

The Factors Affecting Knowledge Transfer Intention and Mediating Effect of Transactive Memory System

Omer Faruk Gurcan, M. Kursat Oksuz and Onur Dogan

Department of Industrial Engineering

Istanbul Technical University

Macka, 34367, Turkey

ofgurcan@itu.edu.tr, mkoksuz@itu.edu.tr, odogan@itu.edu.tr

Abstract

Today, developments in information technologies make knowledge even more important. Having knowledge and managing it effectively are very important for firms to gain competitive advantage in rapidly changing environment conditions. Knowledge management effectiveness depends on capacity of firms about creating new knowledge and sharing or transferring current knowledge. Knowledge transfer (KT) facilitates organizational learning, offers financial advantages to firms and increases firms' performance. Understanding of how knowledge is transferred from one unit to another is very important. The purpose of this study is determining the factors that affect KT intention of employees in organizations. Data was collected from 377 employees working in various sectors. A model is formed and trust, self-efficacy, transactive memory system, organizational rewards and organizational structure's effect on KT, and Transactive memory system's mediating effect are investigated with Structural Equation Modeling using SPSS Amos.

Keywords

knowledge, transfer, self-efficacy, transactive memory system

1. Introduction

Knowledge becomes a key resource that organizations own in order to compete and live in the competitive environment. The value of the organizations has been started to be measured by the knowledge they own. Today, economical power is handed by knowledge owned organizations. Natural resources, raw materials, big facilities or cheap workforce are no longer enabling competitive advantage (Barutcugil, 2002). Therefore, it is vital for the organizations to manage knowledge effectively. Knowledge management effectiveness depends not only on creating knowledge and but also transferring knowledge to the other parties. The knowledge transfer enables employees to reach needed knowledge easily and in a fast way. Organizations and their employees should understand that knowledge value increases when it is transferred (Zaim, 2005). However, not all organizations become successful in transferring the current knowledge within the organization among employees. Understanding the factors affecting the effective transfer of knowledge may lead companies to achieve competitive advantage to their rivals.

There are studies in the literature that focus on the effects of knowledge and knowledge management on firm success. However, there is lack in studies that link daily organizational knowledge with knowledge transfer between individuals, entities or organizations (Yucelen, 2005). The aim of this study is to understand the factors affecting knowledge transfer intentions of individuals in organizations based on a survey data collected from employees working in various sectors of Turkey. A model is formed which includes knowledge transfer intention, trust, self-efficacy, transactive memory system (TMS), organizational rewards and organizational structure.

The rest of this paper is structured as follows: The second section presents an overview of the literature on knowledge transfer and hypotheses. In the third section, research methodology is presented; data analysis and results are given. Conclusions and suggestions for future studies are provided at the end.

2. Literature Review and Hypotheses Development

An important part in knowledge management is to disseminate and make knowledge accessible and usable within or between organizations (Paulin and Suneson, 2012). This makes knowledge transfer as one of the most important phases in knowledge management (Duan et al., 2010). Knowledge transfer is a communication process between the source and the receiver (Cummings, 2003); exchange of knowledge between parties in an organization (Szulanski, 1996); absorbing and application of transferred knowledge by receiver (Ko et al., 2005); is a process where one unit (e.g., group, department or division) is affected by the experience of another (Argote and Ingram, 2000); transferring and dissemination of knowledge from an individual, group or organization to the other one (Gunsel, 2004). Knowledge transfer creates new knowledge and maximizes the value of the knowledge (Kang et al., 2010). If organizations are not able to transfer knowledge internally, there will be waste of source and time in reaching current knowledge (Zaim, 2005). Knowledge transfer enables coordination and collaboration between organizational units (Pham, 2008), makes easier organizational learning (Kang and Kim, 2010), increases market share and profit of organizations (Susanty et al., 2012); increases productivity and surviving chance in the market (Baum and Ingram, 1998). Knowledge transfer can be between the individuals, organizations, within the organization and at international level (Zaim, 2005; Duan et al., 2010). The current study focuses on knowledge transfer between individuals in an organization.

