

# A Study of the Effects of Organizational Support on Organizational Learning based on Knowledge Management

Guixian Tian<sup>1</sup>, Huan Cai<sup>2\*</sup>, Yong Jiang<sup>2</sup>

<sup>1</sup> Business College, Pingxiang University, Pingxiang, CHINA

<sup>2</sup> School of English for International Business, Guangdong University of Foreign Studies, Guangzhou, CHINA

Received 22 September 2017 • Revised 30 November 2017 • Accepted 18 January 2018

## ABSTRACT

Being in the era of the knowledge-based economy, knowledge would replace land, labor, capital, and equipment to become the primary production factor. An enterprise could create competitive advantages for the organization merely by constant knowledge accumulation and acquisition. Competitive advantages in the medical industry come from the efficacy of knowledge application that the execution of knowledge management is a pursued goal of medical institutions. Nurses in a hospital are like employees in an enterprise, and doctors are the senior supervisors in the organization. Supervisors in medical units must have the employees understand the attention from the hospitals so as to have nurses devote themselves to executing the organizational objectives. Aiming at hospitals in Shanghai, physicians and medical personnel in Shanghai Huashan Hospital were distributed with 420 copies of a questionnaire. A total 352 valid copies were retrieved, with the retrieval rate at 84%. The research results conclude significantly positive effects of organizational support of knowledge management, knowledge management of organizational learning, and organizational support of organizational learning. Some suggestions are proposed at the end, expecting to assist the domestic medical industry in establishing market advantages.

**Keywords:** medical industry, organizational support, knowledge management, organizational learning

## INTRODUCTION

Due to overall social environment changes and rapid information development, the national average of education is enhanced and numerous high intellectuals join in the social competition every year. It explains the emergence of high knowledge level in employment markets. In the past, social perception, intellectuals have been placed in higher position in workplaces. Especially, medical personnel present the highest social status nowadays, and the work contents and income are comparatively stable in modern environments. Medical institutions, as a public service industry, provide services mainly related to human life and health. However, the maximal operating performance of a hospital and the competitive advantages in medical industry come from the efficacy of knowledge application.

For this reason, the practice of knowledge management is a common goal of medical institutions. Nurses in a hospital are similar to employees in an enterprise, and doctors are senior supervisors in an organization. Supervisors in medical units must have the employees understand the directives from the hospitals and to have nurses devote to the execution of organizational objectives.

Along with the emergence of the knowledge-based economy era, knowledge possessed in the medical industry becomes an essential resources. Knowledge could assist in innovation, and the non-imitability becomes an important element for an organization establishing advantages in medical markets. Research on knowledge is

### Contribution of this paper to the literature

- An organization would not be able to achieve its objectives without the assistance of its employees. It is therefore suggested that the management level in medical industry should pay attention to employees' psychological and physiological needs, providing timely assistance and encouragement when employees encounter dilemmas.
- Spontaneous behaviors of employees in the medical industry are not regulated by formal management systems of the organization, but could be indirectly controlled through informal ways, such as organizational culture and organizational climate.
- Internal education and training systems in the medical industry could largely enhance employees' knowledge sharing intentions.

prosperous. For instance, both knowledge management and relationship management present unique explanations on knowledge. Organizational learning, under the knowledge-based economy era, is the key in an organization coping with external environments. The creation of a learning climate could reinforce the intention to execute knowledge management and knowledge sharing in an organization and further enhance the continuous progress of the organization. Nevertheless, past research did not discuss the relationship among perceived organizational support, knowledge management, and organizational learning. This study therefore intends to discuss the effect of organizational support on knowledge management and organizational learning in the medical industry.

