



Journal of Economics and Business

Mammadov, Alisardar, and An, Ran. (2018), Impact of Intercultural Awareness on Innovation Capability in Multinational Organizations: Mediating Roles of Knowledge Sharing Motivations. In: *Journal of Economics and Business*, Vol.1, No.4, 441-454.

ISSN 2615-3726

DOI: 10.31014/aior.1992.01.04.40

The online version of this article can be found at:
<https://www.asianinstituteofresearch.org/>

Published by:
The Asian Institute of Research

The *Journal of Economics and Business* is an Open Access publication. It may be read, copied and distributed free of charge according to the conditions of the Creative Commons Attribution 4.0 International license.

The Asian Institute of Research *Journal of Economics and Business* is a peer-reviewed International Journal. The journal covers scholarly articles in the fields of Economics and Business, which includes, but not limited to, Business Economics (Micro and Macro), Finance, Management, Marketing, Business Law, Entrepreneurship, Behavioral and Health Economics, Government Taxation and Regulations, Financial Markets, International Economics, Investment, and Economic Development. As the journal is Open Access, it ensures high visibility and the increase of citations for all research articles published. The *Journal of Economics and Business* aims to facilitate scholarly work on recent theoretical and practical aspects of Economics and Business.



ASIAN INSTITUTE OF RESEARCH
Connecting Scholars Worldwide



Impact of Intercultural Awareness on Innovation Capability in Multinational Organizations: Mediating Roles of Knowledge Sharing Motivations

Alisardar Mammadov¹, Ran An²

¹ School of Business Administration, South China University of Technology, Guangzhou, P.R. China, 510641.
Email: alisardarm@hotmail.com

² School of International Education, South China University of Technology, Guangzhou, P.R. China, 510006.
Email: sieanran@scut.edu.cn

Corresponding Author: Ran An, Email: sieanran@scut.edu.cn

Abstract

The purpose of this paper is to investigate the impact of intercultural awareness on knowledge sharing motivations and the mediation effects of knowledge sharing motivations between intercultural awareness and innovation capability. The results empirically proved that intercultural awareness has a significant positive influence on both trust and reciprocity-based knowledge sharing motivations. Results also showed that both trust-based and reciprocity-based knowledge sharing has a significant positive influence on innovation capability. The further analysis revealed that the relationship between intercultural awareness and innovation capability is mediated by the trust-based knowledge sharing motivation. However empirical evidence about the mediating role of reciprocity-based knowledge sharing between the intercultural awareness and innovation capability was not found. Overall, representing the first attempt, this paper contributes to the literature by discovering relationships among intercultural awareness, knowledge sharing, and innovation capability, as well as it may assist organizations to design more effective expatriate training programs.

Keywords: knowledge sharing, multinational organizations, intercultural awareness, innovation capability

1. Introduction

Globalization is one of the main trends characterizing the development of world economy while multinational companies are one of the most complex forms of international business organizations. Hiring culturally-diverse employees bring a number of advantages in the forms of new creative ideas, innovations to multinational organizations. Today's challenging business environment has made organizational knowledge a critical factor of sustainable competitive advantage and multinational organizations play important roles in knowledge sharing (Dobrai et al., 2012).

On the other hand, knowledge sharing as a kind of communication often exposed to challenges due to cultural differences, communication competence of interactants' that constitute a strong barrier for people in sharing their knowledge in multicultural environments. As mentioned by Podsiadlowski and Ward (2010), reaping the benefits of the culturally diverse workforce is one the effective ways to fulfill the demands of an increasingly diverse business environment. According to the authors, to get better outcomes from multicultural teams, cultural awareness training might help to increase mutual contact and familiarity that can destroy negative stereotypes as well as barriers to communication. Carr (2010) also highlighted the benefits of cultural training in closing any gaps in mutual misunderstandings among culturally-diverse employees, which might lead to mistrust, frustration (Zimmerman,2010). Without trust, the usefulness of the knowledge (Sondegaard, Kerr and Clegg, 2007) and in the absence of reciprocity or continuity of exchange relationship (Battistella and Nonnino, 2012) will be doubtful. On the other hand, from the studies of Drucker (1998), Storey and Kelly (2002) these characteristics of knowledge sharing constitute a base for the development of innovation.

To analyze different dimensions of globalization and multinational companies, several studies have been conducted to find out the motivational factors of employees' knowledge sharing, such as career commitment, job satisfaction, involvement with the organization, wages, etc. A number of studies shows that cultural differences act as an inhibitor for the knowledge sharing in the multinational organizations. However, to the best of our knowledge, none of the previous studies investigated any kind of influence of intercultural communication dimensions on knowledge sharing and innovation capability. Based on the literature review and to the best of our knowledge it will be the first study that investigates the relationship among intercultural awareness and knowledge sharing motivations that foster the innovation capability in their turn. Therefore, the goal of the current paper is to fill a gap in the literature and answer the following research questions:

1. How does the intercultural awareness affect the knowledge sharing motivations of culturally-diverse employees?
2. Does the intercultural awareness affect innovation capability through the knowledge sharing motivations of culturally-diverse employees?

The paper had been organized as follows: we started with an introduction in Section 1 and presented a general panorama of available literature in Section 2. Next, the hypotheses are developed in Section 3. The research methodology and data analyses are presented in Section 4 and 5 respectively. Finally, discussion and suggestions for further research are presented in Section 6.

2.Theoretical background and literature review

2.1 Knowledge sharing

Given the importance of knowledge sharing attracted researchers to study the factors that contribute to the development of a knowledge sharing process within the organization. Knowledge sharing is vital to the development of competitive advantages of organizations (Le and Lei, 2018), however, organizations often face with difficulties to facilitate effective knowledge sharing practices among employees due to a number of factors (Wang and Hou, 2015).