In the literature, several factors have been studied in order to explain knowledge transfer. Knowledge specialties affect knowledge transfer speed and performance (Kang et al., 2010). Knowledge transfer depends on knowledge type and complexity; qualification and behavior of individuals who share knowledge (Boisot, 2002). Tacitness, complexity and causal ambiguity of knowledge make knowledge transfer difficult; strategic importance of knowledge easiness knowledge transfer (Eisenhardt and Santos, 2000). Organizational structure, organizational culture, reward system and knowledge technologies affect knowledge transfer (Cabrera et al., 2006; Chen and Huang, 2007; Al-Alawi et al., 2007). Individual characteristics (Baldwin and Ford, 1988), social network characteristics (McEvily and Zaheer, 1999), trust, motivation (Argote et al., 2003), social interaction (Tsai and Ghoshal, 1998), management support (Vera and Crossan, 2004), source's expertise, structural equivalence, group identity (Kang and Kim, 2010), organizational culture (Gunsel, 2004), behavioral properties of knowledge source (Husted and Michailova, 2002), absorptive capacity of receiver (Lane and Lubatkin, 1998) and technology (Jasimuddin, 2007) affect knowledge transfer. According to the studies related with knowledge transfer, knowledge transfer decision is mostly affected by knowledge type, characteristics of source and receiver and organizational conditions.

The research model is constructed based on the studies in the literature. In the research model, factors affecting knowledge transfer intention will be explored. Intention denotes the possible action of the individual and it is considered as the previous step of the actual behavior. People first intent to do an action and then performs the behavior. Figure 1 shows the research model and O.R denotes Organizational Rewards, O.S denotes Organizational Structure and TMS denotes Transactive Memory System.

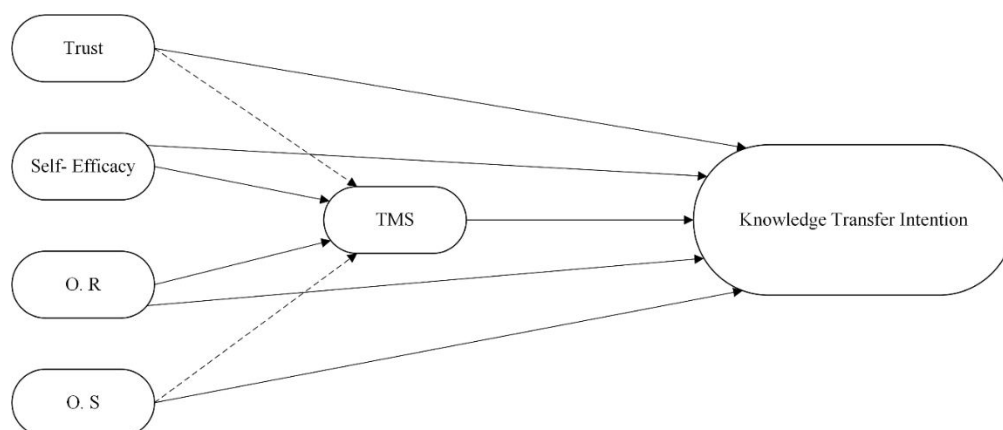


Figure 1. Research Method

Behavioral intention is measures of probability of an individual's recognize a behavior. When an individual intend to carry out a behavior, it is expected that individual tries and makes an effort more for carrying out that behavior. So realization probability of behavior increases (Gumussoy, 2009). Knowledge exchange and knowledge sharing behavior depend on intent. When intent increases, the probability of knowledge transfer occurring increases (Wang et al., 2009). Employee's knowledge sharing intent is an important indicator of knowledge sharing behavior. According to Bock and Kim (2002), there is a positive relation between knowledge sharing intent and real knowledge sharing behavior.

Trust occurred when one party trusts another party's reliability and honesty in an exchange relationship (Li, 2005). Effective knowledge transfer requires trust between individuals in all processes and the activities (Brachos et al., 2007). Trust between sides enhances knowledge transfer (Argote et al., 2003). Many studies have showed the relation between trust and knowledge transfer (Brachos et al., 2007; Li, 2005; Gunsell, 2004; Duan et al., 2010; Al-Alawi et al., 2007). Accordingly, trust between sides affects knowledge transfer. Therefore, the following hypothesis is formed:

H1: There is positive relation between trust among employees and knowledge transfer intention

