# Linking Knowledge Management with Organizational Performance through Organizational Learning: Evidence from Higher Education Institutions in Pakistan

| Khalid Rehman* | Shadi Ullah Khan† | Aziz Javed‡ |

**Abstract**   *The present study aimed to examine the mediating role of organizational learning in the relationship between knowledge management and organizational performance in HEI's, KP, Pakistan. Teachers working in the Universities were considered the sample (n=338) of the study. A structured questionnaire comprised items about research variables administered in order to collect data. Baron and Kenny's (1986) four-step models applied through Preacher and Hayes (2013) Process macro as a data analysis technique. The current study results show that organizational learning acts partially mediates in the association between KM and OP. Moreover, enriching the literature on this understanding, the present study is also of value in managerial perspective as it helps increase higher education institutions' (HEIs) knowledge on how to boost and enhance the performance of the organization by engaging in KM activities.*

**Key Words**: Knowledge Management (KM), Organizational Learning (OL), Organizational Performance (OP), Higher Education Institutions (HEI's)

## Introduction

In the contemporary competitive era, the dynamic approaches of academic and business communities concerning their institutional and business activities have changed significantly. This competition pressurizes the organizations to show their efforts and potential to manage the organizational tasks professionally. For this purpose, the management of information and knowledge sharing (knowledge management) has become the critical success factor for organizations to achieve their high-values objectives. Thus, knowledge management practices and processes are considered as dynamic factors in augmenting the effectiveness and competitiveness of the organizations (Rehman, Asghar, & Ahmad, 2015). In contemporary organizational research, the knowledge management concept has gained momentum due to its critical role in knowledge sharing and management (Imran, Ilyas & Fatima, 2017). This phenomenon is vital for almost all organizations, however; its starring role in the higher educational background is important due to their significant role in the socio-academic development (Imran et al., 2017).

In the higher education context, knowledge management is considered as multidisciplinary approach and played a dynamic role in creating, managing and sharing information and knowledge within the organizations. Knowledge management as a dynamic element has been usually used as the mechanism for knowledge implementation to improve organizational performance (Liao & Wu, 2010). On an organizational innovation and performance, knowledge management has a major impact, however, this impact is recommended to be more influential when organizational learning acts as the strategic approach (Alavi et al., 2009). Consequently, both KM and OL together have a significant impact on OP (Liao & Wu, 2009). Numerous studies have examined the strong association between knowledge management and OP along with the significant impact through the significant role of OL as the mediator in the universities' context in Pakistani perspectives (Liao & Wu, 2009).

---

* PhD Scholar, Institute of Business Administration, Gomal University, Dera Ismail Khan, KP, Pakistan.
  Email: Khalidrehman08@gmail.com
† Professor, IPAS, Gomal University, Dera Ismail Khan, KP, Pakistan.
‡ Assistant Professor, Institute of Business Administration, Gomal University, Dera Ismail Khan, KP, Pakistan.

The HEI's in Pakistan (developing countries) are considered as the foremost pillars of the national economy (Rehman et al., 2015). In a competitive environment, for the survival of these institutions, the management of effective performances is vital for the ultimate success (Hanif, Khan, & Zaheer, 2014). Still, rare studies are available regarding the effective part of knowledge management in predicting the higher institution's performance in the context of Pakistan (Ahmed, Fiaz, & Shoaib, 2015). In this connection, as per the knowledge-based view and resource-based view theories, some studies have shown the importance of KM, OL, and OP. Likewise, Grant's (1996) knowledge-based theory and Nonaka's (1994) knowledge formation theory assumed the effectiveness of the organizational performance by efficiently producing, dealing and smearing knowledge. In the process of rapid and dynamic environmental changes, institutions are seeking the means to enhance learning and expand organizational performance (Al-Hakim & Hassan, 2012).

