

Social network, social trust and shared goals in organizational knowledge sharing

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ABSTRACT

The aim of our study was to further develop an understanding of social capital in organizational knowledge-sharing. We first developed a measurement tool and then a theoretical framework in which three social capital factors (social network, social trust, and shared goals) were combined with the theory of reasoned action; their relationships were then examined using confirmatory factoring analysis. We then surveyed of 190 managers from Hong Kong firms, we confirm that a social network and shared goals significantly contributed to a person's volition to share knowledge, and directly contributed to the perceived social pressure of the organization. The social trust has however showed no direct effect on the attitude and subjective norm of sharing knowledge.

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1. Introduction

Today, a firm's employees must share their knowledge; indeed, such activities have become a competitive necessity. However sharing is hard to ensure, because knowledge is generated and initially stored within the employees. Early initiatives in knowledge management focused on providing electronic databases, network systems, and software to encourage the distribution of knowledge but these mechanisms have proved far from satisfactory. More recent efforts have focused on socio-cognitive approaches to motivate behavior that would help in promoting knowledge sharing, including factors such as incentive rewards, trust, relationships, etc.

Knowledge sharing involves a set of behaviors that aid the exchange of acquired knowledge. A firm can be considered to be a social community creating, sharing and transferring explicit and tacit knowledge. The main objective of knowledge management is thus to turn individual knowledge into organizational knowledge [12,15]. But what makes organizational members willing to share their knowledge? Some studies have shown, by applying the theory of reasoned action (TRA), that success depends on a combination of volition and leadership. Extrinsic rewards, anticipated reciprocal relationships, a sense of self-worth, and organizational climate encourage sharing of knowledge; Wong et al. [25] suggested that building a long-term positive relationship with employees helped generate organizational knowledge. Ramasamy et al. [17] showed

statistically that relationship building played a significant role in knowledge sharing between organizations. Many authors have also theorized that social capital contributes to knowledge sharing, while research has shown that such behavior is based on employees' volition to share and perceived social pressure from the organization. Thus, we wanted to consider whether social capital played the same role in both decision functions. And, if so, which social capital factors had the greater influence. The objectives of our study were thus to (1) study how to quantify social capital, and (2) develop a theoretical framework to confirm that social capital factors had a significant impact on knowledge sharing.

Our theoretical framework therefore examined the influence of the role played by social capital factors of organizational members that would increase or decrease their voluntary knowledge sharing, and influence it through behavioral change.

2. Theoretical background

Our model was based on social capital factors and the TRA model.

2.1. Knowledge

Knowledge can be considered either *tacit* or *explicit*. Here, we considered both to be equally important parts of organizational knowledge.

2.2. Social capital

Social capital exists in the relationships between people [16]. It has been used to explain a variety of pro-social behaviors, like

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Table 1
Literature involving social capital factors

Literature	Structural dimension	Relational dimension	Cognitive dimension	Nature of research
Chua [2]	Social tie establishment; frequency of interaction	Trust; empathy; willingness to help; openness to sharing/criticism; group identity	Shared language; shared narrative	Knowledge creation
Hoffman and Michailova [6]	Information channel; moral infrastructure	Social norms; obligations and expectations; identity	–	Knowledge management and sharing
Huysman and De Wit [7]	Network ties; network configurations; appropriable organization	Mutual trust; norms; obligations and identification	Shared codes and language; shared narratives	Knowledge sharing
Inken and Tsang [9]	Network ties, network configurations, network stability	Trust	Shared goals; shared culture	Knowledge transfer
Lang [11]	Bounded solidarity	Generalized trust; reciprocity	Value introjection	Knowledge integration
Liu and Besser [13]	Social ties	Generalized trust; norms or expectations	–	Knowledge sharing
Nahapiet and Ghoshal [14]	Network ties, network configurations, appropriable organization	Trust; norms; obligations and expectations; identification	Shared codes and language; shared narratives	Knowledge exchange and creation
Requena [18]	Social relations	Trust; commitment; communication; influence	–	Quality of life in the workplace
Seibert and Liden [19]	Weak ties; structural holes	Contacts in other functions; contacts at higher levels	–	Career success
Wasko and Faraj [24]	Centrality	Commitment; reciprocity	Self-rated expertise; tenure in the field	Knowledge contribution
Tsai and Ghoshal [21]	Social interaction	Trust and trustworthiness	Shared vision	Resource exchange and value creation
Yli-Renko et al. [26]	Social interaction; relationship quality; customer network ties	–	–	Knowledge acquisition and exploitation
Factors considered in our study	Network configuration (labeled “social network”)	Trust (labeled “social trust”)	Shared goals	Knowledge sharing

collective action and community involvement. Coleman [3] claimed that it helped in promoting actions between persons or corporations.