Within the discussion of influential factors to sharing knowledge, Riege (2005) divided them into three main groups: individual, organizational and technological. Studying the influence of organizational factors, Suppiah and Sandhu (2011) claimed that organizational culture might have a different influence on sharing behaviors of different type of knowledge. According to Wang and Noe (2010), organizational attitudes have a significant influence on knowledge sharing, and previous research found that organizational attitudes including job satisfaction and organizational commitment also have a positive impact on knowledge sharing. Hislop (2003) found that the level of organizational commitment shapes employees' motivation to share knowledge, and a

higher level of organizational commitment increases the probability that employees will provide extra discretionary effort and share their knowledge within the organization (Pee and Lee, 2015).

Liu and Liu's study (2011) focused on the effects of individual factors on knowledge sharing and showed that self-efficacy significantly and positively affects knowledge sharing. Previous studies demonstrated that individual factors: enjoyment in helping others and knowledge self-efficacy (Lin, 2007), altruism (Ma and Chan, 2014), trust (Chow and Chan, 2008; Razmerita et al., 2016) significantly and positively affect knowledge sharing.

Alavi and Leidner (2001), Argote et al. (2003) studied the influence of technological factors on knowledge sharing process (Wang and Noe, 2010). In her study, Lin (2007) found that ICT use positively influences knowledge collecting, however it does not influence the knowledge donating process. Hong, Suh, and Ko (2011) stated that although knowledge sharing occurs within a social context, however, knowledge management systems have become easier to use due to the support of technology. Being agree with the fact that technology cannot replace human social interaction, which is necessary for knowledge, Chua, (2004) claimed that technology is able to overcome the barriers of time and space in knowledge management activities.

In the context of cultural diversity, Lin (2006) investigated the impact of culture on inter-unit knowledge flows in multinational organizations located in Taiwan. The author concluded her study that culture and characteristics of knowledge significantly influence the inter-unit knowledge transfer processes within multinational organizations while accepting the fact that there could be other factors also can have an impact on inter-unit knowledge transfer in multinational organizations. Luring (2009) investigated the cultural diversity and the knowledge sharing process in multicultural organizations. Through the case study and analyze of different theories, the author came to the conclusion that little interaction among the employees from diverse cultural background constitutes as one of the main barriers in using each other's knowledge. In order to investigate the barriers for knowledge sharing in the intercultural environment, Kaps (2011) conducted research at an international engineering project team. Communication style, power- hierarchies, language, trust identified as the main challenges for knowledge sharing in intercultural environments. According to the author, to switch from passive knowledge capturing to active knowledge sharing, it is necessary to focus on increasing trust within a company and to design an incentive reward system for employees.

Jiacheng et al. (2010) conducted a survey in China and the USA and came to a conclusion that individuals from different nations had different sensitivities to each type of knowledge sharing motivation and suggested that management should use different incentive mechanism based on the embedded national culture. The authors found that others' appreciation is important for Chinese; compliments and appraisals to the Chinese employees who actively engage in KS would increase their attitudes toward knowledge sharing. In contrary, Americans will follow more individualistic behaviors; unlike the Chinese, they will not share knowledge with the purpose of achieving harmonious relationships. Furthermore, the effects of rewards and punishments also were examined: it was observed that unlike the Americans, to avoid punishment Chinese would support knowledge sharing. And the rewards would develop a positive attitude toward knowledge sharing.

The influence of culture on the knowledge sharing behavior of individuals was also studied by Zhang et al. (2014), who conducted research to investigate the impact of national cultural values on explicit and implicit knowledge sharing in a multi-national virtual class. Cultural dimensions of Hofstede were analyzed, and the results demonstrated that collectivism directly affects knowledge sharing, however, power distance, uncertainty avoidance, and Confucian dynamism have mediated effects on knowledge sharing motivations. It was also found that cultural values, such as concern for face, also affect knowledge sharing.

2.2 Intercultural awareness

Intercultural communication competence refers to the ability to execute effective and appropriate communication behaviors to achieve communication goals in a culturally diverse environment. It comprises three unrelated dimensions: the cognitive dimension (intercultural awareness); the affective dimension (intercultural sensitivity); the behavioral dimension (intercultural adroitness) (Chen and Starosta, 1996). The cognitive aspect of

intercultural communication competence, also referred to as intercultural awareness, focuses on changes in individuals' thought process about their environment by understanding both others', as well as their own, cultures (Chen and Starosta, 1996). "The core of intercultural awareness is learning to separate observation from interpretation" (Hofstede, Pedersen and Hofstede, 2002, p.17). Other words, intercultural awareness could be defined as the learning process of values, beliefs, a way of thinking of people from different cultures (Chen and Starosta, 1998)

To the best of authors' knowledge, very few publications can be found in the literature that discusses the relationship between intercultural communication competence and knowledge sharing. Hsu (2012) stated that that knowledge sharing highly depends on interpersonal sensitivity or awareness to cultural differences of expatriates. Furthermore, it was already theoretically and empirically proved by Gong (2003), Colakoglu and Caligiuri (2008), Ravu and Parker (2015) that in multinational organizations sharing and transferring of knowledge often faces with challenges as the cultural distance increases among employees. Presbitero and Attar (2018) empirically showed the impact of intercultural communication effectiveness on knowledge sharing, where the authors found that intercultural communication effectiveness mediates the relationship between anxiety/uncertainty and knowledge sharing.

