

## Conceptual Proposition: The Mediating Role of Social Capital between Knowledge Sharing Factors and Knowledge Sharing

Wali Rahman<sup>1</sup>, Jawad Hussain<sup>2</sup>, Fayaz Ali Shah<sup>3</sup> & Haji Rahman<sup>4</sup>

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### ABSTRACT

Today's knowledge economy is dependent on proper knowledge management wherein knowledge sharing is critical. This paper presents a conceptual proposition regarding the relationship of commonly known organizational factors and knowledge sharing with social capital of the community of practice as a possible mediator. The extant literature has been reviewed to logically connect the present study with the previous researches. And on the basis of this review research propositions have been developed. The literature review revealed that most of the previous studies have taken into account knowledge based view and resource-based theory in the field of knowledge sharing. These studies have not considered the mediating role of social capital of the community of practice. As social capital plays a major role in people network, making the social exchange possible, and by ignoring this aspect there is a fear of negatively affecting HR effectiveness. This research is aimed to look at this aspect so that a holistic picture could be presented. The research may have many implications. From research point of view, the propositions presented may provide a base for empirical testing. These propositions may provide insights for the managers for improving the mechanisms of knowledge dissemination within and across the organizations boundaries. Social capital of the community of practice should be examined to ascertain its effects on knowledge sharing in organization. The current study is hoped to open future investigations that lead to the validation of the proposed model that has social capital as an integral part.

## INTRODUCTION

For the effective and efficient utilization of organization resources, knowledge management has got central role (Davenport & Prusak, 2000; Dost, Rehman, Gilaninia, Ismail, & Akram, 2018; Zboralski, 2009). This has necessitated the undertaking of a number of initiatives on the part of the organizations to avail its benefits. In this milieu, knowledge management plays a central role and ensures how knowledge resources are utilized for the improved functioning of an organization. This knowledge sharing aims at planning, organizing and achieving organizational goals and objectives through a systematic process of managing and utilizing the existing knowledge within an organization. Here the most challenging task is the integration of the current knowledge of the workforce and the generation of

<sup>1</sup>Associate Professor, Department of Business Administration, Sarhad University of Science and Information Technology Peshawar, Pakistan

<sup>2</sup>Associate Professor, Department of Commerce and Management Sciences, University of Malakand, Chakdara, KP, Pakistan

<sup>3</sup>Assistant Professor, Department of Management Sciences, Islamia College Peshawar, Pakistan

<sup>4</sup>Assistant Professor, Department of Management Sciences, University of Buner, KP, Pakistan

new knowledge by the said workforce; and the success of an organization hinges on coping with this task (Lin, 2007; Teigland, 2003). This workforce or community of practice (CoP) is considered critical means to cherish and improve learning and knowledge sharing in organizations (Lesser & Storck, 2001; Zboralski, 2009). Though there is a strong criticism over the unwanted tilted attention paid to the idea compared to the practical implications, a “firm's advantage over the market lies in dynamically coordinating the knowledge produced by these communities despite such differences” (Brown & Duguid, 2001, p. 198).

“An organization’s ability to effectively leverage its knowledge is highly dependent on its people, who actually create, share, and use the knowledge” (Ipe, 2003, p. 341). This requires active interaction among the employees, employing various techniques for knowledge management (Ardichvili, Maurer, Li, Wentling, & Stuedemann, 2006). Knowledge is cognition and an individual’s exclusive property that has been acquired through personal experience and resides in the mind of the individual (Razmerita, Kirchner, & Nielsen, 2016). Sharing this property is vital for the competitiveness of organizations; the only way for organizations is to motivate their employees to share it voluntarily. At the same time, according to researchers (Du Plessis, 2007; Schmetz, 2002) generally employees are unwilling to share it. This causes a serious problem of knowledge hoarding (Ipe, 2003) which leads to social dilemma, a situation wherein “individuals attempt to maximize their self-interests and pay-offs which make them inclined not to contribute and can consequently lead to collective damage. From a knowledge sharing perspective a social dilemma can be seen as a situation where organizational interests conflict with the employees’ individual interests” (Razmerita, et al., 2016, p. 1228).