Social capital comes with many attributes have been collected into three clusters: structural, relational, and cognitive. The *structural* dimension [5] involves social and network relations whose connections define who can be reached and how; factors in this dimension measure the network pattern, density, connectivity, and hierarchy [20]. The *relational* dimension describes the level of trust between people developed during interactions: norms, obligations, trust, and identification raise awareness of actors toward their collective goals. The *cognitive* dimension refers to resources increasing understanding between parties. Wasko and Faraj [24] claimed that knowledge sharing required shared understanding; for example, shared culture and goals were important factors.

Table 1 shows important literature in these three dimensions the last row indicates the equivalent social capital factor of our study. It is shows that network configuration, trust, and shared goals were used to measure the performance of the structural, the relational and the cognitive dimensions. We adopted these three social factors to represent the three dimensions of social capital with “network configuration” renamed as “social network” and “trust” as “social trust”.

2.3. Theory of reasoned action (TRA)

TRA [4] states: (1) the more favorable the attitude of an individual toward a behavior, the stronger will be the intention of the individual to engage in the behavior; (2) the greater the subjective norm, the stronger the intention of the individual to perform the behavior; and (3) the stronger the intention of the individual to engage in a behavior, the more likely the individual will be to perform it. TRA has been successfully applied in many

research studies in social psychology, knowledge management, medical studies, and IT adoption [8].

3. The research model and hypotheses

Fig. 1 shows our research model, which integrated social capital factors with the TRA. In an organizational context, people establish many direct contacts with others if the organizational structure is flat and decentralized. In our study, the social network provided increased opportunities for interpersonal contact. People had more positive feelings about sharing ideas and resources with those with whom they had developed a close relationship. This lead to our first hypothesis:

H1. The more extensive the social network among organizational members, the more favorable will be the attitude toward knowledge sharing.

Organizational members who had a more extensive social network with their colleagues would perceive greater social pressure for sharing their knowledge, because a good relationship results in high expectations of colleagues, including favorable actions. Thus, people who build a social network may be expected to share their knowledge. This lead to our second hypothesis:

H2. The more extensive the social network among organizational members, the more favorable will be the subjective norm with respect to knowledge sharing.

Many studies have suggested that social trust or mutual trust among members is one of many factors critical to the success of knowledge sharing. Social trust in an organization improves interactions between colleagues; people want not only to learn from each other and share their knowledge. This lead to our third hypothesis:

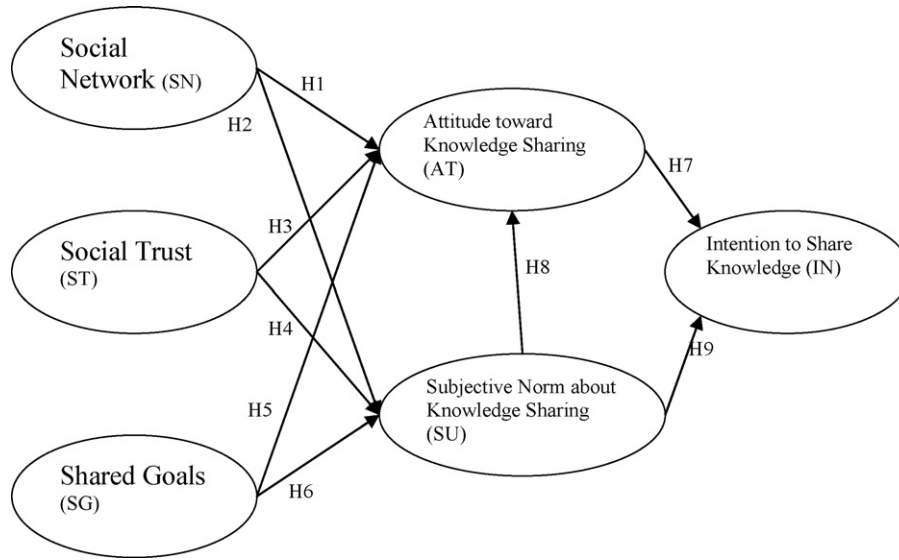


Fig. 1. Confirmatory factor analysis model and hypotheses.