2.3 Innovation capability

According to Wallin et al., (2011) innovation capability is the ability to achieve innovative outcomes. Laforet (2011) claimed that innovation could only occur if a firm has the capability to innovate. Saunila and Ukko (2013) defined innovation capability as the main determinant influencing an organization's capability to manage innovation. The importance of knowledge sharing for the innovation capability has been theoretically and empirically examined in many studies (Ullah et al.,2017). Zhao et al. (2005), Hogan et. Al (2011) defined innovation capability as the organization's knowledge creation ability and successful execution of those knowledge and creative ideas to gain market value. Al-Sa'di et al. (2017) 's research showed that ability to generate new knowledge from existing knowledge by having a systematic approach to collect employee suggestions and ideas, accompanied with flexible procedures to share and apply new knowledge, will boost innovation capability in both products and processes.

Despite the importance of knowledge sharing for innovation, Storey and Kelly (2002) claimed that inefficient knowledge is the main obstacle to innovation in the service organization. Hart (1995) argued that competitive advantage could be sustained only if the organization's resources are not easily duplicated by its competitors. On the other hand, Lawson and Samson, (2001) linked innovation capability with knowledge due to continuous conversion of new knowledge into products and services.

Summing up the results of literature review, it can be concluded that a knowledge-sharing environment may affect organizational innovativeness, which is indeed an important source for competitive advantage, is an unarguable condition for survival and success in the modern highly challenging business environment. Acknowledging this fact, a number of studies addressed to study the influence of knowledge sharing to the innovation capability and several empirical studies showed a strong positive relationship between them. Several studies have been conducted to find out the determinant factors of employees' knowledge sharing motivations, but little or nothing has been done on the intercultural communication competence dimensions and their effect on knowledge sharing motivations.

The results of the current paper, where the influence of intercultural awareness on knowledge sharing motivations had been proved strengthen the previous studies that knowledge sharing might be influenced not only by technological, individual organizational factors but also by Zhang et al., (2014), Luring, (2009), etc. Concretely, this paper first provided empirical evidence for the influence of intercultural awareness on knowledge sharing motivations. Second, it is also noteworthy that any kind of effect, direct or indirect influence of intercultural awareness on innovation capability also have not been investigated in the literature. As mentioned by Heizman et al. (2018), despite the recognition of the importance of knowledge sharing for the

success of multinational organizations, existing literature neglects relational and communicative aspects of the knowledge sharing process. Therefore, being the first research that studied the relationship between the cognitive dimension of intercultural communication competence-intercultural awareness and innovation capability will increase the significance of this paper. Furthermore, besides closing the gap in the current literature, this paper offers a new motivating factor for knowledge sharing, as well as provides novel implications for the managers of multinational organizations by highlighting how the intercultural awareness of culturally-diverse employees could influence motivations for knowledge sharing in multicultural environments, which is crucial for innovation capability.

3. Hypotheses development

The relationship between the knowledge contributor and receiver had been defined as one of the crucial factors that influence the motivation to share knowledge (Minu, 2003). According to Huemer et.al. (1998) decisions to exchange knowledge under certain conditions are based on trust Andrews, and Delahaye's (2000) study revealed that without trust formal knowledge-sharing mechanisms were not enough to encourage individuals to share their knowledge with others within the same work environment.

The difference in cultural backgrounds, ways of thinking, norms of behaviors and customs create many difficulties and obstacles for people in understanding and communicating with one another (Zhang, 2015). According to Chen (2010), intercultural awareness is the cognitive aspect of intercultural communication competence that refers to the understanding of cultural conventions that affect how we think and behave. Unawareness about each other's culture leads individuals to uncertainty and the feeling of anxiety (Berger and Calabrese, 1975) that causes misunderstandings, which might lead to mistrust, frustration (Zimmerman, 2010). Based on the discussion above, it is suggested that the intercultural awareness increases the trust-based knowledge sharing motivation which leads to the following hypothesis:

H1. Intercultural awareness has a positive effect on individuals' trust-based knowledge sharing motivation (in multicultural organizations).

Knowledge sharing is one of the important factors for innovation capability (Nonaka and Takeuchi, 1995, Shih et al., 2006, Chang, 2012). To achieve innovation, firms' employees must share their expertise, knowledge skills, and abilities (Lin, 2007, Camelo-Ordaz et al., 2011).

Despite the importance of knowledge sharing for innovation, Storey and Kelly (2002) claimed that the flow of inefficient knowledge is one of the main obstacles to innovation in service organizations. Trust is one of the key factors that enhances knowledge sharing activities (Hsu et al., 2007, Holste and Fields, 2010). Cummings (2003) related the efficiency shared knowledge with the relationship between contributors and receivers of knowledge. Since individuals might hesitate to share their valuable knowledge due to the fear that the other party will act exploitatively or opportunistically. In this manner, trust mitigates this kind of hesitations (Bijlsma and Koopman, 2003; Madjar and Ortiz-Walters, 2009).

Tufail et al.'s (2016) study showed that a trustworthy environment at workplace motivates employees to share their knowledge. In the early study of Zand (1972) it was stated that when trust exists, people will be more willing to give useful knowledge. Further, Sondgaard, Kerr, and Clegg (2007) claimed that without the trust the usefulness of the knowledge would be doubtful, and this situation will lead to misapplication or misuse of shared knowledge. And in this case, successful execution of those knowledge and creative ideas to gain market value, which defined as an innovation capability by Zhao et al. (2005) will not be possible. Thus, afore-given references motivate us to assume that nourishment of knowledge by the trust will maintain its usefulness to achieve innovation capability. Hence.

H2a. Trust-based knowledge sharing positively affects innovation capability.

H2b. Trust-based knowledge sharing positively mediates the relationship between intercultural awareness and innovation capability.

