese personal ties (Guanxi): evidence from Hong Kong. *Organization Studies*, **25**, 1075–1093.
- Chow, C.W., Deng, F.J. & Ho, J.L. (2000) The openness of knowledge sharing within organizations: a comparative study of the United States and the People's Republic of China. *Journal of Management Accounting Research*, **12**, 65–95.
- Chowdhury, S. (2005) The role of affect-and cognition-based trust in complex knowledge sharing. *Journal of Managerial Issues*, **17**, 310–326.
- Chu, R.L. (2006) Social interactions among the Chinese: on the issue of face. In: *Chinese Social Psychological Review*, Vol. 2, Zhai, X. (ed.), pp. 79–106. Social Science Academic Press (China), Beijing, China.
- Davison, R.M., Sia, S.K. & Dong, X.Y. (2008) Introduction to the special issue on information systems in China. *Information Systems Journal*, **18**, 325–330.
- Dhanaraj, C., Lyles, M.A., Steensma, H.K. & Tihanyi, L. (2004) Managing tacit and explicit knowledge transfer in IJVs: the role of relational embeddedness and the impact on performance. *Journal of International Business Studies*, **35**, 428–442.
- Dholakia, U.M., Basuroy, S. & Soltysinski, K. (2002) Action or agent (or both)? A study of moderators of the herding bias in digital auctions. *International Journal of Research in Marketing*, **19**, 115–130.
- Doney, P.M., Cannon, J.P. & Mullen, M.R. (1998) Understanding the influence of national culture on the development of trust. *Academy of Management Review*, **23**, 601–620.
- Epstein, L.D. (2000) *Sharing knowledge in organizations: how people use media to communicate*. Unpublished PhD, University of California, Berkeley.
- Fornell, C. & Larcker, D.F. (1981) Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, **18**, 39–50.
- Gefen, D. (2000) Structural equation modeling and regression: guidelines for research practice. *Communications of AIS*, **4**, 1–77.
- Hair, J.F., Anderson, R.E., Tatham, R.L. & Black, W.C. (1998) *Multivariate Data Analysis*. Prentice Hall, Englewood Cliffs, NJ, USA.
- Herrgard, T.H. (2000) Difficulties in diffusion of tacit knowledge in organizations. *Journal of Intellectual Capital*, **1**, 357–365.
- Ho, D.Y.-F. (1976) On the concept of face. *The American Journal of Sociology*, **81**, 867–884.
- Holste, J.S. (2003) *A study of the effects of affect-based trust and cognition-based trust on intra-organizational knowledge sharing and use*. Unpublished PhD, Regent University, Virginia Beach.
- Holste, J.S. & Fields, D. (2005) The relationship of affect and cognition based trust with sharing and use of tacit knowledge. *Academy of Management Best Conference Paper*, Honolulu, Hawaii, USA.
- Huang, Q., Davison, R.M., Liu, H.F. & Gu, J.B. (2006) The impact of management style on the intention to share knowledge in China. *Proceedings of the 10th Pacific Asia Conference on Information Systems*, Kuala Lumpur, Malaysia.
- Huang, Q., Davison, R.M. & Gu, J. (2008) Impact of personal and cultural factors on knowledge sharing in China. *Asia Pacific Journal of Management*, **25**, 451–471.
- Hwang, K.K. (1987) Face and favor: the Chinese power game. *The American Journal of Sociology*, **92**, 944–974.
- Hwang, A., Francesco, A.M. & Kessler, E. (2003) The relationship between individualism-collectivism, face, and feedback and learning processes in Hong Kong, Singapore, and the United States. *Journal of Cross-Culture Psychology*, **34**, 72–91.
- Jacobs, J.B. (1980) The concept of guanxi and local politics in a rural Chinese cultural setting. In: *Social Interaction in Chinese Society*, Greenblatt, S.L., Wilson, R.W. & Wilson, A.A. (eds), pp. 209–236. Praeger, New York, USA.