The knowledge has been considered as the primary source of involvement in value creation instead of the traditional and physical capital approaches. The knowledge management capabilities and resources are a critical success factor for organizational performance (Rehman et al., 2015). The results of previous literature validated the positive and significant effects of KM on OP with the mediating role of the OL (Imran et al., 2017). Likewise, numerous studies recommend that producing high performance is one of the main goals of any educational institution. In addition to significant determining factors, knowledge management has appeared as an important factor that contributes to the achievement of the successful performance of the organization (Lee & Sukoco, 2007). It argues that it is not enough to focus on knowledge management until the organization is able to generate learning through knowledge (Ngah, Tai, & Bontis, 2016). Organizational learning involves the use of knowledge available over the organization and leads to effective organizational performance (Imran et al., 2017).

## Related Literature

### Knowledge Management, Organizational Learning & Organizational Performance

Organizational learning, knowledge management, and organizational culture are extensively recognized as the most crucial variables while talking about organizational credibility and success. The literature revealed that organizational learning improves team working, learning the culture, creativity and learning, participation level, system thinking and organizational performance (Crossan & Bapuji, 2003). The knowledge management is vital in supporting organizational collaboration, communication, and empower workforces for collaborative learning and knowledge re-searching (Alavi, Kayworth & Leiden, 2009). Despite the evidence presented above on the positive connection between organizational performance and knowledge management, the association between organizational performance and knowledge management still remains unclear (Hung, 2014). The organizational learning is helpful in managing knowledge and knowledge management is cooperative in promoting OL over the reciprocal relationship (Wasim, Nabila & Khalil, 2015). The knowledge management pledges the situation and helps the organizations to meet their needs for embedding the organizational knowledge into organizational approaches so that organizations might be in a position to pursue their tasks more sophisticated and might improve its performances (Ngoc-Tan Tan & Gregar, 2018).
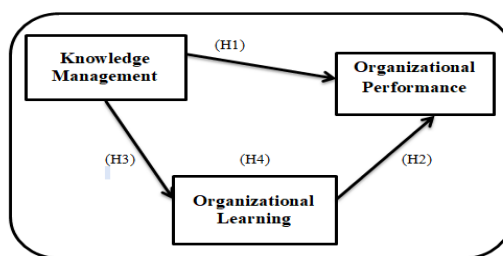


Figure 1: Proposed Research Model

## Research Hypotheses

*H₁:* Knowledge management has a positive, significant relationship with organizational performance.
*H₂:* Organizational learning has a positive, significant relationship with organizational performance.
*H₃:* Knowledge management has a positive, significant relationship with organizational learning.
*H₄:* Organizational learning mediates the significant relationship between knowledge management and organizational performance.

## Research Methodology

### Participants and Organizational Settings

The academicians (teaching faculty) of selected public universities (HEIs) in KP are respondents of the present study. The instrument (questionnaire) in the faculty members was distributed to take accurate responses about the current research via email, Google drive or post. It is expected that all respondents will respond in an open and accurate manner, up to a recognition and understanding of the questionnaire.

### Research Design & Approach

Hypothesis testing is the main object of the present study as it is based upon existing literature and is conducted under a positivist paradigm as it measures causality. Furthermore, with the help of the dominant theory, the hypotheses were drawn based on a deductive approach (Cooper et al., 2006). For this research, the cross-sectional quantitative design is appropriately considered since it is an applied research design as recommended by studies led in the worldview positivist using the deductive approach in the research (Creswell & Clark, 2007). Finally, the researcher also examined the reliability and validity of the study questionnaire.

### Population of the Study

The population is a collection of individuals that researchers want to conduct research, and the researchers use this set to draw generalization and conclusions. The study population comprises the faculty members having a different designation in selected HEI's. In the present research study, HEIs comprises two universities (oldest), namely Gomal University and Peshawar University, and six universities (newly establish), comprising KKK University, Karak, KUST, Kohat, Abdul Wali Khan University, Mardan, UST, Bannu, University of Malakand, and Hazara University. There are 2234 faculty members (1826 male and 408 female) are working in eight public Universities of KP. Data of faculty members were collected from websites of concern universities.