Many studies have carried out detailed analyses of reciprocity and found that it can be beneficial to knowledge contributors because they anticipate future help from other people. As mentioned by Sun et al. (2009), the existence of a strong norm of reciprocity in the collective, makes individuals trust that their contribution efforts will be reciprocated. Based on the approach presented by Hung et al. (2011), in a knowledge-sharing context a belief that their contribution is worth the effort will lead individuals to contribute knowledge. Since, as explained by Davenport and Prusak (1998), people's time, energy and knowledge are limited. Therefore, without the trust to their counterpart other words, except it is profitable, people are usually unwilling to share these scarce resources with others in the modern highly competitive environment.

On the other hand, Berger and Calabrese (1975) claimed that the lack of enough information about their counterparts during interactions creates uncertainty or ambiguity, which in turn triggers the feelings of anxiety or apprehension of interactants. According to Gudykunst (1995), the level of this uncertainty is particularly high in intercultural communication since the novelty and unfamiliarity induced by the cultural differences are high (Chen, 2010). In this manner, intercultural awareness helps to learn to separate observation from interpretation (Hofstede, Pedersen and Hofstede, 2002), and being aware of cultural differences helps to avoid misunderstandings, which might lead to mistrust (Zimmerman, 2010) among culturally-diverse coworkers. Hence, based on above-given arguments we can predict and suggest that the following hypothesis:

H3. Intercultural awareness positively influences the reciprocity-based knowledge sharing motivation (*in multicultural organizations*).

Discontinuity in knowledge flow is one of the main obstacles to achieve innovation. Levy (2011) stated that knowledge continuity constitutes a significant advantage for organizations: it enhances creativity, innovation. On the other hand, reciprocity represents a continuous and durable exchange relationship (Battistella and Nonnino, 2012). In the knowledge-sharing context, as mentioned by Shaqrah et al. (2013) by motivating individuals to believe that their efforts will be recompensed reciprocity ensures ongoing knowledge contributions. Therefore, this study proposes the next hypothesis as following:

H4a. Reciprocity-based knowledge sharing motivation positively influences the innovation capability.

H4b. Reciprocity-based knowledge sharing positively mediates the relationship between intercultural awareness and innovation capability.

4. Method

4.1 Research model

Fig.1 illustrates the research model of the current paper. This study predicts that individuals' trust-based and reciprocity-based knowledge sharing motivations are influenced directly by their intercultural awareness. Next, it is proposed that both trust-based and reciprocity-based knowledge sharing motivation positively affects innovation capability. Finally, the hypotheses about the mediation effects of trust-based and reciprocity-based knowledge sharing between the intercultural awareness and innovation capability had been proposed. Data analysis was conducted using SPSS 19 and AMOS version 17.

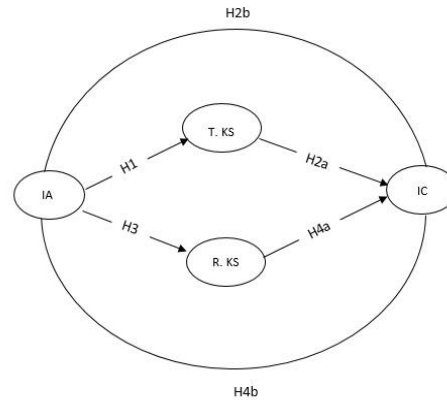


Figure. 1. Research model

4.2. Measurement

The measurement scale for intercultural awareness developed by Kim (2004), coincide with Chen and Starosta's (1996). Trust-based knowledge sharing scale drawn from Shaqrah, Hasheem and Alquirem (2013) and Tsui et al. (2007). Reciprocity-based knowledge sharing was measured with a scale from Kankanhalli et al. (2005) and Hashim et al. (2012). A measurement scale for innovation capability had been developed based on OECD (2005) and Calik (2016).

4.3. Data collection

Table 1. shows the demographic information of the respondents who participated in this study. 380 potential respondents were initially identified, at the end of 3 months, data collection period total of 290 employees of a multinational company participated in the study, from which excluded 28 questionnaires due to their incompleteness. Finally, 262 respondents' questionnaires considered usable, among them 67.2% were males, and 32.8% were females. Most of the respondents (52.3%) have a master's degree, 37 % have a bachelor's degree, 6.1 % have a Ph.D. degree, and 4.6% have a high school education. Regarding the overseas work experience, 18.7 % of respondents had more than 10-years, 37.4 % had 5-10, 27.3 % 3-5, 16.4% had 1-3 years overseas working experience.

Table 1. Demographic statistics.

Demographics	Frequency (N=262)	Percentage (%)
Gender		
Male	176	67.2
Female	86	32.8
Age		
20-29 years old	69	26.3
30-39 years old	145	55.3
40-49 years old	48	18.3
Education		
High school	12	4.6
Bachelor	97	37
Master's degree	137	52.3
PhD	16	6.1
Overseas work experience		

1-3 years	43	16.4
3-5 years	72	27.5
5-10 years	98	37.4
More than 10 years	49	18.7

4.4. Psychometric properties

The model fit indices are $\chi^2 = 452.2$, $df = 253$, $CMIN/DF = 2.228$, $IFI = 0.932$, $CFI = 0.931$, $TLI = 0.922$, $RESEA = 0.069$, which confirms that the measurement model is acceptable (Hu et al., 1992). Cronbach's alpha values were higher than 0.70, suggesting acceptable model reliability. The average variance extracted (AVE) values of all constructs were higher than 0.50, and composite reliabilities were over 0.7 that reliability and convergent validity of all measurement indicators had been confirmed (Table 2).

Table 2. Construct reliability and validity.