Schworer et al. (2005, p. 115) regarded self-efficacy as "the beliefs that an individual has that he or she can successfully carry out the actions necessary to accomplish intentions". Self-efficacy is an important factor in knowledge sharing decision and influencing individuals' motivation and behavior. People who have high self-efficacy will be more likely to perform the behavior than the ones who have the low (Hsu et al., 2007). Self-efficacy motivates cooperation among group members so it enables more effective knowledge sharing and using. The relation of self-efficacy with knowledge transfer has been presented in many studies (Cabrera et al., 2006; Hsu et al., 2007). Van Acker et al. (2014) found that knowledge sharing self-efficacy was positively related to intention to share. Wang and Yang (2015) showed that self-efficacy engage employees to share their tacit knowledge. Thus, the following hypothesis is formed:

H2: There is positive relation between self-efficacy and knowledge transfer intention.

Organizational rewards also provide a knowledge sharing culture in organizations. Organizations can give various forms of rewards such as salary raises, bonuses, job security, and opportunities for promotion to encourage knowledge-sharing behaviors (He and Wei, 2009). Employees may share knowledge for intrinsic motivational rewards (such as increased reputation or respect) or for extrinsic rewards (such as payment or promotion) (Seba et al., 2012). This relationship has been confirmed in the literature (Cabrera et al., 2006; Al Alawi et al., 2007; Hau et al., 2013; Pham, 2008). Therefore, the following hypothesis are formed:

H3: There is positive relation between organizational rewards and knowledge transfer intention.

Organizational structure is defined as organizing, grouping and coordinating work in an organization. It is a model which shows relations within employees and within positions (Pham, 2008). Organizational structure can be a facilitator or prohibitor factor in knowledge sharing. Centralization and formalization which are the dimensions of organizational structure affect knowledge transfer. Centralization is about the decision making authority in an organization; the extent to which decision making is concentrated in a single point or diffused throughout the organization. Formalization shows that the work processes of an organization are explicitly represented and standardized under the form of written policies and rules (Pham, 2008). Knowledge transfer effectiveness increases in informal and decentralist organizations (Gunsell, 2004). According to literature there is a relation between organizational structure and knowledge transfer (Al-Alawi et al., 2007; Seba et al., 2012; Chen and Huang, 2007; Susanty et al., 2012; Pham, 2008). Therefore, the following hypotheses are formed:

H4: There is negative relation between high centralized and formalized organizational structure and knowledge transfer intention.

Employees have different knowledge of specialization in a group. Who knows what should be known by group members is crucial for effective knowledge sharing in a group (Huang, 2009). TMS combines the knowledge possessed by each individual with a collective awareness of who knows what (Wegner, 1987). TMS enables groups and organizations to match tasks to the most qualified member. Employees trust each other's knowledge and

employees have necessary knowledge all together. Effective sharing and using of knowledge depends on skills of forming and managing TMS (Huang, 2009; Argote and Guo, 2016). TMS helps members develop communication processes to effectively utilize distributed knowledge (Cao and Ali, 2018). TMS eases knowledge transfer (Borgatti and Cross, 2003), increases amount of sharing knowledge between individuals (Choi et al., 2010; Huang, 2009). Hong and Zhang (2017) investigated integrative process of individual knowledge based on TMS and behavioral intention. They found that individual intention has significant and positive impact on knowledge integration directly; specificity and coordination of TMS have significant and positive effect on individual intention directly. Therefore, the following hypotheses are formed:

H5: There is positive relation between TMS and knowledge transfer intention.

H6: TMS has a mediating effect between Trust and knowledge transfer intention

H7: TMS has a mediating effect between Self-Efficacy and knowledge transfer intention

H8: TMS has a mediating effect between Organizational Rewards and knowledge transfer intention

H9: TMS has a mediating effect between Organizational Structure and knowledge transfer intention