### Sample Design

According to t Sekaran (2003) sample is the small number of individuals taken from the population. In the present study, three hundred and thirty-eight (338) faculty members having a different designation constituted the sample through stratified random sampling. Stratified sampling is one of the types of probability sampling in which the entire population splits into different strata (Sekaran & Bougie, 2013). The procedure of the sampling is quite simple, and the sample size is made through the guidelines of the stratified sampling method. The whole population divided into eight (8) strata (Universities) and the sample was taken through disproportionate stratified sampling. For this study, the researcher used following Yamane (1967) formula for calculating sample size:

$$n = N \ / \ 1 + Ne^2$$
$$n = 2234 / \ 1 + 2234 \ (0.05)^2$$
$$n = 338$$

### Data Sources and Data Collection Methods

The primary source of data is collected from the teachers employed in the public sector HEI's of KP. The teachers working in selected HEI's are the primary source of data. Data on research variables were collected through an adapted questionnaire. Data collected through a structured closed-ended questionnaire was used as a research tool with a 7-point Likert scale. The knowledge management scale is used which was developed by Filius et al. (2000), organizational learning developed by Watkins and Marsick (1993) and organizational performance was developed by Fisher et al. (2000). The questionnaire first part comprised of the demographic information about teachers, whereas the second section of the questionnaire includes 47 items based on three variables (KM=21, OP=12, OL=14). Among the faculty members, 350 questionnaires were distributed out of which 330 questionnaires were reverted with a 94% response rate.

## Results and Findings

### Validity of Research Instrument

The validity of the questionnaire indicates the degree to which the questionnaire is measured and is called the accuracy measure (Taherdoost, 2016). To measure the construct validity, the most common method is Exploratory Factor Analysis (EFA) by using the principal component method. It gives the numbers called extraction commonalities, which estimates the variance in each item of the questionnaire, taken into account by factors (components or dimensions) in the completion of the factor. For other extraction methods, these values represent the fraction of the magnitude of the deviation accounted for in each variable by the other variables. A high value of the extracted factor ($> 0.4$) indicates that the variable (item) is well matched to the factor solution and should not be excluded from the analysis (Hair, et al., 2010). In the table below, all extraction factors are greater than 0.4, so the questionnaire is high and valid.

**Table 1.** Validity Results

| Knowledge Management | | Organizational Learning | | Organizational Performance | |
|---|---|---|---|---|---|
| Statement | Extraction | Statement | Extraction | Statement | Extraction |
| KACQ1 | .796 | INDL1 | .859 | ORGP1 | .607 |
| KACQ2 | .793 | INDL2 | .650 | ORGP2 | .637 |
| KACQ3 | .516 | INDL3 | .876 | ORGP3 | .838 |
| KACQ4 | .728 | INDL4 | .672 | ORGP4 | .805 |
| KACQ5 | .630 | INDL5 | .658 | ORGP5 | .857 |
| KDOC1 | .548 | TML1 | .943 | ORGP6 | .691 |
| KDOC2 | .682 | TML2 | .812 | ORGP7 | .658 |
| KDOC3 | .811 | TML3 | .634 | ORGP8 | .783 |
| KTRN1 | .529 | ORGL1 | .744 | ORGP9 | .813 |
| KTRN2 | .767 | ORGL2 | .870 | ORGP10 | .583 |
| KTRN3 | .828 | ORGL3 | .660 | ORGP11 | .560 |
| KTRN4 | .586 | ORGL4 | .698 | ORGP12 | .589 |
| KCRA1 | .508 | ORGL5 | .748 | | |
| KCRA2 | .887 | ORGL6 | .906 | | |
| KCRA3 | .820 | | | | |
| KCRA4 | .840 | | | | |
| KCRA5 | .743 | | | | |
| KAPP1 | .772 | | | | |
| KAPP2 | .657 | | | | |
| KAPP3 | .748 | | | | |
| KAPP4 | .881 | | | | |

### Reliability Analysis

The internal consistency of the instrument is measured through the most common method named Cronbach's Alpha. The following table depicts the reliability of each of the above variables from the cutoff criteria.