	Cronbach's alpha	CR	AVE
IA	0.833	0.84	0.56
TB	0.873	0.88	0.58
RKS	0.837	0.84	0.56
IC	0.940	0.94	0.64

Discriminant validity had been assessed in two ways. First, (Table 3) we checked whether a certain construct's square root of AVE is greater than its correlation with other constructs that indicates a satisfactory level of discriminant validity (Fornell and Larcker, 1981).

Table 3. Discriminant validity test 1

	IA	TB	RKS	IC
IA	0.750			
T. KS	0.567	0.762		
RKS	0.327	0.281	0.75	
IC	0.535	0.738	0.17	0.80

Second, we checked whether items load highly on their respective construct and not high on other constructs. The results showed that loadings of items on their respective construct were higher than they cross-loaded on other constructs (Table 4).

Table 4. Discriminant validity test 2 (Cross-loadings)

	Component			
	1	2	3	4
IA_1	.173	.078	.761	.149
IA_2	.141	.276	.771	.083
IA_3	.298	.106	.754	.040
IA_4	.193	.207	.786	.157
T. KS_1	.281	.718	.137	-.005

T. KS_2	.299	.739	.147	.184
T. KS_3	.333	.757	.112	.014
T. KS_4	.279	.765	.261	.121
T. KS_5	.343	.643	.161	.155
R.K.S_1	-.011	.040	.086	.816
R.K.S_2	.051	.133	.054	.775
R.K.S_3	.024	.152	.150	.815
R.K.S_4	.103	-.026	.085	.825
IC_1	.751	.172	.132	-.037
IC_2	.740	.274	.138	.113
IC_3	.716	.276	.165	.025
IC_4	.800	.318	.146	.090
IC_5	.721	.367	.169	-.001
IC_6	.819	.297	.165	-.003
IC_7	.798	.304	.175	.024
IC_8	.743	.308	.216	.111
IC_9	.801	.003	.135	.080

Note: IA=intercultural awareness; T. KS=trust-based knowledge sharing; R.K. S= reciprocity-based knowledge sharing; IC= innovation capability. The bold numbers in the diagonal row are item loadings on their own construct.

5. Research findings

Regression analysis had been conducted, statistical results reveal that intercultural awareness significantly positively affects both trust-based and reciprocity-based knowledge sharing motivations, which supported **H1**, **H3** (respectively, $\beta = 0.479$, $t=8.8$, $p<0.001$; $\beta = 0.264$, $t = 4.4$, $p<0.001$) and answered the first research question of current study. Results also showed that both trust-based and reciprocity-based knowledge sharing motivations has a positive effect on innovation capability **H2a**, **H4a** (respectively, $\beta = 0.669$, $t=14.5$, $p<0.001$; $\beta = 0.150$, $t = 2.45$, $p<0.005$).

To test for mediating effects, this study followed the steps proposed by Baron and Kenny (1986). In this method mediation tested through following regressions:

1. Independent variable must significantly influence the dependent variable.
2. Independent variable must significantly influence the mediator.
3. Mediator must significantly influence the dependent variable.
4. Independent variable and mediator significantly influence the dependent variable, where the effect of the independent variable on the dependent variable reduced upon the addition of the mediator to the model.

Following this method research results confirmed the significant positive effect of intercultural awareness on innovation capability ($\beta = 0.483$, $t = 8.8$, $p<0.001$). (for IA $\beta = 0.211$, $t = 4.31$, $p<0.001$ and for TB $\beta = 0.568$, $t = 11.1$, $p<0.001$). As it might be seen, the effect of intercultural awareness (IA) on innovation capability (IC) still exists, but in a smaller magnitude, since $0.483 > 0.211$. Thus, **H2b** had been supported other words, the effect of IA on IC is significantly reduced when the mediator (TK) is added to the model, which confirms the partial mediation effect of T. KS between the IA and IC. Hypothesis **H4b** involved testing the mediation effect of RKS between the IA and IC, however, achieved results did not provide statistical to support this hypothesis.

Table 5. Results of testing

	Hypothesis statement	Result
H1	The positive influence of IA to T. KS	Supported
H2a	The positive influence of T. KS to IC	Supported
H2b	Mediation effect of T. KS between IA and IC	Supported
H3	The positive influence of IA to RKS	Supported
H4a	The positive influence of RKS to IC	Supported
H4b	Mediation effect of RKS between IA and IC	Not supported

6. Discussion and suggestions for further research

The results demonstrated that intercultural awareness has a significant positive influence on both trust and reciprocity-based knowledge sharing motivation. Consistent with the previous study of Zimmerman (2010), this result could be interpreted as: being aware of values, beliefs, a way of thinking of their culturally-diverse coworkers will decrease the probabilities of misunderstandings, which might lead to distrust. Other words, reducing misunderstandings intercultural awareness will positively affect the trust-based knowledge sharing motivation. Besides, reducing an uncertainty or ambiguity that comes from the unawareness about their culturally-diverse coworkers, intercultural awareness will foster the individuals' reciprocity-based knowledge sharing motivation. That's, being aware of values, beliefs, a way of thinking of their culturally-diverse coworkers make individuals trust that their contribution efforts will be reciprocated, this belief in its turn will lead individuals to contribute knowledge.

Results also illustrated that both trust-based and reciprocity-based knowledge sharing has a significant positive influence on innovation capability. Achieved results are consistent with previous studies conducted by Zand (1972), Sondegaard, Kerr, and Clegg (2007) Levy (2011). The results could be interpreted as: motivation that trust and reciprocity give for knowledge sharing will increase the usefulness and continuity of shared knowledge, which in turn are important for innovation capability.