H3. The greater the social trust among organizational members, the more favorable will be the attitude toward knowledge sharing.

The level of social trust influences expectations of a colleague's intention and behavior. Organizational members are thus more likely to expect those who are trustworthy to share their knowledge. This lead to our fourth hypothesis:

H4. The greater the social trust among organizational members, the more favorable will be the subjective norm with respect to knowledge sharing.

The presence of shared goals promotes mutual understanding and exchange of ideas. Shared goals can thus be considered the force that holds people together and lets them share what they know. Within an organization, shared goals can be achieved through cooperation and knowledge sharing [23]. This lead to our fifth hypothesis:

H5. The greater the shared goals among organizational members, the more favorable will be the attitude toward knowledge sharing.

With collective goals, organizational members tend to believe that other employee's self-interest will not affect them adversely and they all contribute their knowledge to help achieve their mutual goals. This lead to our sixth hypothesis:

H6. The greater the shared goals among organizational members, the more favorable will be the subjective norm with respect to knowledge sharing.

Personal attitudes toward a behavior are a significant predictor of intention to engage in that behavior and behavioral intention to share knowledge is determined by a person's attitude toward knowledge sharing. This lead to our seventh hypothesis:

H7. The more favorable the organizational members' attitude toward knowledge sharing, the greater will be the intention to share knowledge.

The subjective norm influences people's attitudes toward sharing knowledge; that is, people who perceive greater social pressure to share knowledge have a more positive attitude toward it. This lead to our eighth hypothesis:

H8. The greater the organizational members' subjective norm with respect to knowledge sharing, the more favorable will be the attitude toward knowledge sharing.

The subjective norm is also the other important antecedent of behavioral intention. Many studies have reported that it has a strong and positive effect on the intention to perform a behavior. The impact of the subjective norm on the intention to share knowledge is also a significant influencing factor in knowledge sharing. This lead to our ninth hypothesis:

Table 2 Demographic and organizational information of respondents*

Measure	Items	Frequency	Percent
(a) Demographic information of respondents			
Gender	Male	94	49.5
	Female	96	50.5
Education	Secondary	49	25.8
	Undergraduate	67	35.3
	Postgraduate	67	35.3
	Missing	7	3.7
Work experience (in years)	<1	1	0.5
	1–5	67	35.3
	6–10	50	26.3
	11–15	37	19.5
	16–20	14	7.4
	>20	17	8.9
	Missing	4	2.1
Position	Top manager	14	7.4
	Middle manager	84	44.2
	Operational manager	84	44.2
	Missing	8	4.2
Age	≤25	30	15.8
	26–35	100	52.6
	36–45	45	23.7
	46–55	8	4.2
	> 5	3	1.6
	Missing	4	2.1

Table 2 (Continued)

Measure	Items	Frequency	Percent
(b) Organizational information			
Type of industry	Academic/education	10	5.3
	Banking/finance/insurance	14	7.4
	Computers/tele-communications/Networking	17	8.9
	Electrics/electronics	11	5.8
	Engineering/architecture	7	3.7
	Manufacturing	17	8.9
	Mass media/publishing	2	1.1
	Medicine/health	3	1.6
	Real estate	4	2.1
	Restaurant/hotel	4	2.1
	Retail/wholesale	8	4.2
	Textile/garment	7	3.7
	Transport/shipping/logistics	39	20.5
	Utilities	3	1.6
	Others	41	21.6
	Missing	3	1.6
Size (number of employees)	<100	56	29.5
	100–249	16	8.4
	250–499	7	3.7
	500–999	15	7.9
	1000–2499	26	13.7
	≥2500	58	30.5
	Missing	12	6.3
Operational period of the organization (in years)	<1	14	7.4
	1–5	47	24.7
	6–10	19	10.0
	11–15	13	6.8
	16–20	14	7.4
	>20	70	36.8
	Missing	13	6.8
Market value of organizational assets (HK\$ in million)	<10	33	17.4
	10–49.9	18	9.5
	50–99.9	17	8.9
	100–499.9	20	10.5
	500–999.9	11	5.8
	≥1000	37	19.5
	Missing	54	28.4
Average organizational annual income (HK\$ in millions)	<10	39	20.5
	10–49.9	33	17.4
	50–99.9	10	5.3
	100–499.9	23	12.1
	500–999.9	8	4.2
	≥1000	28	14.7
	Missing	49	25.8

* Sample size = 190.