The complex nature of the issue has widely been acclaimed in a number of studies (e.g., Albert & Picq, 2004; Ardichvili, et al., 2006; Connelly & Kelloway, 2003; Davenport & Prusak, 2000; Ho, 2009; McDermott & O’Dell, 2001; Riege, 2005; Willem & Scarbrough, 2006; Yu, Kim, & Kim, 2007). These studies have, some way or the other, attempted to explore the underlying barriers to knowledge sharing and the factors that could improve it. Wherever there is scholarly discussion on knowledge management the two theories—knowledge-based view of the firm (KBV) and resource-based theory (RBT)—engaged the attention of the scholars to elaborate their role in understanding the challenges and issues associated with KS. Keeping in view these theories scholars have tried to identify measures to overcome the issue of knowledge hoarding. From the past research on the issue one can easily conclude that commonly known factors are: members’ motivation, management support, information technology, organizational culture, and organizational structure.

The number of empirical and conceptual studies on these factors and their relationships with knowledge

sharing is quite large (Abdullah, et al., 2006; Ardichvili, et al., 2006; Carneiro, 2000; Chen & Hung, 2010; Kwok & Gao, 2005; Wenger, 1998). Notwithstanding, social relationship among the members has not receive attention on equity basis. The researchers in the current study would endeavor to look into these relationships with further insights by conceptualizing the mediation effect of social capital.

## **LITERATURE REVIEW**

Knowledge management plays a critical and crucial role in the effective and efficient realization of organizational objectives and its survival (Dost, et al., 2018). Central to the concept of knowledge management is the two important theories—resource base theory and knowledge base theory (Abdullah, et al., 2006; Alavi & Leidner, 2001; Albert & Picq, 2004; Carmona-Lavado, Cuevas-Rodríguez, & Cabello-Medina, 2010; Eisenhardt & Santos, 2002). Studies in the field of knowledge management have been analyzing organizational factors instrumental in knowledge sharing (Borghoff & Pareschi, 1997; Lee & Choi, 2003) and organizational processes such as knowledge creation, knowledge sharing, knowledge storage, and knowledge usage (Alavi & Leidner, 2001; Gold, Malhotra, & Segars, 2001). Among these knowledge processes, knowledge sharing has been acknowledged as a pivotal one (Abdullah, et al., 2006; Blankenship & Ruona, 2009; Chen & Hung, 2010; Yao, Kam, & Chan, 2007; Zboralski, 2009). All these studies have looked into the influence of various knowledge sharing factors upon the knowledge sharing process.

Knowledge sharing factors are the constituents that are instrumental in promoting organizational and individual learning. According to Lin (2007) they also facilitate individual employees for sharing this knowledge within or across teams. Researchers (Ardichvili, et al., 2006; Donate & Guadamillas, 2011; Lin, 2007; Lin & Lee, 2006; Riege, 2005; Zboralski, 2009) have majorly identified some common organizational factors as antecedents of knowledge sharing. They are: individual, organizational, technological, structural, and cultural.

This study focuses on the mediating role of the social capital of the community of practice between the relationships of some organizational knowledge sharing factors as antecedents and knowledge sharing as outcome. Knowledge sharing factors are many which include organizational structure, organizational culture, management support, reward system, organizational climate, information technology, organizational learning, HR practices, communities, evaluation systems, leadership and organizational strategy. These factors vis-à-vis their relationship with knowledge sharing have been studied by different researchers in different combinations. For instance, Lee and Choi (2003) empirically tested a model of organizational context and technological context on the knowledge creation process; Zboralski (2009)

studied antecedents of knowledge sharing in communities of practice; Lin (2007) empirically tested a three factors model of reward system, top management and ICT use; Rhodes, Hung, Lok, Lien, and Wu (2008) tested a model of knowledge transfer; Tohidinia and Mosakhani (2010) examined the usage of ICT, organizational climate and expected extrinsic reward. The above instances are sufficient to validate the diversity of the issue and its concern among the researchers.

Keeping in view the currency of knowledge sharing factors, the authors have picked five knowledge sharing factors—organizational structure, reward system, information technology, top management support, and office politics—as the antecedents of knowledge sharing. In addition, the authors believe that social capital of community of practice will mediate this relationship.

### **Communities of Practice**

“A community of practice is a group of people who regularly interact with one another to share and learn based on their common interests” (Tsui, Chapman, Schnirer, & Stewart, 2006, p. 20). Wenger and Snyder (2000) define community of practice as “groups of people informally bound together by shared expertise and passion for a joint enterprise” (p. 139). According to them communities of practice have the potentials of executing diverse organizational activities including entrepreneurship, developing employees’ skill, driving strategy, and so forth. Similarly, for Lesser and Storck (2001) it is through diverse activities that the organizational performance of the communities of practice is influenced. According to Lesser and Fontaine (2004) communities of practice may promote knowledge sharing through awareness (consciousness of one another’s knowledge), application (sharing common language and understanding necessary to share their insights), access (provide time and space to connect with one another) and perception (build and promote an atmosphere where knowledge sharing is valued and respected). Human interaction is central to knowledge management (Al-Alawi, Al-Marzooqi, & Muhammad, 2007; Lin, 2007; Wang & Noe, 2010). This means they have contribution in organization and could be considered agents for developing social capital within an organization (Lesser & Storck, 2001). And an effective social capital can influence an organization overall performance (Cross, Parker, Prusak, & Borgatti, 2001; Lesser & Storck, 2001). For this an organization has to encourage social cooperation strategy wherein most employees could be willing to share knowledge or are willing to change their behavior towards adoption of knowledge sharing practices thereby minimizing the chances of causing social dilemma (Razmerita, et al., 2016).