**Table 2.** Reliability Analysis

| Variables | No. of Items | Cronbach's Alpha |
|---|---|---|
| Knowledge Management | 21 | 0.88 |
| Organizational Learning | 14 | 0.89 |
| Organizational Performance | 12 | 0.82 |
| Total | 47 | 0.94 |

## Descriptive Statistics and Correlation

Table 3 depicts the Mean, standard deviation and correlation analysis of the current research variables. As revealed that the KM has a positive, significant relation with OL (*r =.744, p= .000*). Knowledge management has also positive, significant relation with OP (*r = .683, p = .000*). Likewise, OL has also positive, significant relation with OP (*r = .629, p =.000*).

**Table 3.** Mean, SD and Correlation Analysis

| Construct | Mean | Std. Dev. | KM | OL | OP |
|---|---|---|---|---|---|
| KM | 5.1376 | .80636 | 1 | | |
| OL | 5.2506 | .86783 | .744** | 1 | |
| OP | 5.4529 | .78818 | .683** | .629** | 1 |

*N=315, **Correlation ,0.01, KM=Knowledge Management, OL= Organizational Learning, OP= Organizational Performance*

## Regression Analysis

**Table 4.** Regression

| Independent Variable | Unstandardized Coefficients | | Standardized Coefficients | |
|---|---|---|---|---|
| | B | S.E.E | Beta | Sig. |
| **Knowledge Management (KM)** | .666 | .040 | .684 | .000 |
| | R | 0.684 | | |
| | R² | 0.467 | | |
| | Adj. R² | 0.466 | | |
| | Std. Error | 0.574 | | |
| | R² Change | 0.467 | | |
| | F Change | 274.48 | | |
| | Sig. F Change | 0.000 | | |

Note: a. Predictor: KM; b. Dependent Variable: OP; P-Value in parentheses, * indicate significance at the 0.05 S.E.E.= Standard Error of the Estimate

Table 4 indicates the regression analysis of the research constructs. As revealed, the value of $R^2$ is 0.467, which depicts that the predictor variable knowledge management (KM) explains 46.7 % variation in the criterion variable organizational performance (OP). The table reveals that KM is positively and significantly related to the OP ($t = 16.57$, $p < 0.05$). As the β value is 0.666 demonstrate that a unit change in KM will bring 0.666 units to change in OP in the same direction.

## Mediation Analysis

Table 5 demonstrates the mediation analysis. The PROCESS macro of Preacher and Hayes (2014) was used to test the organizational learning mediation effect between knowledge management and organizational performance. For model testing, four multiple paths are drawn for analysis of the mediating effect. As revealed from the given table, all of the variables are significantly related to each other. Moreover, the Sobel test is also indicated that the relationship between KM and OP is significantly mediated by the mediator OL. As shown in the table, the results depict that the relation between KM and OP is significant and partially mediated by intervening variable OL. As the effect of KM and OP is decreased from 0.6672 to 0.4696, P=0.000<0.05).

**Table 5.** Mediation Analysis

| Relationships | $R^2$ | Adj. $R^2$ | F-value | Path-A | Path-B | Path-C | Path-C' | P |
|---|---|---|---|---|---|---|---|---|
| KM ⟶ OP | .6825 | .4659 | 272.99 | ------- | ------- | .6672 | ------- | .000 |
| KM ⟶ OL | .7445 | .5542 | 389.17 | .8012 | ------- | ------- | ------- | .000 |
| OL ⟶ OP | .7062 | .4987 | 155.20 | ------- | .2466 | ------- | ------- | .000 |
| KM ⟶ OL ⟶ OP | .7062 | .4987 | 155.20 | ------- | ------- | ------- | .4696 | .000 |

| **Sobel Test** | Effect | SE | Z | P |
|---|---|---|---|---|
| | .1975 | .0449 | 4.4021 | .0000 |

Note: KM= Knowledge Management, OP= Organizational Performance, OL=Organizational Learning, IV= Independent Variable, DV= Dependant Varriable, MV=Mediating Variable Pathe-A=IV➔MV, Path-B=MV➔DV, Path-C=IV➔DV,

**Table 6.** Summary of the findings

| Hypotheses | |
|---|---|
| **H₁**: Relationship between KM and OP is significant. | Supported |
| **H₂**: Relationship between OL and OP is significant. | Supported |
| **H₃:** Relationship between KM and OL is significant. | Supported |
| **H₄:** OL significantly mediates between KM and OP. | Supported |