H9. The higher the organizational members' subjective norm with respect to knowledge sharing, the greater will be the intention to share knowledge.

4. Research methodology and analysis

To test the model, we adopted a survey method for data collection and examined the hypotheses using structural equation modeling (SEM) on the data.

4.1. Measurement and data collection

We developed measurement items by adopting measures that had been validated in prior studies, modifying them to fit our context of knowledge sharing. Appendix A outlines the definitions of the constructs, while Appendix B lists the questions.

For the construct of social network, three measurement items were derived from one question each from three studies [2,18,22]. The measurement items for shared goals were based on one question from [10] and two from [21]. The measurement items for the attitude toward knowledge sharing, the subjective norm with respect to knowledge sharing, and the intention to share knowledge were all adopted from [1] by simplifying their measuring items about the respondents' *normative beliefs on knowledge sharing* into three items. The measurement of *intention to share knowledge* was composed of two items about the explicit knowledge and three about tacit knowledge.

Respondents were asked to evaluate the significance of measurement items using a Likert scale of 1–5, where a value of 5 represented “strongly agree,” and 1 represented “strongly disagree.”

The study sample consisted of Hong Kong managers randomly selected from the directory of *D&B Key Decision Makers in Hong Kong 2004/05*. Direct telephone conversations with representatives of these companies were first made to introduce our objectives and to ask the names of appropriate persons to contact for the survey. A total of 136 companies agreed to participate and a total of 582 questionnaires were sent to each selected participant with a stamped return envelope. Two weeks later, a follow-up phone call was made to non-respondents to encourage their participation. A total of 192 replies were returned, though two were incomplete and so discarded. Thus, 190 questionnaires were used for the data analysis, a response rate of 33%. Table 2 shows the demographics of the respondents.

Respondents had obviously attained a significant degree of knowledge from their education and jobs.

4.2. Analysis methods

We first analyzed the convergent validity of constructs, the reliability of our measurement items, and determined the significance of the model using SEM.

Table 3

Scaling of reliability test

Constructs	Measurement items	Cronbach's α	Loading range	Number of items ^a
Social network	SN1, SN2, SN3	0.72	0.72–0.89	3(3)
Social trust	ST1, ST2, ST3	0.79	0.80–0.85	3(4)
Shared goals	SG1, SG2, SG3	0.77	0.79–0.85	3(3)
Attitude toward knowledge sharing	AT1, AT2, AT3, AT4, AT5	0.91	0.82–0.88	5(5)
Subjective norm about knowledge sharing	SU1, SU2, SU3	0.76	0.72–0.90	3(3)
Intention to share knowledge	IN1, IN2, IN3, IN4, IN5	0.89	0.80–0.88	5(2,3) ^b

^a Final items (initial items).^b 2 and 3 questions were originally used for measuring respective explicit and tacit knowledge.

Table 4
Summary results of the model constructs

Model construct	Measurement item	Standardized estimates	t-Value
Social network	SN1	0.70	9.7046**
	SN2	0.85	12.0521**
	SN3	0.53	7.1544*
Social trust	ST1	0.82	12.5622**
	ST2	0.87	13.6015**
	ST3	0.62	8.9351*
Shared goals	SG1	0.68	9.4747*
	SG2	0.73	10.4565*
	SG3	0.78	11.2016**
Attitude toward knowledge sharing	AT1	0.81	– ^a
	AT2	0.83	13.0357**
	AT3	0.82	12.6686**
	AT4	0.86	13.5395**
	AT5	0.76	11.5562**
Subjective norm about knowledge sharing	SU1	0.78	– ^a
	SU2	0.86	9.4728*
	SU3	0.56	7.1249*
Intention to share knowledge	IN1	0.76	– ^a
	IN2	0.87	12.2849*
	IN3	0.85	12.0583*
	IN4	0.73	10.1029*
	IN5	0.72	10.1029*

* $p \leq 0.10$.

** $p \leq 0.05$.

^a Values were not calculated, because loading was set to 1.0 to fix construct variance.