The concept of social capital has a thorough bearing on organization (Nahapiet & Ghoshal, 1998). By

definition it is “the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit” (Nahapiet & Ghoshal, 1998, p. 243). Researchers (Chiu, Hsu, & Wang, 2006) contend that social capital strongly influences the extent to which interpersonal knowledge sharing occurs. That is why Willem and Scarbrough (2006) warn managers of the potential negative effect of power and organizational politics on the role of social capital in knowledge sharing. Social capital has three distinct dimensions - structural, relational and cognitive (Nahapiet & Ghoshal, 1998). Stakeholders in the organization are strategically required to have a thorough knowledge of the interdependence of these dimensions of social capital and their composite influence on knowledge sharing in organization.

From the knowledge sharing point of view, the role of social capital has been discussed by Van den Hooff and Huysman (2009) by distinguishing two approaches—a) the engineering approach, and b) the emergent approach. According to them in the former knowledge is manageable which means management is the determining factor in the process of knowledge sharing, while in the latter it is the social capital that manages the process of knowledge sharing. They further elaborate that they cannot be compartmentalized. They hypothesized that each engineering factor has a positive impact on all the three dimensions of the social capital. From their research they conclude that both emergent and engineering approaches have their respective role in knowledge sharing.

### **Organization structure and knowledge sharing**

Organizational structure has always been a centre of interest for researchers because it either facilitates or hinders any management intervention (Chow & Chan, 2008; Rhodes, et al., 2008; Wang & Noe, 2010). For example, centralized structure in organizations is considered a significant barrier in knowledge sharing (Rhodes, et al., 2008; Serenko, Bontis, & Hardie, 2007; Tsai, 2002). Contrarily, democratic organizational structure encourages knowledge sharing within the workforce (Rhodes, et al., 2008); and such structures engender coordination in employees (Chow & Chan, 2008; Teigland, 2003; Wang & Noe, 2010). As communities of practice are considered a knowledge sharing technique (Keyes, 2008), researchers (Al-Hakim & Hassan, 2012) opine that the choice of suitable organizational structure is a pre-requisite for the effective implementation of knowledge management. From these research findings it can be concluded that if organizations want to get benefit from knowledge sharing, they are required to be less centralized and more flexible to let the communities of practice to share their knowledge with one another within the boundaries of the organization.

No doubt flexible organization structures are conducive for knowledge sharing (Dost, et al., 2018),

however, this study adds that if enhanced levels of social capital of the communities of practice mediate the relationships between organizational structure and knowledge sharing, this will have great implications even for the centralized organizational structure in terms of knowledge sharing. If there are high levels of social capital, collaboration within the boundaries will ensue. This, in turn, will increase people's interaction and bring them closer and a stream of information and expertise would develop among them. The result would be open knowledge sharing and participative decision making. In the light of the above discussion the authors postulate that:

**Proposition 1:** The higher level of social capital within communities of practice will serve as a mediator between organizational structure and knowledge sharing.

### **Reward system and knowledge sharing**

Cost and benefit analysis has wide application in social research. Individuals and organizations alike have always been weighing the input-output ratio. Knowledge sharing is not an exception to it (Razmerita, et al., 2016). Individuals are not supposed to share their knowledge through the “carrot-and-stick” approach (Zboralski, 2009). They have to be motivated. Intrinsic and extrinsic motivation has been used in previous KM studies as drivers or determinants of knowledge sharing behavior (Wang & Hou, 2015). They will share their knowledge with other members of a community of practice only when they expect profit from it and experience reciprocal rewards (Bock & Kim, 2002; Ellis, Oldridge, & Vasconcelos, 2004). To motivate an individual employee, it is very essential to keep in mind the rationale of self-interest behavior. This means that there must be some exceeding reward over the knowledge an individual employee is willing to share.