## Discussion

The current research study intended to examine the organizational learning (OL) as a mediating variable in between KM and OP in HEI's of KP. The empirical outcomes showed that knowledge management has a significant and positive connection with organizational performance. This study confirmed the dynamic knowledge creation theory proposed by the researcher (Nonaka, 1994), and "knowledge-based theory" presented (Grant, 1996). It is based on the concept that a successful organizational performance can be obtained over effective creation, management and application of knowledge. The outcomes confirmed the results of previous research studies that show knowledge management as the key forecaster of producing performance of the organization (Liao & Wu, 2009, Nafei, 2014, Rehman et al., 2015, Cohen & Olsen, 2015, Ahmed et al., 2015, Ngah et al., 2016, Imran et al., 2017). The knowledge management helps critically in creating, sharing, storage and use of services for organizational performance in the universities (public sector).

By positioning the knowledge management edges, academic institutions can use their knowledge resources to mature new services and products that expand their prevailing services or products by providing innovative disciplines and courses that meet social needs. Moreover, the research results show that through the knowledge management journey, academic institutions are aware more of their standing to promote knowledge, communication, interaction, and exchange among the diverse stakeholders like employees, students, and industry to improve organizational competitiveness and performance. By engaging the students, faculty, and industry, academic institutions can regularly improve their curriculum and assessment processes to produce market-based services and products that help develop the excellence of teaching and learning and meet quality assurance standards (Ngoc-Tan & Gregar, 2018). Furthermore, statistical evidence of the present findings indicates that organizational learning has a positive and significant relationship with knowledge management within academic institutions, which is in line with the previous results (Liao & Wu, 2009, Luxmi, 2014, Nafei, 2014, Sarand et al., 2015, Jaber & Caglar, 2017).

Therefore, it is concluded that organizational learning is related positively to knowledge management. Additionally, present study findings revealed also that organizational performance has a significant and positive relationship with organizational learning which is according to the previous studies (Luxmi, 2014, Jaber & Caglar, 2017, Nafei, 2014, Mahmood et al., 2015, Ahmed et al., 2015). Finally, there is sound evidence that the mediator (OL) significantly mediates the relationship between predictor variable (KM) and Criterion variable (OP) in selected HEIs, which is in proportion to the findings of previous studies (Ramirez et al., 2011, Kou, 2011, Lin & Kuo, 2007, Rehman et al., 2015, Luxmi, 2014, Jaber & Cagler, 2017, Nefai, 2014, Imran et al.,

2017, Abu Bakar & Yusof, 2016). As a result, it is important that the Higher Education Commission (HEC) and academic institutions (Universities) invest considerable investment in developing an organizational learning system that links knowledge management and organizational performance. Therefore, these results are helpful for the readers and researchers in concluding the present study.

## Conclusion

The current study reveals the significance of KM and OL in selected universities (HEIs) in Pakistan (developing countries). The overall result depicted that OL partially and significantly mediated by the association between KM and OP. The result indicates that changing in the R-square from 47% to 50% of path c (direct relationship) to path b & ć (indirect relationship) and changing beta values from (.667) in path c (direct relationship) to (.469) in paths b & ć (indirect relationship). The results show that knowledge management helps in improving organizational learning and performance, and consequently, this learning, directly and indirectly, marks organizational performance. So, the study concluded that KM, as well as OL, has a vital role in the enhancement of institutional performance. Thus, this study has offered certain implications for the managers and stakeholders of the HEIs.

## Practical Implications

From a theoretical perspective, the current study suggests better employment of knowledge management related to organizational learning to increase the performance of academic institutions (universities) of Khyber Pakhtunkhwa, Pakistan. This study proposes a theoretical model that helps the faculty members (academicians) in the formulation of strategies to optimize the impact of learning with the knowledge management to expand the performance of organizations. Consequently, it is essential to establish a learning capability enhancement strategy along with knowledge management to progress organizational performance.