4.2.1. Convergent validity

This occurs when all items measuring a construct load on a single one of them. We assessed each factor by performing within-scale factor analysis. This showed that all measurement items converged onto their constructs with each factor loading having a value higher than 0.7. All of our factors demonstrated unidimensionality. Furthermore, the five measurement items of *intent to share knowledge*, which we initially proposed as two separate clusters of tacit and explicit knowledge, were highly corrected and all converged into a single factor. This result implied that organizational members did not see a different between explicit and tacit knowledge when they shared knowledge.

4.2.2. Reliability test of constructs

Cronbach's alpha was used to assess the internal consistency of the proposed constructs. As a result, measurement item ST4 of social trust was dropped, leaving three measurement items for this construct. Table 3 summarizes the loading ranges and α value for

Table 5
Summary results of the structural model

Path	Description	Hypothesis	Path coefficient	t-Value	Results
SN-AT	Social network → attitude toward knowledge sharing	H1	0.24	2.84 [*]	Supported
SN-SU	Social network → subjective norm about knowledge sharing	H2	0.27	2.65 [*]	Supported
ST-AT	Social trust → attitude toward knowledge sharing	H3	0.06	0.68	Not supported
ST-SU	Social trust → subjective norm about knowledge sharing	H4	–0.10	–0.89	Not supported
SG-AT	Shared goals → attitude toward knowledge sharing	H5	0.37	3.82 [*]	Supported
SG-SU	Shared goals → subjective norm about knowledge sharing	H6	0.31	2.72 [*]	Supported
AT-IN	Attitude toward knowledge sharing → intention to share knowledge	H7	0.44	5.15 [*]	Supported
SU-AT	Subjective norm about knowledge sharing → attitude toward knowledge sharing	H8	0.25	3.14 [*]	Supported
SU-IN	Subjective norm about knowledge sharing → intention to share knowledge	H9	0.26	3.04 [*]	Supported

* $p \leq 0.1$.

Table 6
Overall model fit indices

Fit index	Scores	Recommended cut-off value from literature
Absolute fit measures		
$\chi^2/d.f.$	1.877**	≤ 2 **; ≤ 3 *; ≤ 5 *
GFI	0.85**	≥ 0.9 **; ≥ 0.80 *
RMR	0.044**	≤ 0.05 **; ≤ 0.08 *
Incremental fit measures		
NFI	0.85*	≥ 0.90 **
AGFI	0.81**	≥ 0.90 **; ≥ 0.80 *
CFI	0.92**	≥ 0.90 **
Parsimonious fit measures		
PGFI	0.66*	The higher, the better
PNFI	0.72*	The higher, the better

Acceptability: ** acceptable, * marginal.

each construct identified and used. All α s ranged from 0.72 to 0.91; these are greater than 0.7 and thus the constructs were considered reliable.

4.2.3. Structural equation modeling

The test of the model was carried out using SEM, a confirmatory factor analysis that tests a model and its validity simultaneously. LISREL 8.3 was used to perform the SEM analysis. We used this software to provide maximum likelihood estimation for all path values simultaneously. To test for data normality, we performed the skewness statistical tests. The skewness statistics for tested constructs all had negative values ranging from –0.334 to –0.168. The critical z-value was obtained by dividing the corresponding statistics by the standard errors $\sqrt{(6/n)}$, where n represents the sample size. All critical z-values ranged from –1.879 to –0.945. Since these values did not exceed a critical value of ± 1.96 ; we concluded that our data passed a data normality test.

We followed the recommended two-stage analytical procedures of SEM: the measurement and structural model were checked to ensure that the results were acceptable and consistent with the underlying conceptual model, and the structural path model was then examined to determine relations among the constructs and their significance.

Table 4 summarizes the results of the measurement model; these show that all six model constructs, namely social network, social trust, shared goal, attitude toward knowledge sharing, subjective norm regarding knowledge sharing, and intention to share knowledge were all valid measures of their respective constructs based on their parameter estimates and statistical significance.