Keeping in mind the theoretical perspective of individual motivation, several organizations have employed reward system to promote and encourage knowledge sharing among the employees (Bartol & Srivastava, 2002). Such rewards work as signals to the employees that their behaviours are valuable to and are noticed (Cabrera & Cabrera, 2005). Notwithstanding, organizations are warned about the negative implications of such rewards if reward system is fraught with deficiencies (Cabrera & Cabrera, 2005; Riege, 2005).

Side by side with the rationale of self-interest behaviour, is the social exchange theory. When researchers talk of communities of practice, they are highly concerned with social side rather than with the economic side. That is why knowledge sharing motivation can betterly be explained by the social exchange theory. From this theoretical perspective an individual employee helps another employee in the organization

without any immediate return and with no knowledge of whether and when his/her action will be reciprocated by the recipient (Bartol & Srivastava, 2002; Bock & Kim, 2002). The only sources of glue among the communities of practice are citizenship and trust (Chow & Chan, 2008; Razmerita, et al., 2016). Bock and Kim (2002) contend that knowledge sharing is a function of obligation, therefore, impact of reward is little. This obligation can be explained through mutual expectation in terms of returning the favour later without expecting any rewards. This means that when this mutual social expectation among the employees is high, the effect of reward on knowledge sharing will be minimum. And social exchanges among employees are not rewards. However, overall it is a determinant of knowledge sharing. Thus from the above discussion, the authors postulate that:

**Proposition 2:** The higher level of social capital within communities of practice will serve as a mediator between rewards and knowledge sharing.

### **Information technology and knowledge sharing**

Information technology has been termed one of the critical factors in knowledge management (Chourides, Longbottom, & Murphy, 2003; Lee & Choi, 2003; Yeh, Lai, & Ho, 2006). It has been considered one of the tools in knowledge sharing if properly used (Muhammed, Stankosky, & Murray, 2006). It can be helpful in achieving higher level efficiency, employees' participation, communication and knowledge transfer (Ray, 2008; Vaccaro, Parente, & Veloso, 2010).

The role of information technology in knowledge sharing has never been questioned (Razmerita, et al., 2016) but that has never been devoid of the interest in the "people perspective" of knowledge in organizations (Earl, 2001; Stenmark, 2001). In other words successful knowledge management has always been seen as dependent on the social network within the boundaries of the organization (Huysman & Wulf, 2005). The challenge for the communities of practice is the social one i.e. they have to maintain enough diversity to encourage innovative thinking, yet still have common goals and interests. Huysman and Wulf (2005) assert that when there are higher levels of social capital in the communities of practice, opportunities happen to recur with potential motivation to use information technology tools for knowledge sharing purpose.

As in communities of practice members are close, familiar, and enjoy regular interactions with one another, this reflects the existence of a higher level of social capital within those communities. And the existence of strong social capital will certainly promote members' sharing and learning from one another based on their common interests (Chiu, et al., 2006). The study by Chiu, et al. (2006) on the relationship of social capital with knowledge sharing confirmed positive relationships between interactions within

the communities of practice, their reciprocity and identification on knowledge sharing. Similarly, another study (Wasko & Faraj, 2005) investigated social capital and knowledge sharing and found significant evidence to support the relationship between social capital and knowledge sharing. On the basis of the above the authors postulate that:

**Proposition 3:** The higher level of social capital within communities of practice will serve as a mediator between information technology and knowledge sharing.

### **Management support and knowledge sharing**

In managing the affairs of an organization in terms of knowledge management, the role of management is beyond question (Davenport & Prusak, 2000; Huysman & De Wit, 2004; Lin, 2007; Wee, 2012). It is the willingness of the management to encourage and promote a particular behaviour (knowledge sharing is one) and providing all the resources that employees require in affecting this behaviour. Extant literature exhibits that it is one the significant drivers that influences knowledge sharing in organizations (Razmerita, et al., 2016). It has been found that management support for knowledge sharing is a determinant of knowledge sharing culture (Connelly & Kelloway, 2003). While testing the impact of management support on knowledge sharing through employee commitment, Lee, et al. (2006) reported a significant relationship.

It is beyond question that participative management requires personal interaction, high levels of social capital happens to be the central pillar of this interaction. Here the concept of leadership and contingency models of leadership can have interlinking relationships. This would strengthen group support which consequently would promote open knowledge sharing among the communities of practice (Chiu, et al., 2006; Wasko & Faraj, 2005). Therefore, on the basis of the above literature, the authors postulate that:

**Proposition 4:** The higher level of social capital within communities of practice will serve as a mediator between management support and knowledge sharing.