## LITERATURE REVIEW

### Organizational Support

Xu and Potenza (2012) considered the reciprocity between employees and the organization that the employees were obligated to help the organization when employees perceived support from the organization, either with real or emotional assistance. In other words, the degree of employees' efforts and performance is encouraged by the organization, i.e. material and non-material rewards, would affect employees' perceived organizational support (Donat & Pablo, 2015). Wu, Lee, and Shu (2013) stated that an organization stressing on employees' contribution and concerning their well-being was an attributing process. Employees would psychologically be willingly be devoted to the organization, when perceiving the support from the organization, and would enhance their job involvement to promote work performance and achieve the organizational goals. Tian, Risku, and Collin (2016) mentioned that such a mind of reciprocation indeed was an exchange ideology, which referred to employees determining the attitudes and behaviors to return to the organization according to the organizational support. Perceived organizational support was a comprehensive and integral concept. Simply speaking, it was the overall belief in an employee's mind (Baytok, Soybali, & Zorlu, 2014). Geeraerts, Vanhoof, and Bossche (2016) proposed that social exchange pointed out the reason people were starting, maintaining, reinforcing, or retarding the relationship. Social exchange contained friendship, trust, affection, and support. It was the obligation of mutual reciprocation, based on reciprocity, and the actual action as the return, based on mutual benefits. For example, employees reinforced their work performance, actively assisted colleagues in rapidly completing work, or reducing the absence rate (Ragab & Arisha, 2013), and presented loyalty and efforts to return to the organization or influence others on integrating into the organization to enhance their loyalty (Harris, 2014).

Referring to Huang and Chen (2014), they perceived that organizational support in this study included three dimensions of reward and environment, superior support, and justice.

- (1) Reward and environment: Johnston (2015) mentioned that working conditions being spontaneous motivation of an organization would enhance employees' perceived organizational support.
- (2) Superior support: Scott and Hines (2014) pointed out that supervisors' perceived organizational support as a key of supervisors presenting support to their subordinates. Supervisors' perceived organizational support would have them support the subordinates to return to the organization. How the executive leaders treated middle supervisors would influence how middle supervisors treated the subordinates.
- (3) Organizational justice: The resource allocation of justice and the respectful and open attitudes of employees are regarded as the concerns of the organization about the employees. The more fair allocation and the more respect to employees would promote procedural justice and enhance perceived support.

### Knowledge Management

From the aspect of strategies, Rahman and Nas (2013) regarded knowledge management as a "purposive strategy" to provide proper knowledge to suitable personnel and assist them in sharing and applying information

to enhance organization performance. From the aspect of the activity process, Gelard and Boroumand (2014) pointed out that knowledge management was the confirmation, optimization, and active management of intellectual assets. From the aspect of output, Serenko (2013) considered knowledge management as applying current knowledge to create diverse values to acquire accurate information at the correct time and to deliver to right employees for their competitive advantage. From the aspects of effectiveness and practicality, Lumby (2013) regarded knowledge management as the enhancement of the quality and quantity of creative knowledge in an organization and to reinforce the practicability and value of knowledge. Biasutti and El-Deghaidy (2012) referred to knowledge management as organizational members enhancing the operating efficiency and competitiveness through knowledge acquisition, sharing, and application to achieve the organizational objectives, establish knowledge sharing culture in the enterprise, and induce organizational learning. Tsai, Chang, and Hsieh (2016) also covered the effective execution of organizational activity in knowledge management; in addition to the practicability and value of knowledge and the effect on the core capability. The normal operation of organizational activity was worthy of concerning. Huang, Chiu, and Lu (2013) who explained knowledge management as the effective application of knowledge. The key was the reason of management, which was a tactic, but not a purpose. In this case, developing the maximal value of knowledge was to effectively utilize limited resources, which, of course, were employees' wisdom.

Referring to Feng, Zhang, Mu, Sui, and Tang (2012), knowledge management in this study is classified into knowledge acquisition, knowledge creation, and knowledge storage and transfer.