The hypothesis about the mediation effect of trust-based knowledge sharing between the intercultural awareness and innovation capability also supported. Decreasing the misunderstandings and mistrust among culturally-diverse employees (Zimmerman, 2010) intercultural awareness increases the trust-based knowledge sharing motivation, which in turn ensures the usefulness of shared knowledge (Zand, 1972; Sondegaard, Kerr and Clegg, 2007) that has a positive contribution on innovation capability.

Surprisingly, the positive influence of reciprocity-based knowledge on innovation capability could not be statistically proved. A possible explanation to this result could be given based on previous studies by Wasko and Faraj (2000), Hung et al. (2011) who claimed that reciprocity is a long-term influence, thus, over time reciprocity-based knowledge sharing motivation may have a mediator role between intercultural awareness and innovation capability.

The results that obtained through the findings of this study aims to contribute practical and theoretical suggestions to the field of management and to propose new solution methods to overcome knowledge sharing challenges for managers, and organizations. This research work proposed totally new enabler for knowledge sharing and empirically proved the importance of intercultural communication competence to foster knowledge sharing among the culturally diverse employees of multinational organizations. Thus, one of the main implications of the current study for managers of overseas-operated multinational companies is that targeting successful international assignment, they should focus on the holistic expatriate training plan. A successful

training plan should not only intend to overcome language barriers, but also should provide a platform where employees can increase their intercultural awareness and other necessary dimensions of intercultural communication competence. Intercultural awareness in its turn increases the knowledge sharing motivations that are vital for innovation capability of organizations. Besides, the current study also gives an opportunity to compare mediatory roles of knowledge sharing motivations that based on different sources (trust and reciprocity) between intercultural awareness and innovation capability.

This paper has some limitations. First, the current paper only focused on the influence of intercultural awareness on two kinds of knowledge sharing motivations. Therefore, future research might study the impacts of other intercultural communication dimensions on different knowledge sharing motivations. Another limitation of this study is that data were collected in a single round. Taking into consideration the long-term effects of reciprocity-based knowledge sharing, future research might be a longitudinal study that will allow having a clearer idea about the possible mediating role of reciprocity-based knowledge sharing between intercultural awareness and innovation capability.

References

- Alavi, M., & Leidner, D. E. (2001). Review: Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS Quarterly*, 25(1), 107-136.
- Al-Sa'di Ahmad Fathi , Ayman Bahjat Abdallah Samer Eid Dahiyat. (2017). The mediating role of product and process innovations on the relationship between knowledge management and operational performance in manufacturing companies in Jordan. *Business Process Management Journal*, 23 (2),349-376.
- Andrews, K. M., Delahaye, B. D. (2000). Influences on knowledge processes in organizational learning: The psychosocial filter. *Journal of Management Studies*, 37(6), 797 – 810.
- Argote, L., McEvily, B., and Reagans, R. (2003). Managing knowledge in organizations: An integrative framework and review of emerging themes. *Management Science*, 49(4), 571–582.
- Berger, C.R., and Calabrese, R.J. (1975). Some explorations in initial interaction and beyond: Toward a developmental theory of interpersonal communication. *Human Communication Research*, (1), 99-112.
- Battistella, C., & Nonino, F. (2012). What drives collective innovation? Exploring the system of drivers for motivations in open innovation Web-based platforms. *Information Research*, 17(10), paper 513. <http://InformationR.net/ir/17-1/paper513.html>
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173.
- Bijlsma, K.& Koopman, P. (2003). Introduction: trust within organizations. *Personnel Review*, 32(5), 543-555.
- Camelo Ordaz, C., Garcia Cruz, J., Sousa Ginel, E., Valle Cabrera, R. (2011). The influence of human resource management on knowledge sharing and innovation in Spain: the mediating role of affective commitment. *The International Journal of Human Resource Management*, 22(07), 1442-1463.
- Carr, S. (2010). Introduction: The Psychology of Global Mobility. *The Psychology of Global Mobility*, Springer, New York, NY, pp. 1-23.
- Calik, Eyup. (2016). *The effects of cooperation and support network on innovation capability and performance of SMES*. Doctoral Thesis. Istanbul Technical University.
- Chang, C. S. (2012). *Performance guarantees in communication networks*. Springer Science & Business Media.
- Chen, G. M., & Starosta, W. J. (1996). Intercultural communication competence: A synthesis. *Communication Yearbook*, 19, 353-383.
- Chen, G. M. (2010). The impact of intercultural sensitivity on ethnocentrism and intercultural communication apprehension. *Intercultural Communication Studies*, 19(1), 1-9.
- Cummings, J. (2003). *Knowledge Sharing: A Review of the Literature*. Washington, D.C.: The World Bank.
- Chow, W.S. and Chan, L.S. (2008). Social network, social trust and shared goals in organizational knowledge sharing. *Information & Management*, 45(7), 458-465.
- Chua, A. (2004). Knowledge Management System Architecture: A Bridge between KM Consultants and Technologists. *International Journal of Information Management*, 24, 87-98.
- Colakoglu, S., & Caligiuri, P. (2008). Cultural distance, expatriate staffing and subsidiary performance: The case of US subsidiaries of multinational corporations. *The International Journal of Human Resource Management*, 19(2), 223-239.