### **Office politics and knowledge sharing**

The common saying “knowledge is power” has great implications for organizations. In organizational context it is rivalry between the competing interest groups or individuals for power, authority and influence. Therefore, power politics in organizations is a critical aspect of knowledge (Weiss, 1999). Two aspects (fear and control) of power are common in office politics literature. Employees hesitate to share because of fear of disagreement or being looked foolish. Similarly, employees are experiencing office politics and perceive it a handy tool to control. Organizational structures cause politics wherein

coordination among tasks and knowledge sharing has become a critical challenge to cope with. If employee's behaviour is looked into from the perspective of theory of reasoned action (Fishbein & Ajzen, 1975) attitude and subjective norm have great bearing on the frequency of an individual's actions in an organization. Research model developed by Chow and Chan (2008) wherein they integrated social capital factors with theory of reasoned action, employees with high levels of social capital make the interpersonal contact productive in terms of knowledge sharing. And on the basis of this Chow and Chan (2008) hypothesized the relationship between social capital and knowledge sharing.

Office politics has been a commonly accepted feature of any organization. In some way it is the invisible part of an organization that relates to the norms and values of the employees that guide their behavior and actions (Razmerita, et al., 2016). This phenomenon has some stigmatic influence on employee attitude and behaviour. Side by side employees perceive that positive social interaction promote positive knowledge sharing (Connelly & Kelloway, 2003). "Knowledge is also bound to social structures and belongs to local communities of practice. Therefore, it does not flow freely regardless of power relations" (Razmerita, et al., 2016, p. 1231). Thus the fear of organizational politics within the interest groups can be diluted by the positive perception of social capital among employees. Therefore, on the basis of the above literature, the authors postulate that:

**Proposition 5:** The higher level of social capital within communities of practice will serve as a mediator between organization politics and knowledge sharing.

### **Conceptual Model**

On the basis of the above discussion, the authors conceptualize a model that examines these relationships with mediation effects of social capital. The purpose of conceptualizing social capital as mediator is to elaborate and accept its critical role. It has to be accepted that the word "sharing" connotes the meaning of volitional tendency in human nature; supportive environment underpins its very survival. These two forces can betterly complement each other within the context of social capital which can make organizational context more supportive for knowledge sharing. Figure 1 pictorially presents this conceptual model.