- Jasimuddin, S.M., Klein, J.H. & Connell, C. (2005) The paradox of using tacit and explicit knowledge: strategies to face dilemmas. *Management Decision*, **43**, 102–112.
- Johnson, B., Lorenz, E. & Lundvall, B.A. (2002) Why all this fuss about codified and tacit knowledge? *Industrial and Corporate Change*, **11**, 245–262.
- King, A.Y.-C. (1988) Face, shame and the analysis of behavior patterns of the Chinese. In: *The Psychology of the Chinese*, Yang, G.S. (ed.), pp. 319–345. Guiguan Press, Taipei, Taiwan.
- Ko, A.S.O. (2005) Organizational communications in Hong Kong: a cultural approach to groupthink. *Corporate Communications: An International Journal*, **10**, 351–357.
- Kogut, B. & Zander, U. (1992) Knowledge of the firm, combinative capabilities, and the replication of technology. *Organization Science*, **3**, 383–397.
- Komiak, S.Y.X. & Benbasat, I. (2006) The effects of personalization and familiarity on trust and adoption of recommendation agents. *MIS Quarterly*, **30**, 941–960.
- Koskinen, K.U., Pihlanto, P. & Vanharanta, H. (2003) Tacit knowledge acquisition and sharing in a project work context. *International Journal of Project Management*, **21**, 281–290.
- Leung, T.K.P. & Chan, R.Y.-K. (2003) Face, favor and positioning – a Chinese power game. *European Journal of Marketing*, **37**, 1575–1598.
- Leung, K., Koch, P.T. & Lu, L. (2002) A dualistic model of harmony and its implications for conflict management in Asia. *Asia Pacific Journal of Management*, **19**, 201–220.
- Lewis, J.D. & Weigert, A. (1985) Trust as a social reality. *Social Forces*, **63**, 967–985.
- Lu, L., Leung, K. & Koch, P.T. (2006) Managerial knowledge sharing: the role of individual, interpersonal, and organizational factors. *Management and Organization Review*, **2**, 15–41.
- Martinsons, M.G. (2008) Relationship-based e-commerce: theory and evidence from China. *Information Systems Journal*, **18**, 331–356.
- McAllister, D.J. (1995) Affect- and cognition-based trust as foundations for interpersonal cooperation in organizations. *Academy of Management Journal*, **38**, 24–59.
- McInerney, C. (2002) Knowledge management and the dynamic nature of knowledge. *Journal of the American Society for Information Science and Technology*, **53**, 1009–1018.
- Nahapiet, J. & Ghoshal, S. (1998) Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, **23**, 242–266.
- Ng, K.Y. & Chua, R.Y.J. (2006) Do I contribute more when I trust more? Different effects of cognition- and affect-based trust. *Management and Organization Review*, **2**, 43–66.
- Nonaka, I. & Konno, N. (1998) The concept of 'ba': building a foundation for knowledge creation. *California Management Review*, **40**, 40–54.
- Pavlou, P.A. & Dimoka, A. (2006) The nature and role of feedback text comments in online marketplaces: implications for trust building, price premiums, and seller differentiation. *Information Systems Research*, **17**, 392–416.
- Ramasamy, B., Goh, K.W. & Yeung, M.C.H. (2006) Is guanxi (relationship) a bridge to knowledge transfer? *Journal of Business Research*, **59**, 130–139.
- Snowden, D. (2008) Rendering knowledge: the seven principles of knowledge management. [WWW document]. URL [http://www.cognitive-edge.com/blogs/dave/2008/10/rendering\\_knowledge.php](http://www.cognitive-edge.com/blogs/dave/2008/10/rendering_knowledge.php).
- Tan, H.H. & Chee, D. (2005) Understanding interpersonal trust in a Confucian-influenced society: an exploratory study. *International Journal of Cross Cultural Management*, **5**, 197–212.
- Voelpel, S.C. & Han, Z. (2005) Managing knowledge sharing in China: the case of Siemens sharenet. *Journal of Knowledge Management*, **9**, 51–63.
- Westrup, C. & Liu, W. (2008) Both global and local: ICTs and joint ventures in China. *Information Systems Journal*, **18**, 427–443.
- Yang, K. (2005) Chinese social orientation: a social interactional approach. In: *Chinese Social Psychological Review*, Vol. 1, Yang, Y. (ed.), pp. 21–54. Social Science Academic Press (China), Beijing, China.
- Yang, M.M.H. (1994) *Gifts, Favors, and Banquets: The Art of Social Relationships in China*. Cornell University Press, Ithaca, NY, USA.
- Yum, J.O. (1988) The impact of Confucianism on interpersonal relationships and communication patterns in East Asia. *Communication Monographs*, **55**, 374–388.
- Zuo, B. (2002) The Chinese relation orientation: concept and its measurement. *Journal of Central China Normal University (Humanities and Social Sciences)*, **41**, 74–80.

## Biographies

**Qian Huang** is a Senior Research Assistant at the City University of Hong Kong. She has published papers in the *Journal of Global Information Management*, the *Asia Pacific Journal of Management* and several international

conferences. Her research focuses on e-commerce and knowledge management in China.