3. Methodology

A survey methodology was used in the study. In the first part of the questionnaire, demographic data was collected. The questions were formed based on previous studies in the literature. Questions were taken from Hau et al. (2013) for measuring knowledge transfer intention; He and Wei (2009) for measuring trust; Tseng and Kuo (2010) for measuring self-efficacy; Huang (2009) for measuring TMS; Pham (2008) and Al-Alawi et al. (2007) for measuring organizational rewards; Chen and Huang (2007) and Ferrell and Skinner (1988) for measuring organizational structure. Respondents indicate their agreement level to the items on a five-point Likert scale: 1 presents: strongly disagree, 5 presents: strongly agree. Survey was tested with an expert group before sending to participants. Survey data was collected from 377 individuals who are working in 17 different sectors in public or private. The questionnaire was presented with an online system. Survey link was sent by emails, social networking sites, forums and mail groups. According to the demographic data, 30.2% of the participants work in public, 69.2% of them work in private sectors. 63.3% of participants are male, 36.7% of them are female. 15.1% of participants work in education, 10.3% work in banking and finance, 9.2% of them work in IT sectors. The majority of the respondents have undergraduate degree (50.9%), 41.9% of them have master degree and 6.6% of them have a PhD degree. A 58.6% of them are engineer/expert, 19.6% of them are mid-level manager, 7.6% of them are upper level manager and 3.7% of them are technicians.

4. Analysis and Results

According to Confirmatory Factor Analysis (CFA) results, $\chi^2=406.954$, degrees of freedom (df)=155, $\chi^2/df= 2.626$ (less than 5, lower values indicating a better fit), Adjusted Goodness of Fit (AGFI)=0.899, Comparative Fit Index (CFI)=0.951, Tucker-Lewis coefficient (TLI)=0.940. All indices are close to a value of 1.0 indicating that the measurement models provide good support for the factor structure. Figure 2 shows CFA results and Table 1 shows factor loadings in CFA. All the factor loadings are greater than 0,50 with $p<0,05$. For the reliability, Cronbach's alpha values were checked. Cronbach's alpha is 0.825 for Self-efficacy, 0.874 for Trust, 0.807 for Organizational structure, 0.897 for Organizational rewards and lastly 0.697 for Transactive memory system.

In the path analysis, $\chi^2=561.614$, df=212, $\chi^2/df= 2.649$ (less than 5, lower values indicating a better fit), AGFI=0.888, CFI=0.941, TLI=0.930 were obtained. All indices are close to a value of 1.0 indicating that the measurement models provide good support for the model. Path model regression weights are given in Table 2. According to Table 2, all relations have p value less than 0,05 except the relation between organizational structure and knowledge transfer intention; organizational rewards and knowledge transfer intention. So H1, H2, H5, H8 and H9 hypotheses are supported. H3, H4, H6 and H7 are not supported. TMS is the most effective factor of knowledge transfer intention of employees followed by self-efficacy and trust respectively. On the other hand, TMS has a full mediating effect between Organizational Rewards and Knowledge Transfer Intention; and Organizational Structure and Knowledge Transfer Intention.