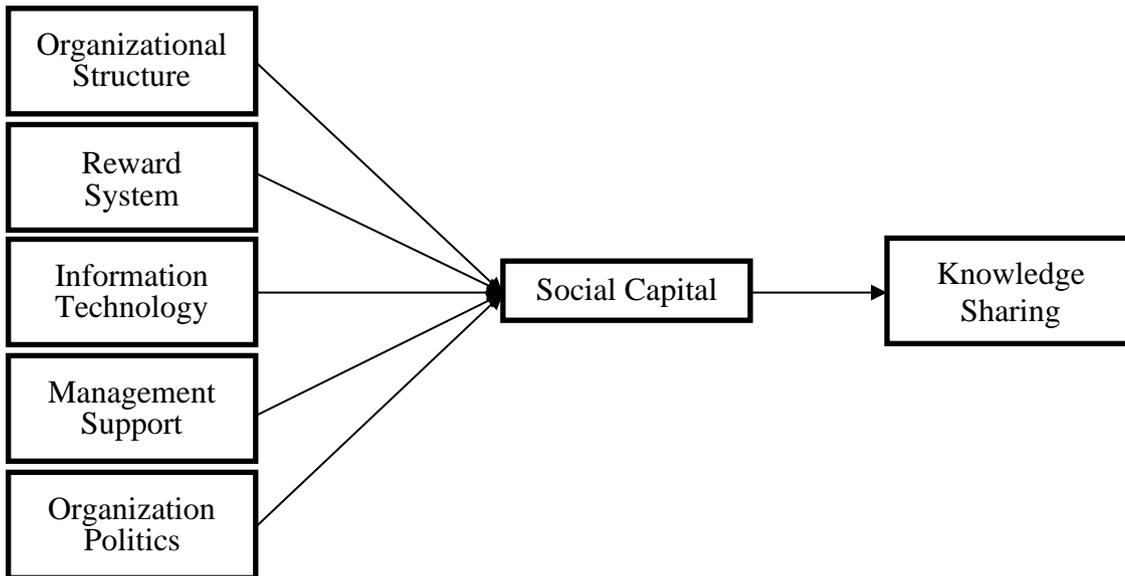


Figure 1 Conceptual Model of the Study

### IMPLICATIONS

The set of propositions presented above has been an endeavour to look at knowledge sharing with the help of a new composite model that conceptualizes the mediation effect of social capital. The authors believe that the research has theoretical as well as practical implications. On the theoretical side, first, the model, presented in the paper, is an addition in the extant literature. Second, these relationships could be empirically tested in different settings for deepening the existing understanding on knowledge management. Consequently, more complex models will ensue. On the practical side, first, looking into these conceptual relationships with deep insight will enable managers to formulate new strategies for knowledge dissemination within and across the organizational boundaries. As there are no major financial implications involved in such strategies, application of different alternatives will be easy. Secondly, promoting social capital among the communities of practice does not warrant any major changes in the system, resistance will not be a major challenge. Thirdly, building social capital and its acceptance seems to be easier if management lends ear to the democratization process in the organization.

## CONCLUSION

Knowledge is a key strategic asset and the most delicate capital. To fully exploit this capital, there is a need of searching every avenue that could be helpful. Therefore, any idea or concept that may either create, explain or promote it, certainly needs attention. The current conceptual approach has been made to broaden the horizons of understanding interlinking relationships of diverse known variables in a more complex process. The role of social capital in linking various human activities has been conceptualized in a model. Through the literature review, efforts have been taken to present the dynamic nature of knowledge in organization, its factors and the intermediating role of social relationships for its dissemination through some propositions. Through this paper the authors have tried to conceptualize these relationships with the help of a model with supporting theories in the field of knowledge management. The authors believe that the prepositions presented in the paper are highly relevant in the field of knowledge management and could be helpful in attracting the attention of the policy makers and managers by understanding these relationships, the authors presume that there would be a corresponding change in the strategies which may be helpful in knowledge sharing ensuring organizational efficiency and effectiveness.

## REFERENCES

- Abdullah, M. S., Kimble, C., Benest, I., & Paige, R. (2006). Knowledge-based systems: A re-evaluation. *Journal of Knowledge Management*, 10(3), 127-142.
- Al-Alawi, A. I., Al-Marzooqi, N. Y., & Muhammad, Y. F. (2007). Organizational culture and knowledge sharing: Critical success factors. *Journal of Knowledge Management*, 11(2), 22-42.
- Al-Hakim, L. A. Y., & Hassan, S. (2012). Critical success factors of knowledge management, innovation and organisational performance: An empirical study of the Iraqi mobile telecommunication sector. *British Journal of Economics, Finance and Management Sciences*, 4(1), 31-49.
- Alavi, M., & Leidner, D. E. (2001). Review: Knowledge management and knowledge management systems: Conceptual foundations and research issues. *Mis Quarterly*, 107-136.
- Albert, M., & Picq, T. (2004). Knowledge-based organizations: Perspectives from San Francisco Bay area companies. *European Journal of Innovation Management*, 7(3), 69-177.
- 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(1), 94-107.
- Bartol, K. M., & Srivastava, A. (2002). Encouraging knowledge sharing: The role of organizational

- reward systems. *Journal of Leadership & Organizational Studies*, 9(1), 64-76.
- Blankenship, S. S., & Ruona, W. E. (2009). Exploring knowledge sharing in social structures: Potential contributions to an overall knowledge management strategy. *Advances in Developing Human Resources*, 11(3), 290-306.
- Bock, G. W., & Kim, Y.-G. (2002). Breaking the myths of rewards: An exploratory study of attitudes about knowledge sharing. *Information Resources Management Journal*, 15(2), 14-21.
- Borghoff, U. M., & Pareschi, R. (1997). Information technology for knowledge management. *Journal of Universal Computer Science*, 3(8), 835-842.
- Brown, J. S., & Duguid, P. (2001). Knowledge and organization: A social-practice perspective. *Organization Science*, 12(2), 198-213.
- Cabrera, E. F., & Cabrera, A. (2005). Fostering knowledge sharing through people management practices. *The International Journal of Human Resource Management*, 16(5), 720-735.
- Carmona-Lavado, A., Cuevas-Rodríguez, G., & Cabello-Medina, C. (2010). Social and organizational capital: Building the context for innovation. *Industrial Marketing Management*, 39(4), 681-690.
- Carneiro, A. (2000). How does knowledge management influence innovation and competitiveness? *Journal of Knowledge Management*, 4(2), 87-.
- Chen, C. J., & Hung, S. W. (2010). To give or to receive? Factors influencing members' knowledge sharing and community promotion in professional virtual communities. *Information & Management*, 47(4), 226-236.
- Chiu, C. M., Hsu, M. H., & Wang, E. T. (2006). Understanding knowledge sharing in virtual communities: An integration of social capital and social cognitive theories. *Decision Support Systems*, 42(3), 1872-1888.
- Chourides, P., Longbottom, D., & Murphy, W. (2003). Excellence in knowledge management: An empirical study to identify critical factors and performance measures. *Measuring Business Excellence*, 7(2), 29-45.
- Chow, W. S., & Chan, L. S. (2008). Social network, social trust and shared goals in organizational knowledge sharing. *Information & Management*, 45(7), 458-465.
- Connelly, C. E., & Kelloway, E. K. (2003). Predictors of employees' perceptions of knowledge sharing cultures. *Leadership & Organization Development Culture*, 24(5/6), 294-301.
- Cross, R., Parker, A., Prusak, L., & Borgatti, S. P. (2001). Knowing what we know: Supporting knowledge creation and sharing in social networks. *Organizational Dynamics*, 30(2), 100-120.
- Davenport, T. H., & Prusak, L. (2000). *Working Knowledge: How Organizations Manage What They Know*: Harvard Business School Press, Boston, MA.
- DeLong, D., & Fahey, L. (2000). Diagnosing cultural barriers to knowledge management. *Academy of Management Executive*, 14(4), 113-127.
- Donate, M. J., & Guadamillas, F. (2011). Organizational factors to support knowledge management and innovation. *Journal of Knowledge Management*, 15(6), 890-914.
- Dost, M. K. B., Rehman, C. A., Gilaninia, S., Ismail, K. B., & Akram, M. W. (2018). The impact of knowledge management's practices on supply chain performance of the dairy sector in Central Punjab: A mediating role of decentralization. *Economic Research*, 31(1), 290-312.
- Du Plessis, M. (2007). The role of knowledge management in innovation. *Journal of Knowledge*