**Robert Davison** is an Associate Professor of Information Systems at the City University of Hong Kong. His current research focuses on virtual Knowledge Management and Collaboration in Chinese SMEs. He has published over 50 articles in a variety of journals such as the *Information Systems Journal*, *Information Technology & People*, *IEEE Transactions on Engineering Management*, *Decision Support Systems*, *Journal of the AIS*, *Communications of the AIS*, *Communications of the ACM* and *MIS Quarterly*. Robert is the Editor-in-Chief of the *Electronic Journal of Information Systems in Developing Countries*, a Senior Editor for the *Information Systems Journal*, Co-editor of *Information Technology & People* and Asso-

ciate Editor of *MIS Quarterly*. He has also edited special issues of the *IEEE Transactions on Engineering Management* (Cultural Issues and IT Management), the *Communications of the ACM* (Global Application of Collaborative Technologies), *Information Technology & People* (Virtual Work, Teams and Organisations) and the *Information Systems Journal* (Information Systems in China). For more details see: <http://www.is.cityu.edu.hk/staff/isrobert>

**Jibao Gu** is an Associate Professor in the School of Management at the University of Science and Technology of China. He is also the director of the MBA Center of the University. His research mainly focuses on organisational strategy management. His work has appeared in many Chinese core management journals, e.g. *Forecasting* and *China Soft Science Magazine*.

## APPENDIX A

Findings		
H1a	Cognition-based trust will have a positive effect on tacit knowledge-sharing intention	NS
H1b	Cognition-based trust will have a positive effect on explicit knowledge-sharing intention	NS
H2a	Affect-based trust will have a positive effect on tacit knowledge-sharing intention	S
H2b	Affect-based trust will have a positive effect on explicit knowledge-sharing intention	S
H3	Affect-based trust has a stronger effect on tacit knowledge-sharing intention than explicit knowledge-sharing intention.	NS
H4a	The stronger the guanxi orientation is, the stronger the intention to share tacit knowledge will be.	S
H4b	The stronger the guanxi orientation is, the stronger the intention to share explicit knowledge will be.	S
H5	Guanxi orientation has a stronger impact on tacit knowledge-sharing intention than explicit knowledge-sharing intention.	S
H6a	Face saving will have a negative effect on the intention to share tacit knowledge.	S
H6b	Face saving will have a negative effect on the intention to share explicit knowledge.	NS
H7a	Face gaining will have a positive effect on the intention to share tacit knowledge.	S
H7b	Face gaining will have a positive effect on the intention to share explicit knowledge.	S
H8	Face gaining will have a stronger impact on the intention to share tacit knowledge than explicit knowledge.	S
Other findings (sequence of the antecedents, from more significant to less significant)		
Tacit knowledge-sharing intentions	(Guanxi orientation, face saving), affect-based trust, face gaining	
Explicit knowledge-sharing intentions	Affect-based trust, guanxi orientation, (face gaining, face saving)	
Factors in parentheses cannot be separated in terms of which one exerts a more significant influence on tacit or explicit knowledge-sharing intention.		

## APPENDIX B

### Measurement items

Face saving: (Cheung *et al.*, 2001)

- 1 I pay a lot of attention to how others see me.
- 2 I am usually very particular about the way I dress because I do not want others to look down on me.
- 3 I feel a loss of face when others turn down my favour.

Face gaining:

- 1 Sharing knowledge with my colleagues will make me gain face
- 2 I would like to share my knowledge in public, because it will make me gain face

Guanxi Orientation: (Zuo, 2002)

- 1 We expect that our friends will help us in our social life
- 2 Chinese society is composed of a kind of personal guanxi net
- 3 I enjoy life that includes human concern and kindness
- 4 Personal guanxi is an important resource in career development
- 5 People should get on with each other harmoniously
- 6 I will try to build a good relationship with my colleagues and supervisors.

Affect-based trust (McAllister, 1995)

- 1 I have a sharing relationship with the members of my work team. We can all freely share our ideas.
- 2 I can talk freely with my colleagues about difficulties I am having with my work.
- 3 If one of the members of my work team was transferred to work in a different team, I would feel unhappy because I enjoy working with them all.
- 4 If I share my problems with my team members, I know that they will respond constructively and caringly.
- 5 I believe that the members of my work team have made considerable emotional investments in our working relationship.

Cognition-based trust (McAllister, 1995)

- 1 My colleagues approach their work with professionalism and dedication.
- 2 I believe that my colleagues are well prepared and competent to do their work.
- 3 I can rely on my colleagues not to make my job more difficult by careless work.
- 4 I trust and respect my colleagues.
- 5 I consider my colleagues to be trustworthy.

Intention to share explicit knowledge (Bock *et al.*, 2005)

- 1 I will share my work reports and official documents with members of my organisation more frequently in the future.

2 I will always provide my manuals, methodologies and models for members of my organisation.

Intention to share tacit knowledge (Bock *et al.*, 2005)

1 I intend to share my experience or know-how from work with other organisational members more frequently in the future.

2 I will always provide my know-where or know-whom at the request of other organisational members.

3 I will try to share my expertise from my education or training with other organisational members in a more effective way.