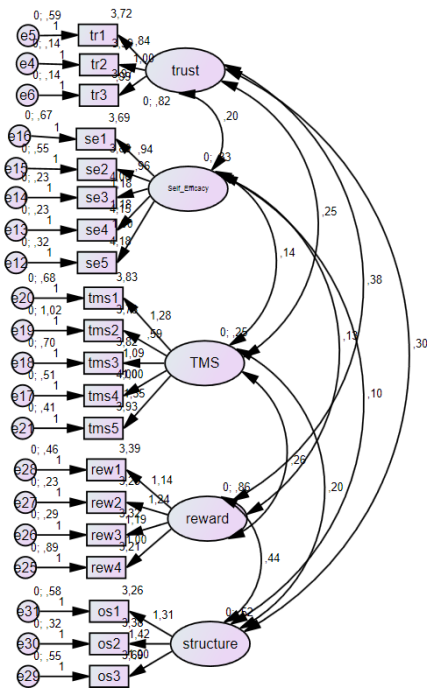


Figure 2. Confirmatory Factor Analysis

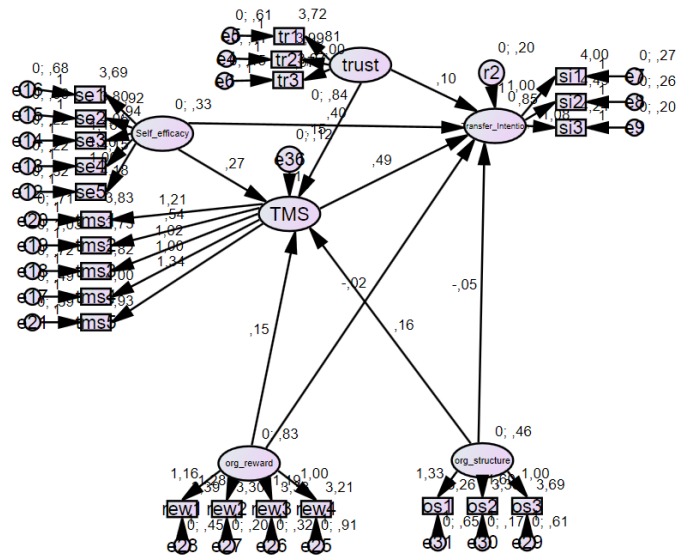


Figure 3. Result of the Path Model

Table 1. Factor Loadings in CFA

			Estimate				Estimate
tr1	←	Trust	0,703	tms1	←	TMS	0,612
tr2	←	Trust	0,926	tms5	←	TMS	0,724
se5	←	Self-Efficacy	0,712	rew4	←	Org reward	0,701
se4	←	Self-Efficacy	0,816	rew3	←	Org reward	0,922
se3	←	Self-Efficacy	0,818	rew2	←	Org reward	0,922
se2	←	Self-Efficacy	0,6	rew1	←	Org reward	0,84
se1	←	Self-Efficacy	0,55	os3	←	Org structure	0,696
tms4	←	TMS	0,572	os2	←	Org structure	0,874
tms3	←	TMS	0,544	os1	←	Org structure	0,78
tms2	←	TMS	0,579	tr3	←	Trust	0,921

Table 2. Regression Weights in Path Analysis.

Relation		Regression Weights	P
TMS	← Org_reward	,150	***
TMS	← Org_structure	,158	***
TMS	← Self-efficacy	,273	***
TMS	← Trust	,155	***
Transfer_Intention	← TMS	,494	***
Transfer_Intention	← Self-efficacy	,403	***
Transfer_Intention	← Trust	,103	,002
Transfer_Intention	← Org_structure	-,051	,236
Transfer_Intention	← Org_reward	-,023	,494

5. Conclusion

According to the results, there is a positive relation between Trust and knowledge transfer intention. When there is a fiduciary relationship between the individuals in an organization, knowledge transfer intention is affected positively. This finding is similar to the findings of Hau et al. (2013) who indicates that trust as a component of social capital contributes significantly to enhancing employees' tacit and explicit knowledge sharing intentions. The other result revealed that there is a positive relation between self-efficacy and knowledge transfer intention. According to this result, when an employee believes himself/herself to be skilled in sharing knowledge easily with the others or obtaining others' knowledge by observing, increases knowledge transfer intention. Similar result exists in the literature (Cabrera et al., 2006). Results from a survey of 372 employees from a large multinational, Cabrera et al. (2006) found that that self-efficacy associated with sharing knowledge; a sense of personal competence and confidence may be a requirement for an employee to engage in knowledge exchanges. Olowodunoye (2015) found that self-efficacy played important roles in knowledge sharing behaviour among employees. Similar result was found by Li (2013) which argue that employees with higher levels of self-efficacy are more likely to engage in knowledge sharing behavior.

In another finding, TMS has a positive significant effect on knowledge transfer intention. When such cooperation based medium exists between employees, employees' knowledge transfer intent increases. TMS empowers team knowledge management, eases knowledge work and acting as a critical factor affecting team performance (Cao and Ali, 2018). A field study that involved 139 on-going teams from two major firms in South Korea, Choi et al. (2010) found that IT support in organizations has a positive impact on the development of TMS in teams, and that both TMS and IT support affect knowledge sharing positively. Using data from a sample of 290 members of 60 R&D teams in a government-supported R&D institute, Huang (2009) showed TMS positively and significantly mediates the relationship between trust and knowledge sharing. According to results, high centralized and formalized organizational structure and organizational rewards don't have a direct relationship with knowledge transfer intention. Similar results are found in literature such as Lin (2007) obtained that there is no relation between the organizational rewards and knowledge sharing decision and intention of employees. According to Gunsell (2004), formal and centralized organizational structure doesn't affect technology transfer which is a special kind of knowledge transfer. This study shows organizational structure and organizational rewards affect knowledge transfer intention through mediating effect of TMS. The effectiveness of a TMS depends on cognitive interdependence among members as they interact with, trust, and learn from each other (Fan et al., 2016). When TMS is developed in organizations, organizational rewards to engage employees to transfer knowledge will be effective. Besides when organizations have highly centralized and formalized structures, TMS will constitute a work environment where employees are willing to transfer knowledge.