From a managerial perspective, it is suggested that academic institutions achieve outstanding performance when they use the available resources for the learning ability together with the management of knowledge. The higher education commission and academic institutions who aim to attain greater institutional performance over the application of knowledge management practices should focus upon organizational learning as the supporting influence to realize the desired standards and outcomes.

## Limitations and Future Directions

This paper contributes in many ways to existing literature, however, it also has some limitations. First, the focus of the current study is only on selected public sector higher education institutions of KP (i.e. A province of Pakistan). The present study can be extended by adding private sector universities. The comparative study of Government and private sector Universities may also conduct by future scholars on the same variables. Second, the current work is based on cross-sectional as the data is collected for one point of time and can be affected by response bias. Future research is also conducted in some other higher education institutions of Pakistan as well as service sector organizations. Future studies should investigate additional mediators such as market orientation, organizational effectiveness, and innovation to understand the KM-Performance relationship. In the future, SEM (structural equation modeling) might be applied to test one or more of the various dimensions of mediators to better understand the relationship of performance with knowledge management.

# References

Abu Bakar, A., & Yusof, M. N. (2016). Relating Knowledge Management and Growth Performance with Organization Learning As Mediator: A Conceptual Approach. Research *Journal of Fisheries and Hydrobiology*, 11 (3): 51-57.

Ahmed, S., Fiaz, M., & Shoaib, M. (2015). Impact of knowledge management practices on organizational performance: An empirical study of banking sector in Pakistan. *FWU Journal of Social Sciences,* 9(2): 147-167.

Alavi, M., Kayworth, T., & Leiden, D.E., (2009). An empirical examination of the influence of organizational culture on knowledge management Practices. *Journal of management information systems,* 22 (3): 191-224.

AL-Hakim, L. Y., & Hassan, S. (2012). The relationships among knowledge management processes, innovation, and organisational performance in the Iraqi MTS. Knowledge Management International Conference (KMICe).

Cohen, J. F., & Olsen, K. (2015). Knowledge management capabilities and firm performance: A test of universalistic, contingency and complementarity perspectives. *Expert Systems with Applications*, 42 (3):1178-1188.

Cooper, D. R., Schindler, P. S., & Sun, J. (2006). *Business research methods*(Vol 9). New York: McGraw-hill.

Creswell, J. W., & Clark, V. L. P. (2007). Designing and conducting mixed methods research. *Australian and New Zealand Journal of Public Health*, 31 (4), 388–389.

Crossan, M. M., & Bapuji, H. B. (2003). Examining the link between knowledge management, organizational learning and performance. In: Proceedings of the 5th International Conference on Organizational Learning and Knowledge, Lancaster University, Lancaster, 30-2.

Filius, R., De Jong, J.,& Roefs, C. E. (2000). Knowledge management in the HRD office: A comparison of three cases, *Journal of Workplace Learning*, 12 (7), pp. 286– 295.

Fisher, D., Rooke, D., & Torbert, W.R. (2000). *Personal and Organizational Transformations through Action Inquiry*, Edge/Work Press, Boston, MA.

Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17 (S2), 109-122.

Hair, J. F., Anderson, R. E., Babin, B. J., & Black, W. C. (2010). *Multivariate data analysis*: *A global perspective* (Vol. 7). Upper Saddle River, NJ: Pearson.

Hayes, A. F., & Preacher, K. J. (2014). Statistical mediation analysis with a multi-categorical independent variable. *British Journal of Mathematical and Statistical Psychology*, 67 (3), 451-470.

Hung, S. H. (2014). Effects of Organization Culture, Organizational Learning and IT Strategy on Knowledge Management and Performance. *The Journal of International Management Studies*, 9 (1), 50- 58.

Imran, M. K., Ilyas, M., & Fatima, T. (2017). Achieving Organizational Performance through Knowledge Management Capabilities: Mediating Role of Organizational Learning. *Pakistan Journal of Commerce and Social Sciences,* 105-124.