Table 5 shows the results of hypothesis testing of the structural relationships among the latent variables. Fig. 2 depicts the final results of the measurement and structural models. To assess the

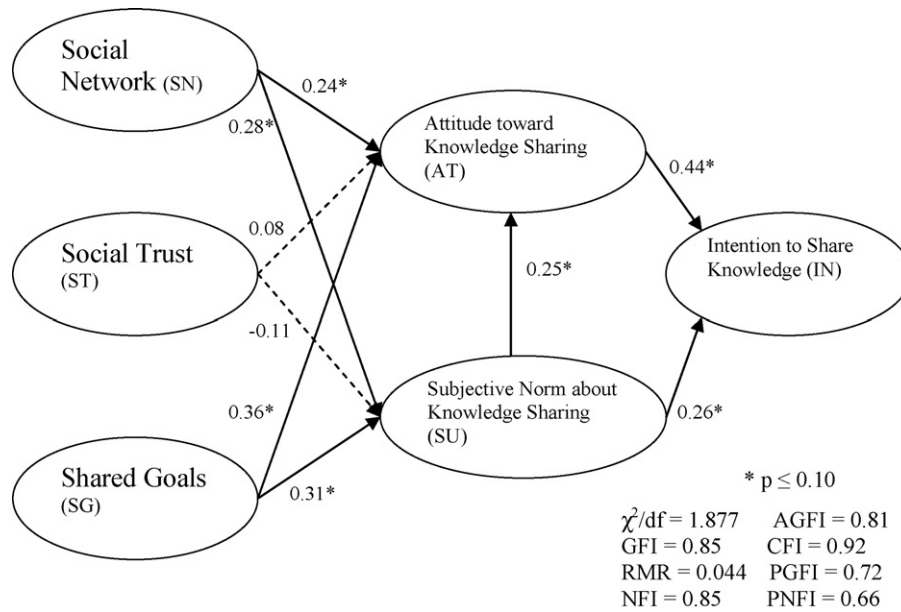


Fig. 2. Results of the confirmatory analysis model.

Table 7
Direct, indirect and total effects of significant model constructs

Construct	AT			SU			IN		
	Direct effect	Indirect effect	Total effect	Direct effect	Indirect effect	Total effect	Direct effect	Indirect effect	Total effect
SN	0.24	0.07	0.31	0.28	–	0.28	–	0.21	0.21
SG	0.36	0.08	0.44	0.31	–	0.31	–	0.27	0.27
AT	–	–	–	–	–	–	0.44	–	0.44
SU	0.25	–	0.25	–	–	–	0.26	0.11	0.37

model fit, we applied eight measures from three perspectives: absolute fit measures (evaluated using $\chi^2/d.f.$), goodness of fit index (GFI), and root mean square error (RMR); incremental fit were measured by the normal fit index (NFI), the adjusted goodness of fit index (AGFI), and the comparative fit index (CFI); and parsimonious fit measures were evaluated by the parsimonious goodness of fit index (PGFI) and the parsimonious normal fit index (PNFI).

Table 6 shows the overall fit indexes of our model. It shows that our model resulted in good results at the $\chi^2/d.f.$, GFI, RMR, AGFI, CFI, and marginal fitness levels for the indexes of NFI, PGFI, and PNFI. We concluded that our findings had reached an acceptable level and could be used to explain our hypotheses.

Hypotheses H1 and H5 were supported, and showed that a higher level of social network and shared goals contributed to the willingness of organizational members to share knowledge. H7, H8, and H9 were also supported. Our results also confirmed that social pressure imposed by coworkers and managers leads to knowledge sharing.

H2 and H6, the relationship of social network and shared goals to the subjective norm on knowledge sharing, were also supported organizational members who felt pressure to share knowledge were those who had established a large social connection of employees with similar organizational visions or goals.

H3 and H4 were not supported.

Table 7 shows the direct, indirect, and total effects of all significant model constructs. Apparently social network and shared goals had indirect effects on the intention to share knowledge through the mediators of attitudes toward knowledge sharing and the subjective norm on knowledge sharing.

5. Discussions and implications

Our main objective was to understand the influence of social capital on organizational knowledge sharing. Our results revealed that: (1) organizational members did not distinguish tacit from explicit knowledge when they shared knowledge, (2) a social network and shared goals significantly contributed to attitudes toward knowledge sharing, (3) a social network and shared goals significantly contributed to the subjective norm on knowledge sharing; (4) social trust had no direct contribution to either attitudes toward knowledge sharing or its subjective norm though it influenced both attitude toward knowledge sharing and the intention to share knowledge; and (5) a social network and shared goals have indirect effects on the intention to share knowledge within the organization.