- (1) Knowledge acquisition: There are many paths for knowledge acquisition and learning. Huang et al. (2013) organized five categories as innate learning, referring to creating new organizational knowledge or "inherited knowledge" of a person, experiential learning, including knowledge experiment, self-evaluation of organization, experiment in different organizations, non-systematic learning, and the learning curve, representative learning, referring to learning the strategies, management practice and techniques of an organization through strategic alliance, 4. transfer, referring to merge another organization or headhunt, and gathering and attention, including environment scanning, searching with focus, and performance monitoring.
- (2) Knowledge creation: Vikas and Shivraj (2014) pointed out that knowledge creation was knowledge transformation through the interaction between tacit and explicit knowledge, and organization of knowledge was created from such a transformation process.
- (3) Storage and transfer: Tuzun and Kalemci (2012) considered that the finer and higher level of common knowledge as a team, the higher efficiency of the knowledge integration.

### **Organizational Learning**

Yu (2013) explained organizational learning as the combination of opinions about new affairs and program execution with new methods to have an organization adapt to various changing environments for constantly improving the competitiveness. Ishimaru (2013) mentioned that an organization would precede collective inquiry, active detection, and correction when the actual outcome was different from the expected results, and such a process was organizational learning. Fteimi and Lehner (2016) indicated that, in addition to direct experiential learning, organizational learning also contained learning from the experience of other organizations and establishing organizational structure and model developed from the interpretation of such experience. Onukwugha (2013) stated that organizational learning was changing the organizational knowledge through data processing to have the organization find new methods for survival in new environments. Santosh and Muthiah (2012) pointed out to organizational learning as the process of an organization creating, acquiring, and transferring knowledge and modifying the behavior according to new knowledge and observation. Harris, Jones, and Baba (2013) regarded personal learning as the basis of organizational learning that an organization could learn through favorable personal learning. They further emphasized the possibility of learning organization as people were innate learners and learning was the nature of human beings. Syysnummi and Laihonon (2014) discussed organizational learning from seven aspects of acquiring internal and external knowledge resources of an organization, understanding product and process knowledge, personal or public technological knowledge, learning formal and informal operation in the organization, incremental and radical learning, learning of value quotations, and development of personal and group skills.

Referring to Cho, Hutchings, and Marchant (2013), the sources of organizational learning in this study contain information gathering, information transmission, and information sharing and analysis.

- (1) Information gathering: The source might be the organization interior, e.g. learning curve and experience curve, or other external experience, such as customer survey or other second-hand data. Besides, the source of information might be the organizational memory, which is transformed into knowledge from past experiences.

- (2) Information transmission: Organizational learning is the transmission of an organization gathering intelligence internally or externally.
- (3) Information sharing and analysis: Organizational intelligence is shared, analyzed and transformed to become internalized memory of an organization and further become the source of organizational information.

### Research Hypothesis

Wu et al. (2013) mentioned that corporate strategies, organizational culture, senior supervisors' support, and interior organizational resources were the key factors in knowledge management promoting interdisciplinary knowledge transfer. From the viewpoint of knowledge management, Xu and Potenza (2012) indicated that, employees would respond to the affective commitment of the organization through altruistic and trustable behaviors when observing various measures, decisions, and communication models of the organization and realizing the organization being trustworthy. Huang and Chen (2014) proposed that an organization established incentive systems to encourage knowledge sharing and provided proper reward to those who would like to share knowledge to improve the business performance with knowledge transfer and sharing so that the transferors were more willing to share the existing knowledge. Accordingly, the following hypothesis is proposed in this study:

**H1:** Organizational support presents significantly positive effects on knowledge management.

Vikas and Shivraj (2014) regarded organizational learning as a kind of organizational action and learning organization as a knowledge management model of an organization, and as such the two were closely related. From the viewpoint of knowledge management, Tsai et al. (2016) proposed four processes of organizational learning, including knowledge acquisition, information transmission, information interpretation, and organizational memory and indicated that an organization had to learn to acquire, handle, store, and extract knowledge through knowledge management for further learning. Huang et al. (2013) suggested the individual, group, and organization in organizational learning and thoroughly applied knowledge management to different layers for organizational learning continuously moving towards the learning organization. Feng et al. (2012) explained that organizational learning was the basis of the learning organization, and the learning organization was the route to realize organizational learning. The following hypothesis is therefore proposed in this study:

**H2:** Knowledge management shows remarkably positive effects on organizational learning.

The organizational environment would affect employees' attitudes and behaviors; in other words, employees' perceived organizational support would influence the affection to organizational learning and the work performance (Harris et al., 2013). The degree of organizational learning represented employees' perceptions in the organizational learning environment and would result in employees changing the evaluation of and attitudes towards the organization. Learning motivation generated under organizational support would have employees appear spontaneous learning behavior to promote organizational performance (Syysnummi & Laihonon, 2014). Fteimi and Lehner (2016) stated that, under the learning situation with highly positive organizational support, employees could easily realize the emphasis of the organization on learning and internalize as personal work value. Ishimaru (2013) indicated that employees would enhance the trust in the organization as well as change their attitudes and behaviors when presenting a positive perception of organizational policies, programs and practice. Cho et al. (2013) mentioned that the more active attitude of an organization promoting learning, the employees, under the long-term, would devote to the organization to result in a thick learning climate in the organization, which would be slowly be stabilized in employees' minds and be considered as the essential condition for being the organizational member, to further enhance the perception of the organization and present beneficial behaviors to the organization. Accordingly, the following hypothesis is proposed in this study:

**H3:** Organizational support reveals notably positive effects on organizational learning.

## RESEARCH METHOD DESIGN

### Operational Definition and Measurement of Variable

#### *Organizational support*

Organizational support is divided into reward and environment, superior support, and organizational justice, which are referred to the scale proposed by Huang and Chen (2014). The overall reliability coefficient of reward and environment appears to be 0.82, and superior support 0.87, organizational justice 0.83.

**Table 1.** Confirmatory factor

Research dimension	Overall model fit	Analysis result
organizational support	$\chi^2=0(P<0.001)$ ; DF=0; GFI=1.00; CFI=1.00	good overall model fit
knowledge management	$\chi^2=0(P<0.001)$ ; DF=0; GFI=1.00; CFI=1.00	good overall model fit
organizational learning	$\chi^2=0(P<0.001)$ ; DF=0; GFI=1.00; CFI=1.00	good overall model fit

**Table 2.** Correlation Analysis

Research dimension	A	organizational support	knowledge management	organizational learning
organizational support	0.85			
knowledge management	0.81	0.36**		
organizational learning	0.86	0.29**	0.41**	

### *Knowledge management*

Knowledge management is divided into knowledge acquisition, knowledge creation, and storage and transfer, which are referred to the scale proposed by Feng et al. (2012). The overall reliability coefficient of knowledge acquisition shows a value of 0.85 and knowledge creation 0.88, storage and transfer 0.80.

### *Organizational learning*

Referring to Cho et al. (2013), the source of organizational learning contains information gathering, information transmission, and information sharing and analysis. The overall reliability coefficient of information gathering is 0.84 and information transmission 0.89 and information transmission 0.91.

### **Research Objectives**

Huashan Hospital in Fudan University, is a comprehensive instructional hospital affiliated to Fudan University (used to be Shanghai Medical University). It was constructed in 1907 and was the first hospital founded by Chinese in Shanghai. The Red Cross Society of China was the predecessor. It was recovered to be the hospital directly under Red Cross Society of China in 1991 and one of the primary hospitals with the classification of Chinese hospitals in 1992. It currently is a national medical institution and a technological center combined with national medicine, prevention, instruction, and scientific research and is famous domestically and internationally.

### **Confirmation of Reliability and Validity Analysis**

The reliability of dimensions in this study was above 0.7, revealing high reliability. The construct validity of the scale in this study was analyzed with Confirmatory Factor Analysis. From **Table 1**, the research scale presents favorable convergent validity and construct.