- Davenport T. H., Prusak L. (1998). Working Knowledge: How Organizations Manage What They Know. *Harvard Business School Press*.
- Dobrai, K., Farkas, F., Karoliny, Z., Poor, J. (2012). Knowledge Transfer in Multinational Companies—Evidence from Hungary. *Acta Polytechnica Hungarica*, 9(3), 149-161.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable and measurement error. *Journal of Marketing Research*, 34(2), 161–188.
- Gong, Y. (2003). Subsidiary staffing in multinational enterprises: Agency, resources, and performances. *Academy of Management Journal*, 46(6), 728–739.
- Gudykunst, W. B. (1995). Anxiety/uncertainty management (AUM) theory: Current status. In R. Wiseman (Ed.), *Intercultural communication theory* (pp. 8-58). Thousand Oaks, CA: Sage.
- Hart, S.L. (1995). A Natural Resource-Based View of the Firm. *Academy of Management Review*, 20(4), 986-1014.
- Hair, J. F., Sarstedt, M., Pieper, T. M., & Ringle, C. M. (2012). The use of partial least squares structural equation modeling in strategic management research: A review of past practices and recommendations for future applications. *Long Range Planning*, 45(5–6), 320–340.
- Hashim, K.F., Tan, F.B., and Andrade, A.D. (2012). The Role of Trust and Commitment in Continuous Knowledge Contribution Intention within Business Online Communities. *CONF-IRM 2012, Proceeding*, 9. <http://aisel.aisnet.org/confirm2012/9>
- Heizmann, H., Fee, A., Gray, J.S. (2018). Intercultural Knowledge Sharing Between Expatriates and Host country Nationals in Vietnam: A Practice-based Study of Communicative Relations and Power Dynamics. *Journal of International Management*, 24, 16-32.
- Hogan, S.J., Soutar, G.N., McColl-Kennedy, J.R. and Sweeney, J.C. (2011). Reconceptualizing professional service firm innovation capability: Scale development. *Industrial Marketing Management*, 40 (8), 1264-1273.
- Holste, J. S., Fields, D. (2010). Trust and tacit knowledge sharing and use. *Journal of Knowledge Management*, 14(1), 128-140.
- Hofstede, Pedersen, and Hofstede. (2002). Exploring Culture: Exercises, Stories, and Synthetic Cultures. Intercultural Press.
- Hong, D., Suh, E., and Koo, C. (2011). Developing strategies for overcoming barriers to knowledge sharing based on conversational knowledge management: A case study of a financial company. *Expert Systems with Applications*, 38, 14417– 14427.
- Hung, S. Y., Durcikova, A., Lai, H. M., & Lin, W. M. (2011). The influence of intrinsic and extrinsic motivation on individuals' knowledge sharing behavior. *International Journal of Human-Computer Studies*, 69(6), 415–427.
- Huemer, L. (1998). *Trust in Business Relations: Economic Logic or Social Interaction?* Borea Bokforlag, Umea.
- Hsu, M. H., Ju, T.L., Yen, C. H. and Chang, C. M. (2007). Knowledge sharing behavior in virtual communities: The relationship between trust, self-efficacy, and outcome expectations. *International Journal of Human Computer Studies*, 65(2), 153-169.
- Hsu Yu-shan. (2012). *Knowledge Transfer Between Expatriates and Host Country Nationals: A Social Capital Perspective*. Doctoral Thesis. University of Wisconsin - Milwaukee.
- Hislop, D. (2003). Linking human resource management and knowledge management via commitment: a review and research agenda. *Employee Relations*, 25(2), 182–202.
- Jiacheng, W., Lu, L., and Francesco, C. A. (2010). A cognitive model of intra- organizational knowledge-sharing motivations in the view of cross-culture. *International Journal of Information Management*, 30(3), 220–230.
- Kankanhalli, A., Tan, B. C. Y., & Wei, K. -K. (2005). Contributing knowledge to electronic knowledge repositories: An empirical investigation. *MIS Quarterly*, 29(1), 113–143.
- Kaps, Ines. (2011). Barriers in Intercultural Knowledge Sharing. Learning's From an International Plant Engineering Project. *Open Journal of Knowledge Management*, 3, 6-12.
- Kim, K. Rachel. (2004). *Intercultural Communication Competence: Initial application to instructor's communication as a basis to assess multicultural teacher education programs*. Master Thesis. University of Hawaii.
- Lawson, B. and Samson, D. (2001). Developing innovation capability in organizations: a dynamic capabilities approach. *International Journal of Innovation Management*, 5(3), 377-400.
- Laforet, S. (2011). A framework of organisational innovation and outcomes in SMEs. *International Journal of Entrepreneurial Behaviour & Research*, 17 (4), 380-408.
- Lauring, Jakob. (2009). Managing cultural diversity and the process of knowledge sharing: A case from Denmark. *Scandinavian Journal of Management*, 25, 385—394.
- Levy, M. (2011). Knowledge retention: minimizing organizational business loss. *Journal of Knowledge Management*, 15 (4), 582–600.