This study contributes to the literature by exploring the factors affecting knowledge transfer intention and exploring TMS's mediating effect between organizational structure, organizational reward and knowledge transfer intention. For the future studies model can be modified; other factors can be added to model and other moderating/mediating

effects can be investigated; knowledge transfer intention between partners, various organizations can be studied. Cross-sectoral analyses can be made and results can be compared.

References

- Al-Alawi, A.I., Al-Marzooqi, N.Y., and Mohammed, Y.F., Organizational Culture and Knowledge Sharing: Critical Success Factors, *Journal of Knowledge Management*, vol. 11, no.2, pp. 22-42, 2007.
- Argote, L., & Guo, J. M. (2016). Routines and transactive memory systems: Creating, coordinating, retaining, and transferring knowledge in organizations. *Research in Organizational Behavior*, 36, 65-84.
- Argote, L., and Ingram, P., Knowledge transfer: a basis for competitive advantage in firms. *Organizational Behavior and Human Decision Processes*, vol. 82, no. 1, pp. 150-169, 2000.
- Argote, L., McEvily, B., & Reagans, R., Managing knowledge in organizations: an integrative framework and review of emerging themes. *Management Science*, vol. 49, no. 4, pp. 571-582, 2003.
- Baldwin, T. T., & Ford, J. K., Transfer of training: A review and direction for future research. *Personnel Psychology*, vol. 41, pp. 63-105, 1988.
- Barutcugil, İ., Bilgi Yönetimi. Kariyer Yayınları, İstanbul, 2002.
- Baum, J.A.C., and Ingram, P., Survival-enhancing learning in the Manhattan hotel industry 1898–1980, *Management Science*, vol. 44, no. 7, pp. 996-1016, 1998.
- Bock, G.W., and Kim, Y.G., Breaking the myths of rewards: An exploratory study of attitudes about knowledge sharing, *Information Resource Management Journal*, vol. 15, no. 2, pp. 14-21, 2002.
- Boisot, M.H., The creation and sharing of knowledge, in *The Strategic Management of Intellectual Capital and Organizational Knowledge*, Oxford University Press, New York, pp. 65-77, 2002.
- Borgatti, S.P., and Cross, R., A relational view of information seeking and learning in social networks. *Management Science*, vol. 49, no. 4, pp. 432-445, 2003.
- Brachos, D., Kostopoulos, K., Soderquist, K.E., and Prastacos, G., Knowledge effectiveness, social context and innovation, *Journal of Knowledge Management*, vol. 11, no. 5, pp. 31-44, 2007.
- Cabrera, A., Collins, W.C., and Salgado, J.F., Determinants of individual engagement in knowledge sharing, *International Journal of Human Resource Management*, vol. 17, np. 2, pp. 245-264, 2006.
- Cao, X., & Ali, A. (2018). Enhancing team creative performance through social media and transactive memory system. *International Journal of Information Management*, 39, 69-79.
- Chen, C.J., and Huang, J.W., How organizational climate and structure affect knowledge management-The social interaction perspective, *International Journal of Information Management*, vol. 27, no. 2, pp. 104- 118, 2007.
- Choi, S. Y., Lee, H., and Yoo, Y., The impact of information technology and transactive memory systems on knowledge sharing, application, and team performance: a field study. *MIS Quarterly*, vol. 34, no. 4, pp. 855-870, 2010.
- Cummings, J., Knowledge sharing: A review of the literature. Washington, DC: World Bank, 2003.
- Duan, Y., Nie, W., and Coakes, E., Identifying key factors affecting transnational knowledge transfer. *Information & Management*, vol. 47, pp. 356-363, 2010.
- Eisenhardt, K. M., and Santos, F. M., Knowledge based view: a new theory of strategy? in: Pettigrew, A., Thomas, H., Whittington, R. (eds.), *Handbook of Strategy and Management*, Sage Publication, 2000.
- Fan, H. L., Chang, P. F., Albanese, D., Wu, J. J., Yu, M. J., & Chuang, H. J. (2016). Multilevel influences of transactive memory systems on individual innovative behavior and team innovation. *Thinking Skills and Creativity*, 19, 49-59.
- Ferrell, O.C., & Skinner, S.J., Ethical Behavior and Bureaucratic Structure in Marketing Research Organizations. *Journal of Marketing Research*, vol. 25, pp. 103-109, 1988.
- Gumussoy, Ç.A., Elektronik-Açık Eksiltme Teknolojisinin Kullanımını Etkileyen Faktörlerin Genişletilmiş Teknoloji Kabul Modeli İle Açıklanması, (PhD Thesis), İstanbul Teknik Üniversitesi, 2009.
- Günsel, A., Bilgi ekonomisinde teknoloji transferinin bilgi transferine dönüşümü ve etkin bir bilgi transferi süreci, (Master Thesis), Gebze Yüksek Teknoloji Enstitüsü, 2004.
- Hau, Y.S., Kim, B., Lee, H., and Kim, Y.G., The effects of individual motivations and social capital on employees' tacit and explicit knowledge sharing intentions, *International Journal of Information Management*, vol. 33, pp. 356-366, 2013.
- He, W., Qiao, Q., and Wei, K.K., Social relationship and its role in knowledge management systems usage. *Information & Management*, vol. 46, pp. 175-180, 2009.
- Hong, D., & Zhang, L. (2017). Does Transactive Memory Systems Promote Knowledge Integration Directly?. *Procedia Computer Science*, 112, 896-905.