## **ANALYSIS RESULTS**

### **Correlation Analysis**

From **Table 2**, organizational support and knowledge management show significant correlations with organizational learning. Such a result reveals the possibility of multicollinearity among research dimensions. Nested Model Analysis could be utilized for solving such a problem. The significant correlations among research dimensions also support the research hypothesis.

### **Overall Model Discussion**

In regard to the overall model fit, **Table 3**, the overall model fit standards  $\chi^2/DF=1.657$ , smaller than the standard 3, and RMR=0.004, showing the appropriateness of  $\chi^2/DF$  and RMR. Besides, the chi square value is sensitive to sample size that it is not suitable for direct judgment. The overall model fit standards GFI=0.971 and AGFI=0.913, are larger than 0.9 (the closer GFI and AGFI to 1, the better model fit) that this model presents better goodness of fit.

**Table 3.** Overall Linear Structure Relations Model analysis result

Overall model fit	X2/Df	1.657
	GFI	0.971
	AGFI	0.913
	RMR	0.004

Note: \* stands for p<0.05, \*\* for p<0.01, \*\*\* for p<0.001

**Table 4.** Nested Model analysis

Model	$\chi^2$	$\Delta\chi^2$	GFI	CFI	RMSEA
Theoretical model	243.77		0.971	0.986	0.07
Model 1: hypothesis test	248.89	5.12*	0.971	0.986	0.07
Model 2: hypothesis test	253.55	4.66*	0.971	0.986	0.07
Model 3: hypothesis test	259.28	5.73*	0.971	0.986	0.07

**Table 5.** Hypothesis test

Research hypothesis	Correlation	Empirical result	P	Result
H1	-	0.314	0.00	Supported
H2	-	0.363	0.00	Supported
H3	+	0.342	0.00	Supported

### Research Hypotheses Discussion

The Nested Model is utilized in this study for testing the research hypotheses. The chi square test is used because each Nested Model appears to have a degree of freedom difference; when the subtraction between the chi square value of the Nested Model and the chi square value of the theoretical model achieves the significance, the path coefficient, which is set at 0, is significant. The research results show the significance of the model. The Nested Model analysis results are shown in **Table 4**, and the hypothesis test results are shown in **Table 5**.

### CONCLUSION

The research results reveal that, under the fiercely competitive medical market, customers would decide the consumption according to past experiences, impressions, word-of-mouth, and the needs. The key lies in the service quality of first-line service staff, who not only could enhance the added value of the medical industry, but could also effectively promote customer intentions. Under the popularity of knowledge management, the competitiveness in the medical industry relies on the inheritance of knowledge. Regulated SOP could merely provide certain degree of knowledge transmission. For this reason, it is common in the medical industry to search for channels to transmit key knowledge. Knowledge with high complexity requires higher interpersonal interaction for knowledge transfer. An organization supporting the operation of knowledge management and encouraging knowledge sharing would enhance the transfer and transmission of key knowledge. Knowledge management requires relevant measures of the organization having the employees perceive the organizational support to further promote knowledge management and learning. Employees in the medical industry would stress more on knowledge management and the knowledge and expertise delivered by the organization, when perceiving the organizational support, to accelerate the efficacy of knowledge transfer for the work. Besides, employees in the medical industry would not worry about the possibility of being replaced due to knowledge transfer that it presents great help on the promotion. From the viewpoint of an organization, knowledge management and organizational learning present certain effects on organizational support.