- Earl, M. (2001). Knowledge management strategies: Towards a taxonomy. *Journal of Management Information Systems*, 18(1), 215-242.
- Eisenhardt, K. M., & Santos, F. M. (2002). Knowledge-based view: A new theory of strategy. *Handbook of Strategy and Management*, 139-164.
- Ellis, D., Oldridge, R., & Vasconcelos, A. (2004). Community and virtual community. *Annual Review of Information Science and Technology*, 38, 145-186.
- Fishbein, M., & Ajzen, I. (1975). *Beliefs Attitude, Intention and Behavior: An Introduction to Theory and Research*: Addison-Wesley Publishing Company, Philippines.
- Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge management: an organizational capabilities perspective. *J. of Management Information Systems*, 18(1), 185-214.
- Ho, C. (2009). The relationship between knowledge management enablers and performance. *Industrial Management & Data Systems*, 109(1), 98-117.
- Huysman, M., & De Wit, D. (2004). Practices of managing knowledge sharing: Towards a second wave of knowledge management. *Knowledge and Process Management*, 11(2), 81-92.
- Huysman, M., & Wulf, V. (2005). IT to support knowledge sharing in communities, towards a social capital analysis. *Journal of Information Technology*, 21(1), 40-51.
- Ipe, M. (2003). Knowledge sharing in organizations: a conceptual framework. *Human Resource Development Review*, 2(4), 337-359.
- Keyes, J. (2008). *Identifying the Barriers to Knowledge Sharing in Knowledge Intensive Organizations*: ProQuest.
- Kwok, S. H., & Gao, S. (2005). Attitude towards knowledge sharing behavior. *Journal of Computer Information Systems*, 46(2), 45-51.
- Lee, H., & Choi, B. (2003). Knowledge management enablers, processes, and organizational performance: An integrative view and empirical examination. *Journal of Management Information Systems*, 20(1), 179-228.
- Lee, J. H., Kim, Y. G., & Kim, M. Y. (2006). Effects of managerial drivers and climate maturity on knowledge-management performance: empirical validation. *Information Resources Management Journal (IRMJ)*, 19(3), 48-60.
- Lesser, E. L., & Fontaine, M. A. (2004). Overcoming knowledge barriers with communities of practice: Lessons learned through practical experience. In P. M. Hildreth & C. Kimble (Eds.), *Knowledge Networks: Innovation through Communities of Practice* (pp. 14-23): Hershey, PA: Idea Group Publications.
- Lesser, E. L., & Storck, J. (2001). Communities of practice and organizational performance. *IBM Systems Journal*, 40(4), 831-841.
- Lin, H.-F. (2007). Knowledge sharing and firm innovation capability: An empirical study. *International Journal of Manpower*, 28(3/4), 315-332.
- Lin, H.-F., & Lee, G.-G. (2006). Effects of socio-technical factors on organizational intention to encourage knowledge sharing. *Management Decision*, 44(1), 74-88.
- McDermott, R., & O'Dell, C. (2001). Overcoming culture barriers to knowledge sharing. *Journal of Knowledge Management*, 5(1), 76-85.