- Hsu, M.H., Ju, T.L., Yen, C.H., and Chang, C.M., Knowledge sharing behavior in virtual communities: The relationship between trust, self efficacy, and outcome expectations. *International Journal of Human Computer Studies*, vol. 65, no. 2, pp. 153-169, 2007.
- Huang, C.C., Knowledge sharing and group cohesiveness on performance: An empirical study of technology R&D teams in Taiwan, *Technovation*, vol. 29, pp. 786-797, 2009.
- Husted, K., and Michailova, S., Diagnosing and fighting knowledge-sharing hostility, *Organizational Dynamics*, vol. 31, no. 1, pp. 60-73, 2002.
- Jasimuddin, S.M., Exploring knowledge transfer mechanisms: The case of a UK-based group within a high-tech global corporation, *International Journal of Information Management*, vol. 27, pp. 294-300, 2007.
- Kang, J., Rhee, M., and Kang, K.H., Revisiting knowledge transfer: Effects of knowledge characteristics on organizational effort for knowledge transfer, *Expert Systems with Applications*, vol. 37, pp. 8155-8160, 2010.
- Kang, M., & Kim, Y.G., A Multilevel View on Interpersonal Knowledge Transfer, *Journal of the American Society for Information Science and Technology*, vol. 61, no. 3, pp. 483-494, 2010.
- Ko, D.G., Kirsch, L.J., & King, W.R., Antecedents of knowledge transfer from consultants to clients in enterprise system implementations. *MIS Quarterly*, vol. 29, no. 1, pp. 59-85, 2005.
- Lane, P., and Lubatkin, M., Relative absorptive capacity and interorganizational learning, *Strategic Management Journal*, vol. 19, no. 5, pp. 461-477, 1998.
- Li, L., The effects of trust and shared vision on inward knowledge transfer in subsidiaries' intra- and inter-organizational relationships *International Business Review*, vol. 14, pp. 77-95, 2005.
- Li, C. Y. (2013). Does Self-Efficacy Contribute to Knowledge Sharing and Innovation Effectiveness? A Multi-Level Perspective. In PACIS (p. 3).
- Lin, H.F., Effects of extrinsic and intrinsic motivation on employee knowledge sharing intentions *Journal of Information Science*, vol. 33, no. 2, pp. 135-149, 2007.
- McEvily, B., & Zaheer, A., Bridging ties: A source of firm heterogeneity in competitive capabilities, *Strategic Management Journal*, vol. 20, pp. 1133- 1156, 1999.
- Olowodunoye, S. A. (2015). Knowledge sharing behaviour: the role of self-efficacy, organisational justice and organisational tenure. *European Scientific Journal*, ESJ, 11(17).
- Pham, T. B. N., Intra organizational knowledge transfer process in Vietnam's information technology companies, (PhD Thesis), University of Fribourg, Switzerland, 2008.
- Paulin, D., and Suneson, K., Knowledge transfer, knowledge sharing and knowledge barriers—Three blurry terms in KM. *Electronic Journal of Knowledge Management*, vol. 10, no. 1, pp. 81-91, 2012.
- Schworer, C.E., May, D.R., Hollensbe, E.C., and Mencl, J., General and specific self-efficacy in the context of a training intervention to enhance performance expectancy, *Human Resource Development Quarterly*, vol. 16, pp. 111-129, 2005.
- Seba, I., Rowley, J., and Lambert, S., Factors affecting attitudes and intentions towards knowledge sharing in the Dubai Police Force, *International Journal of Information Management*, vol. 32, pp. 372-380, 2012.
- Susanty, A., Handayani, N.U., and Henrawan, M.Y., Key success factors that influence knowledge transfer effectiveness: A case study of Garment Sentra at Kabupaten Sragen, *Procedia Economics and Finance*, vol. 4, pp. 23-32, 2012.
- Szulanski, G., Exploring internal stickiness: Impediments to the transfer of best practice within the firm, *Strategic Management Journal*, vol. 17, pp. 27-43, 1996.
- Tsai, W., and Ghoshal, S., Social capital and value creation: The role of intrafirm networks, *Academy of Management Journal*, vol. 41, no. 4, pp. 464- 476, 1998.
- Tseng, F.C., and Kuo, F.Y., The way we share and learn: An exploratory study of the self-regulatory mechanisms in the professional online learning community, *Computers in Human Behavior*, vol. 26, pp. 1043-1053, 2010.
- Wang, T., Peng, C., and Cui, N., The Effect of Knowledge Transfer Intention of Customer on Knowledge Transfer Behavior: A Social Exchange Perspective, *International Symposium on Information Science and Engineering*, 2009.
- Wang, J., & Yang, J. (2015). An Empirical Study of Employees' Tacit Knowledge Sharing Behavior. *Journal of Systems Science and Information*, 3(3), 264-278.
- Wegner, D.M., Transactive memory: a contemporary analysis of the group mind. In: Mullen, B., Goethals, G.R. (Eds.), *Theories of Group Behavior*. Springer, New York, pp. 185-208, 1987.
- Van Acker, F., Vermeulen, M., Kreijns, K., Lutgerink, J., & van Buuren, H. (2014). The role of knowledge sharing self-efficacy in sharing Open Educational Resources. *Computers in Human Behavior*, 39, 136-144.
- Vera, D., and Crossan, M., Strategic leadership and organization learning, *Academy of Management Review*, vol. 29, no. 2, pp. 222-240, 2004.