### RECOMMENDATIONS

According to the research results and findings, the following practical suggestions are proposed:

1. Reinforcement of organizational support in the medical industry: For employees in the medical industry, supervisors are the learned and respected objects that the behaviors of supervisors would affect employees' attitudes and behaviors. Employees are the assets of an organization in the medical industry. An organization would not be able to achieve the objectives without the assistance of its employees. It is therefore suggested that the management level in the medical industry should pay attention to employees' psychological and physiological needs, provide timely assistance and encouragement when employees encounter dilemmas, supply required resources for employees in the knowledge management process, and promote employees' job satisfaction and organizational commitment to further enhance their learning

intentions. Furthermore, a complete communication channel between an organization and the employees in the medical industry is established for benign interaction. Such a channel could be formal, e.g. regular employee workshops, or informal, e.g. employee tours, to understand the needs and respond to each other through interaction.

2. Creation of a learning climate in the medical industry: Spontaneous behaviors of employees in the medical industry are not regulated by formal management systems of the organization, but could be indirectly controlled through informal ways, such as organizational culture and organizational climate. In the knowledge-based economy era, learning climate in the medical industry could be established to achieve the objectives of knowledge management and organizational learning. Learning activities, e.g. educational training and computer applications, could be held to induce employees' learning motivation and further foster learning behaviors. Besides, the importance of learning to the medical industry should be constantly emphasized to deepen employees' identity to learning value. In a long period, it would cultivate employees' habit of active learning and even taking learning for granted. In this case, the establishment of learning climate could enhance the active learning of employees in the medical industry.
3. Cultivation of employees' capability in the medical industry: Internal education and training systems in the medical industry could largely enhance employees' knowledge sharing intentions. As a result, in addition to inducing employees' learning motivation with the learning climate in the organization, an organization in the medical industry is further suggested to provide a systematic learning curriculum and environment for generating employees' learning behaviors, satisfying employees' needs for learning, and promoting the practice of knowledge management and the knowledge circulation in the organization. What is more, the level of employees participating in organizational decision-making could be enhanced to adopt first-line medical service staff's opinions to make up the details which are not included in the organizational plans. Along with the higher level to participate in decision making, employees would have stronger intention to share the knowledge and to complete the organizational plans from different angles of view. Employees would consider such organization actions as the approval of the capability that they would constantly make progress to promote the capability.

## ACKNOWLEDGEMENTS

This project was supported by 2016 Social Science Project of Guangdong Province (No: GD15XYJ14)

## REFERENCES

- Baytok, A., Soybali, H. H., & Zorlu, O. (2014). Knowledge management processes in Thermal Hotels: An application in Afyonkarahisar Province, Turkey. *Journal of Economic and Social Studies*, 4(1), 159-182.
- Biasutti, M., & El-Deghaidy, H. (2012). Using Wiki in teacher education: Impact on knowledge management process and student satisfaction. *Computers & Education*, 59, 861-872.
- Cho, T., Hutchings, K., & Marchant, T., (2013). Key factors influencing Korean expatriates' and spouses' perceptions of expatriation and repatriation. *The International Journal of Human Resource Management*, 24(5), 1051-1075.
- Donat, M. J., & Pablo, J. D. S. (2015). The role of knowledge-oriented leadership in knowledge management practices and innovation. *Journal of Business Research*, 68, 360-370.
- Feng J., Zhang, J., Mu, Y., Sui, Z., & Tang, H. (2012). Research on teacher's knowledge management. *International Conference on Innovation and Information Management (ICIIM 2012)*, 303-306.
- Fteimi, N., & Lehner, F. (2016). Main research topics in knowledge management: A Content Analysis of ECKM Publications. *The Electronic Journal of Knowledge Management*, 14(1), 5-17.
- Geeraerts, K., Vanhoof, J., & Bossche, P. V. (2016). Teachers' perceptions of intergenerational knowledge flows. *Teaching and Teacher Education*, 56, 150-161.
- Gelard, P., & Boroumand, Z. (2014). Relationship between transformational Leadership and knowledge management. *International Journal of Information Science and Management*, 12(2), 67-82.
- Harris, A. (2014). *Distributed leadership matters: Perspectives, practicalities, and potential*. Thousand Oaks, CA: Corwin.
- Harris, A. Jones, M., & Baba, S. (2013). Distributed leadership and digital collaborative learning: A synergistic relationship? *British Journal of Education Technology*, 44(6), 926-939.
- Huang, D. H., & Chen, C. P. (2014). Distributed leadership study of Taiwan's high school principals. *Proceeding of the Second International Conference on Advances in Economics, Management and Social Study*, 62-67. Kuala Lumpur, Malaysia. <https://doi.org/10.15224/978-1-63248-036-1-64>