- Muhamed, M., Stankosky, M., & Murray, A. (2006). Knowledge management and information technology: Can they work in perfect harmony? . *Journal of Knowledge Management*, 3(3), 103-116.
- Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23(2), 242-266.
- Ray, L. (2008). Requirement for knowledge management. *Journal of Knowledge Management*, 12(3), 156-158.
- Razmerita, L., Kirchner, K., & 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.
- Rhodes, J., Hung, R., Lok, P., Lien, B., & Wu, C. (2008). Factors influencing organizational knowledge transfer: Implication for corporate performance. *Journal of Knowledge Management*, 12(3), 84-100.
- Riege, A. (2005). Three-dozen knowledge-sharing barriers managers must consider. *Journal of Knowledge Management*, 9(3), 18-35.
- Schmetz, F. (2002). Introduction to KM in the Public Sector. *Knowledge Board*, October.
- Serenko, A., Bontis, N., & Hardie, T. (2007). Organizational size and knowledge flow: A proposed theoretical link. *Journal of Intellectual Capital*, 8(4), 610-627.
- Stenmark, D. (2001). Leveraging tacit organizational knowledge. *Journal of Management Information Systems*, 17(3), 9-24.
- Teigland, R. (2003). *Knowledge Networking: Structure and Performance in Networks of Practice*, : Institute of International Business, Stockholm School of Business, Stockholm.
- Tohidinia, Z., & Mosakhani, M. (2010). Knowledge sharing behaviour and its predictors. *Industrial Management & Data Systems*, 110(4), 611-631.
- Tsai, W. (2002). Social structure of “coopetition” within a multiunit organization: Coordination, competition, and intraorganizational knowledge sharing. *Organization Science*, 13(2), 179-190.
- Tsui, L., Chapman, S. A., Schnirer, L., & Stewart, S. (2006). *A Handbook on Knowledge Sharing: Strategies and Recommendations for Researchers, Policymakers, and Service Providers: Community-University Partnership for the Study of Children, Youth, and Families* Edmonton.
- Vaccaro, A., Parente, R., & Veloso, F. M. (2010). Knowledge management tools, inter-organizational relationships, innovation and firm performance. *Technological Forecasting & Social Change*, 77(7), 1076-1089.
- Van den Hooff, B., & Huysman, M. (2009). Managing knowledge sharing: Emergent and engineering approaches. *Information & Management*, 46(1), 1-8.
- Wang, S., & Noe, R. A. (2010). Knowledge sharing: A review and directions for future research. *Human Resource Management Review*, 20(2), 115-131.
- Wang, W.-T., & Hou, Y.-P. (2015). Motivations of employees’ knowledge sharing behaviors: A self-determination perspective. *Information and Organization*, 25(1), 1-26.
- Wasko, M. M., & Faraj, S. (2005). Why should I share? Examining social capital and knowledge contribution in electronic networks of practice. *MIS Quarterly*, 29(1), 35-57.
- Wee, S. H. (2012). *Important enabler in the knowledge sharing process: Top management support*. Paper presented at the International Conference on Innovation Management and Technology

Research (ICIMTR), 2012.

- Weiss, L. (1999). Collection and connection: The anatomy of knowledge sharing in professional service. *Organization Development Journal*, 17(4), 61-72.
- Wenger, E. (1998). *Communities of Practice: Learning, Meaning, and Identity*: Cambridge University Press, Cambridge.
- Wenger, E. C., & Snyder, W. M. (2000). Communities of practice: The organizational frontier. *Harvard Business Review*, 78(1), 139-146.
- Willem, A., & Scarbrough, H. (2006). Social capital and political bias: An exploratory study. *Human Relations*, 59(10), 1343-1370.
- Yao, L., Kam, T., & Chan, S. (2007). Knowledge sharing in Asian public administration sector: The case of Hong Kong. *Journal of Enterprise Information Management*, 20(1), 51-69.
- Yeh, Y. J., Lai, S. Q., & Ho, C. T. (2006). Knowledge management enablers: A case study. *Industrial Management and Data Systems*, 106(6), 793-810.
- Yu, S., Kim, Y., & Kim, M. (2007). Do we know what really drives KM performance? *Journal of Knowledge Management*, 11(6), 39-53.
- Zboralski, K. (2009). Antecedents of knowledge sharing in communities of practice. *Journal of Knowledge Management*, 13(3), 90-101.