Yucelen, M., *Stratejik İşbirliklerinde Bilgi Transferi*, (PhD Thesis), İstanbul Üniversitesi, 2005.
Zaim, H., *Bilginin artan önemi ve bilgi yönetimi*, İşaret Yayınları, İstanbul, 2005.

Biographies

Omer Faruk Gurcan graduated with a BS from Selçuk University in 2006, a MS from the İstanbul Technical University and now continues PhD in Industrial Engineering Program in İstanbul Technical University. His research interests are focused on knowledge management, statistical analysis, data mining and machine learning.

Onur Dogan graduated from the Sakarya University with a Bachelor's Degree in Industrial Engineering in 2010 and received a Master's Degree in Management Engineering from the Istanbul Technical University in 2013. He is a Ph.D. candidate in the same university. He studied on intelligent decision support system, lean manufacturing and quality approaches such as QFD, FMEA or DOE during the master thesis. His PhD research interests include process mining, data mining and customer relationship management.

M. Kursat Oksuz graduated from the Süleyman Demirel University with a Bachelor's Degree in Industrial Engineering in 2012 and received a Master's Degree in Industrial Engineering from the Istanbul Technical University in 2015. He is a Ph.D. candidate in the same university. He studied on assembly line balancing and lean manufacturing during the master thesis. His PhD research interests include humanitarian logistics, facility location, inventory management, part feeding system and quality management.