- Huang, M. C., Chiu, Y. P., & Lu, T. C. (2013). Knowledge governance mechanisms and repatriate's knowledge sharing: the mediating roles of motivation and opportunity. *Journal of Knowledge Management, 17*(5), 677-694
- Ishimaru, A. (2013). From heroes to organizers: Principals and education organizing in urban school reform. *Educational Administration Quarterly, 49*(1), 3-51.
- Johnston, M. P. (2015). Distributed leadership theory for investigating teacher librarian leadership. *School Libraries Worldwide, 21*(2), 39-57.
- Lumby, J. (2013). Distributed leadership: The uses and abuses of power. *Educational Management Administration & Leadership, 41*(5), 581-597.
- Onukwugha, P. I. (2013). *Distributed leadership in schools, teacher practices, and student learning* (Unpublished doctoral dissertation). Grand Canyon University, Phoenix: Arizona.
- Ragab, M., & Arisha, A. (2013). Knowledge management and measurement: A critical review. *Journal of Knowledge Management, 17*(6), 873-901.
- Rahman, W., & Nas, Z., (2013). Employee development and turnover intention: theory validation. *European Journal of Training and Development, 37*(6), 564-579.
- Santosh, B. R., & Muthiah, K. (2012). Knowledge transfer from repatriated employees: The Indian experience, *The IUP Journal of Knowledge Management, X*(1), 7-26.
- Scott, D. W., & Hines, R. (2014). Rethinking and reframing leadership of historically black colleges and universities: A distributed perspective. *Creative Education, 5*, 1132-1139.
- Serenko, A. (2013). Meta-analysis of scientometric research of knowledge management: Discovering the identity of the discipline. *Journal of Knowledge Management, 17*(5), 773-812.
- Syysnummi, P., & Laihonen H. (2014). Top management's perception of knowledge management in a vocational education and training organization in Finland. *International Journal of Educational Management, 28*(1), 53-68.
- Tian, M., Risku, M., & Collin, K. (2016). A meta-analysis of distributed leadership from 2002 to 2013: Theory development, empirical evidence and future research focus. *Educational Management Administration & Leadership, 44*(1), 146-164.
- Tsai, M. H., Chang, S. H., & Hsieh, M. (2016). The impact of Taiwan elementary principal's distributed leadership and teacher's emotional labor on teaching effectiveness. *International Journal of Intelligent Technologies and Applied Statistics, 9*(1), 67-88.
- Tuzun, I. K., & Kalemci, R. A. (2012). Organizational and supervisory support in relation to employee turnover intentions. *Journal of Management Psychology, 27*(5), 518-534.
- Vikas, S., & Shivraj, K. (2014). Appropriate media choice for e-learning effectiveness: Role of learning domain and learning style. *Computers & Education, 76*, 237-249.
- Wu, W. L., Lee, Y. C., & Shu, H. S. (2013). Knowledge management in education organizations: A perspective of knowledge spiral. *The International Journal of Organization Innovation, 5*(4), 7-13.
- Xu, J., & Potenza, M. N. (2012). White matter integrity and five-factor personality measures in healthy adults. *Neuroimage, 59*(1), 800-807.
- Yu, M. C. (2013). Human resource practices and innovative capability of Taiwanese SMEs: Examining the mediating effects of organizational learning. *Journal of Humanities and Social Sciences Studies, 4*(2), 63-77.

<http://www.ejmste.com>