Jaber, O., & Caglar, D. (2017). The Role of Organizational Learning as a Mediator in Investigating the Relationship between Knowledge Management and Organizational Performance: The Case of Banks Listed in the Stocks Exchange of Palestine. *International Journal of Economic Perspectives,*11(1): 181-198.

Kou, T. H. (2011). How to improve organizational performance through learning and knowledge. *International Journal of Manpower*, 32 (5/6):581-603.

Lee, L. T. & B. M. Sukoco. (2007). The effects of entrepreneurial orientation and knowledge management capability on organizational effectiveness in Taiwan: The moderating role of social capital. *International Journal of Management*, 24 (3), pp. 549-73.

Liao, S. H., & Wu, C. C. (2010). System perspective of knowledge management, organizational learning, and organizational innovation. *Expert Systems with Applications*, 37 (2), 1096-1103.

Liao, S. & Wu, C. (2009). The Relationship among Knowledge Management, Organizational Learning, and Organizational Performance. *International Journal of Business and Management*, 4(4), 64-77.

Lin, C.Y., & Kuo, T. H. (2007). The mediated effect of learning and knowledge on organizational performance, *Industrial Management & Data Systems*, 107(7): 1066-1083.

Luxmi, (2014). Organizational Learning Act as a Mediator between the Relationship of Knowledge Management and Organizational Performance. *Management and Labour Studies*, 39(1): 31–41.

Mahmood, S., Qadeer, F., & Ahmad, A. (2015). The role of organizational learning in understanding relationship between total quality management and organizational performance. *Pakistan Journal of Commerce and Social Sciences*, 9 (1): 282-302.

Nafei, W. (2014). The Mediating Effects of Organizational Learning on the Relationship between Knowledge Management and Organizational Performance: An Applied Study on the Egyptian Commercial Banks. *International Journal of Business and Management*; 9(2).

Ngah, R., Tai, T., & Bontis, N. (2016). Knowledge management capabilities and organizational performance in roads and transport authority of Dubai: The mediating role of learning organization. *Knowledge and Process Management,* 23(3), 184-193.

Ngoc-Tan, N., & Gregar, A. (2018). Impacts of knowledge management on innovation in higher education institutions: An empirical evidence from Vietnam. *Economics and Sociology*, 301-350.

Nonaka, I. (1994). *A dynamic theory of organizational knowledge creation*. Organization Science, 5(1), 14-37.

Ramirez, A. M., Morales, V. J., & Rojas, R. M. (2011). Knowledge creation, organizational learning and their effects on organizational performance. *Inzinerine Ekonomika-Engineering Economics*, 22 (3): 309-31.

Rehman, W. U., Asghar, N., & Ahmad, K. (2015). Impact of KM practices on firms performance: A mediating role of business process capability and organizational learning. *Pakistan Economic and Social Review*, pp. 47-80.

Saranda, V. F., Hanaeinezhad, Z., Pourtaheri, M., Naeinid, S. G., Aboofazeli, M., & Moghadas, H. (2015). Explaining the relationships of knowledge management processes with organizational performance through the mediator organizational learning (Case Study: Employees of the Shabestar Branch of Islamic Azad University). *International Journal of Management Academy*, 3 (3): 13-20.

Sekaran, U. (2003). *Research Methods for Business*: *A skill-building approach*. 4th Edition, John Wiley & Sons, New York.

Sekaran, U., & Bougie, R. (2013). *Research methods for business*: *A skill-building approach*. 6th Edition, New York: Wiley.

Taherdoost, H. (2016). Validity and Reliability of the Research Instrument; How to Test the Validation of a Questionnaire/Survey in a Research. *International Journal of Academic Research in Management* (IJARM), 5 (3): 28-36.

Wasim, U. R., Nabila, A., & Khalil, A. (2015). Impact of KM practices on firms' performance: a mediating role of business process capability and organizational learning. *Pakistan Economic and Social Review*, 53 (1), 47-80.

Watkins, K. E. & Marsick, V. J. (1993). *Sculpting the learning organization*: Lessons in the art and science of systematic change. San Francisco: Jossey-Bass.

Yamane, T. (1967). *Statistics*: *An introductory analysis.* 2nd Edition, New York: Harper and Row.