- Lin, Hsiu-Fen. (2007). Effect of extrinsic and intrinsic motivation on employee knowledge sharing intentions. *Journal of Information Science*, 33 (2), 135-14.
- Lin, Chieh-Yu. (2006). Influences of Culture on Inter-Unit Knowledge Transfer Processes within Multinational Corporations. *Journal of Global Business Management*, 2, 24-31.
- Liu, N., Liu, M-S. (2011). Human resource practices and individual knowledge-sharing behavior – an empirical study for Taiwanese R&D professionals. *The International Journal of Human Resource Management*, 22(4), 981-997.
- Le, Phong Ba, Lei, Hui. (2018). The mediating role of trust in stimulating the relationship between transformational leadership and knowledge sharing processes. *Journal of Knowledge Management*, 22(3), 521-537.
- Ma, W. W., Chan, A. (2014). Knowledge sharing and social media: Altruism, perceived online attachment motivation, and perceived online relationship commitment. *Computers in Human Behavior*, 39, 51–58.
- Madjar, N., Ortiz-Walters, R. (2009). Trust in supervisors and trust in customers: Their independent, relative, and joint effects on employee performance and creativity. *Human Performance*, 22, 128-142.
- Minu Ipe. (2003). Knowledge sharing in organization: a conceptual framework. *Human Resource Development Review*, 2, 337.
- Nonaka, I. and Takeuchi, H. (1995). *The Knowledge Creating Company: How Japanese Companies Create the Dynamics of Innovation*. Oxford University Press, New York, NY.
- Pee, L. G. and Lee, J. (2015). Intrinsically Motivating Employees' Online Knowledge Sharing: Understanding the Effects of Job Design. *International Journal of Information Management*, 35(6), 679-690.
- Presbitero, A., Attar, H. (2018). Intercultural communication effectiveness, cultural intelligence and knowledge sharing: Extending anxiety-uncertainty management theory. *International Journal of Intercultural Relations*, 67, 35–43.
- Podsiaowski, A., & Ward, C. (2010). Global mobility and bias at the workplace. In S. Carr (Ed.), *The handbook of global psychology* (pp.279–300). New York: Springer Verlag
- Ravu, S. Y., Parker, K. M. (2015). Expatriates and knowledge transfer: A case study of a power plant constructed in Africa. *International Business & Economics Research Journal*, 14(2), 327–342
- Razmerita, L., Kirchner, K. and Nielsen, P. (2016). What Factors Influence Knowledge Sharing in Organizations?: A Social Dilemma Perspective of Social Media Communication. *Journal of Knowledge Management*, 20 (6), 1225-1246
- Riege, A. (2005). Three-dozen knowledge-sharing barriers managers must consider. *Journal of Knowledge Management*, 9(3), 18-35.
- Saunila, M., and Ukko, J. (2013). Facilitating innovation capability through performance measurement: A study of Finnish SMEs. *Management Research Review*, 36(10), 991-1010.
- Sharqah, A., Al-Hhashem, A., Alqire, R. (2013). Social capital, attitude, expectations and quality of knowledge sharing in Jordanian knowledge stations. *International Journal of Knowledge-Based Development*, 4(2), 185 – 199.
- Sondergaard, S., Kerr, M., Clegg, C. (2007). Sharing Knowledge: Contextualising Socio-technical Thinking and Practice. *The Learning Organization*, 14(5), 423-435.
- Storey, C., & Kelly, D. (2002). Innovation in services: The need for knowledge management. *Australasian Marketing Journal*, 10, 59–70.
- Suppiah, Visvalingam and Sandhu, Manjit Singh. (2011). Organisational culture's influence on tacit knowledge sharing behavior. *Journal of Knowledge Management*, 15, 462-477.
- Shih, M. H., Tsai, H. T., Wu, C. C., Lu, C. H. (2006). A holistic knowledge sharing framework in high-tech firms: game and co-opetition perspectives. *International Journal of Technology Management*, 36(4), 354-367.
- Tsui, A., Nifadkar, S. S., & Ou, A. Y. (2007). Cross-national, cross-cultural organizational behavior research: Advances, gaps and recommendations. *Journal of Management*, 33, 426-478.
- Tufail, M.S., Hassan, M., Ismail, H., Zahra, S. (2016). The Impact of Work Social Support on Firm Innovation Capability: The Meditational Role of Knowledge Sharing Process and Job Satisfaction and Moderating Role of Organizational Trust. *Pakistan Journal of Social Science*, 36(2), 1215-1228.
- Ullah M.J., Hamid K., Shahzad A., Mahmood Z. (2017). Enhancing the Innovation Capability through Knowledge Sharing. *Pakistan Journal of Commerce and Social Sciences*, 11 (1), 89-104.
- Wallin, J., Larsson, A., Isaksson, O., Larsson, T. (2011). Measuring Innovation Capability—Assessing Collaborative Performance, in Product-Service System Innovation. *Proceedings of the 3rd CIRP International Conference on Industrial Product Service Systems*, 207–212.
- Wang, W., & Hou, Y. (2015). Motivations of employees' knowledge sharing behaviors: A self-determination perspective. *Information & Organization*, 25(1), 1–26.

- Wang, Z., Wang, N. (2012). Knowledge sharing, innovation and firm performance. *Expert Systems with Application*, 39 (10), 8899-9808.
- Wasko, M. M., and Faraj, S. (2000). It is what one does: why people participate and help others in electronic communities of practice. *The Journal of Strategic Information Systems*,9(2-3), 155-173.
- Wang, Sheng & Noe, Raymond A. (2010). Knowledge sharing: A review and directions for future research. *Human Resource Management Review*, 20, 115–131.
- Yesil,S., Buyukmeshe, T., Koska, A. (2013). Knowledge Sharing Process, Innovation Capability and Innovation Performance: An Empirical Study. *Procedia - Social and Behavioral Sciences* ,75, 217 – 225.
- Zand, D. E. (1972). Trust and managerial problem solving. *Administrative Science Quarterly*, 17, 229–239.
- Zhao, H., Tong, X., Wong, P.K., Zhu,J. (2005). Types of technology sourcing and innovative capability: an exploratory study of Singapore manufacturing firms. *Journal of High Technology Management Research* 16(2), 209–224.
- Zhang, Guijun. (2005). The cultural differences in Cross-Cultural Communication. *Sino-US English Teaching*, 12(2), 48-52.
- Zhang, X., De Pablos, P. O., & Xu, Q. (2014). Culture effects on the knowledge sharing in multi-national virtual classes: A mixed method. *Computers in Human Behavior*, 31, 491-498.
- Zimmermann, Kristin. (2010). *Intercultural Competence as a Success Factor of Virtual Multicultural Teams –A Case Study on the Team Effectiveness of Global HR Teams*. Master Thesis. University of Jyväskylä.

Acknowledgements

This research was supported by the Guangdong Public Diplomacy and Intercultural Communication Research Center.