Management must develop a clear mission and goal so that everyone in the organization can appreciate and contribute knowledge [27]. Recruiting employees who share common interests and goals is a critical task for human resources departments. Social ties between colleagues are important and a good relationship will enhance knowledge-sharing behavior.

6. Conclusion and limitations

Our study was one of the first to provide empirical evidence about the influence of a social network, social trust, and shared goals on employees' intention to share knowledge. It offers insights to practitioners on the value of social capital and reasons why people are or are not willing to engage in knowledge sharing within an organization.

We also found that social network and shared goals directly influenced the attitude and subjective norm about knowledge sharing and indirectly influenced the intention to share knowledge. Social trust did not play a direct role in sharing knowledge and organizational members do not differentiate between tacit and explicit knowledge when they share it.

This study has a few inherent limitations. First, we hypothesized only three social capital factors in our model; other social capital factors (such as shared organizational cultures, society network ties, and organizational network stability) may

also affect outcomes. Second, our research sample consisted only of organizational managers. Third, the data collection was limited to knowledge-sharing behavior within organizations in Hong Kong.

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Appendix A. Definitions of the constructs

Constructs	Definitions	References	Number of items ^a
Social network	The degree of contact and accessibility of one with other people	[14,25]	3 (3)
Social trust	The degree of one's willingness to vulnerable to the actions of other people	[14]	3 (4)
Shared goal	The degree to which one has collective goals, missions and visions with other people	[25]	3 (3)
Attitude toward knowledge sharing	The degree of one's favorable or positive feeling about sharing one's knowledge	[6,18]	5 (5)
Subjective norm about knowledge sharing	The degree of one's perceived social pressure from important others to share or not to share one's knowledge	[6,18]	3 (3)
Intention to share knowledge	The degree of one's belief that one will engage in knowledge-sharing behavior	[6,18]	5 (2,3) ^b

^a Final item numbers (initial item numbers).

^b 2 and 3 questions were originally used for measuring *explicit* and *tacit* knowledge, respectively.

Appendix B. Questionnaire items

Constructs	Items	Statistics
Social network	SN1. In general, I have a very good relationship with my organizational members SN2. In general, I am very close to my organizational members SN3. I always hold a lengthy discussion with my organizational members	Alpha = 0.72, mean = 3.53, S.D. = 0.61
Social trust	ST1. I know my organizational members will always try and help me out if I get into difficulties ST2. I can always trust my organizational members to lend me a hand if I need it ST3. I can always rely on my organizational members to make my job easier	Alpha = 0.79, mean = 3.58, S.D. = 0.63
Shared goals	SG1. My organizational members and I always agree on what is important at work SG2. My organizational members and I always share the same ambitions and vision at work SG3. My organizational members and I are always enthusiastic about pursuing the collective goals and missions of the whole organization	Alpha = 0.77, mean = 3.38, S.D. = 0.66
Attitude toward knowledge sharing	AT1. Sharing of my knowledge with organizational members is always good AT2. Sharing of my knowledge with organizational members is always beneficial AT3. Sharing of my knowledge with organizational members is always an enjoyable experience AT4. Sharing of my knowledge with organizational members is always valuable to me AT5. Sharing of my knowledge with organizational members is always a wise move	Alpha = 0.91, mean = 3.79, S.D. = 0.70
Subjective norm about knowledge sharing	SU1. My chief executive officer (CEO) always thinks that I should share my knowledge with other members in the organization SU2. My boss always thinks that I should share my knowledge with other members in the organization SU3. My colleagues always think that I should share my knowledge with other members in the organization	Alpha = 0.76, mean = 3.58, S.D. = 0.69
Intention to shared knowledge ^a	IN1. I will share my work reports and official documents with my organizational members more frequently in the future ^{#1} IN2. I will always share my manuals, methodologies and models with my organizational members in the future ^{#1} IN3. I will always share my experience or know-how from work with my organizational members in the future ^{#2} IN4. I will always share my know-where or know-whom at the request of my organizational members ^{#2} IN5. I will always try to share my expertise obtained from education and training with my organizational members in a more effective way ^{#2}	Alpha = 0.89, mean = 3.55, S.D. = 0.67

^a These five items were initially proposed as two separable factors as explicit^{#1} and tacit^{#2} knowledge but were merged into a single factor by the factor analysis test.

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