Orient Research Journal of Social Sciences *ISSN Print 2616-7085*
June 2019, Vol.4, No.1 [14-30] *ISSN Online 2616-7093*

Assessing the Role of Knowledge Management in Organizational Performance through Organizational Learning

Dr. Anjum Naz [1] Dr. Masood Ul Hassan [2] Arslan Ayub [3]

Abstract

Few organizational studies have identified a radical approach to assess knowledge management practices resulting in increased organizational efficiency and effectiveness. This paper thereby assesses the potential mediating effect of organizational learning in the relationship of knowledge management and organizational performance. The study employs non-experimental purposive sampling technique to collect data from employees in the service sectors in Pakistan. The study assesses descriptive statistics and correlation analysis on a sample of 213 respondents by employing SPSS (v 20.0) and the structural equation model using SPSS-AMOS (v 18.0). Our findings support the proposed theoretical framework and found positive relationship between knowledge management and organizational learning. The study also found that organizational learning mediates the positive relationship between knowledge management and organizational performance. The study employs cross-sectional design for data collection which doesn't allow for causality. Therefore, we propose that future studies should examine the proposed theoretical framework in a more robust manner using time-lag data. Our findings suggest that organizations should inculcate the knowledge-intensive culture within their boundaries to achieve sustainable competitive advantage through an organizational learning approach.

.

Key Words: Knowledge Management, Organizational Learning, Organizational Performance, Service Sector, Pakistan

Introduction

At the outset of the 21st century, nothing has grown remarkably at this pace than does the knowledge management application for any company (Darroch& McNaughton, 2002; Sadri McCampbell*et al.,* 1999). In the seminal work of Peter F. Drucker, the author coined the term "knowledge worker" which has steadily grown alongside the technology tools intended at boosting their productivity (Drucker, 1999). The knowledge-based view of organizations is considered a substantial resource for an organization that enables the organization to achieve sustainable competitive advantage (Eisenhardt & Santos, 2002; Nonaka & Toyama, 2015). The notion is that a

[1] Assistant Professor, Department of Education, University of Sargodha, Sargodha, Pakistan
[2] Professor, Department of Commerce, Bahauddin Zakariya University Multan, Pakistan
[3] Ph. D Scholar, Department of Commerce, Bahauddin Zakariya University Multan, Pakistan

resource becomes a strategic resource if it is valuable, rare, and in-imitable (Nonaka & Toyama, 2015). Organizations have realized that their full potential lies in the unique proprietary knowledge they possess. Thus, many research scholars have emphasized on the insinuation of knowledge-based view of organizations and mulled over it as a strategic resource (Archer-Brown & Kietzmann, 2018; Ferreira *et al.,* 2018).

The focal of knowledge management is built on the impression that organizations can enhance their performance by utilizing the tacit knowledge of their potential employees (Pandey, Dutta, & Nayak, 2018). Many research scholars including Chen & Huang (2009); Im *et al.* (2016); López-Nicolás and Meroño-Cerdán (2011) stipulated that knowledge management helps organizations to utilize the knowledge possessed by the experienced employees and formalize and disseminate it for reuse by the employees in fulfilling the shared cause to achieve an enhanced organizational performance.

Organizations however need a radically different approach to execute the knowledge management practices efficiently (Pandey *et al.,* 2018). In this milieu, the authors suggest that knowledge management impacts organizational performance in several ways and such an impact is made through certain practices where organizational learning is among one of them. For an organization, it is important to keep an eye on their internal and external aspects as in what ways such as behaving knowledge management to enhance the performance; such information generated through knowledge management helps them in devising new parameters of goal achievement and orientation as well (Easterby-Smith & Lyles, 2011). Through organizational learning, companies can easily inculcate such among their employees.

Organizational learning has amassed an extensive body of literature indicating that organizations have successfully implemented various organizational learning approaches (Lee & Gandolfi, 2007) for enhancing organizational performance (Huber, 2004). Kumaraswamy and Chitale (2012) revealed that those processes, which change and generate organizational knowledge, are stemmed at organizational learning strategies that provide the competence, exposure, and the required skills to outer performing at the workplace. Thus, enabling employees becoming critical problem solvers, to grow and adopt to their workplace, become more innovative and creative thinkers, and more proficient and efficient workers.

Being in a knowledge-driven global economy, knowledge management and organizational learning are the vital strategic aspects for Pakistani service sector; hence, need to be executed pro-actively in an

intensive and coordinated way. A consequence to this should be the growing acknowledgement of knowledge management as well as organizational learning embedded in the vision of organizations. Numerous such initiatives have already been taken on knowledge management and organizational performance (Easterby-Smith & Lyles, 2011; Im *et al.,* 2016; Lee & Gandolfi, 2007). However, this study addresses the construct at a strategic level by analyzing the role of knowledge management through organizational learning in organizational performance.

Literature Review

Knowledge Management, Organizational Learning, and Organizational Performance

Knowledge management in large organizations as discussed by Serenko *et al.* (2007) can be executed more effectively through social networking in teams by linking them intra-organizationally. Cantner *et al.* (2009) extended the application and implementation of knowledge management and argued that not only large organizations or those whose business is knowledge need the execution of knowledge management but also every organization that has become the part of this knowledge economy necessitates the utmost implementation of knowledge management to gain the competitive advantage in long runs. Likewise, organizational learning serves as a source of competitive advantage (Berta *et al.*, 2015) and weighs more than the industry analysis and structure (Fernández-Mesa & Alegre, 2015). According to Argote and Miron-Spektor (2011), organizational learning considers "the socio-organizational context of learning about new knowledge, the individual level factors that influence learning about new knowledge, the macro factors that influence knowledge application and learning, and the impact of the nature of the knowledge or innovation on subsequent learning process". Both knowledge management and organizational learning are the strategic tools, need to be exercised and implemented fully to leverage this fast-paced business era. There is a high degree of relatedness among both the fields as knowledge is an attribute associated to individuals, and organization is a structured platform where they operate (Im *et al.,* 2016). Thus, linking knowledge management to organizational learning is at the heart of this replica because effectiveness of knowledge management can be exploited when knowledge becomes embedded within organizational confines.

Numerous such initiatives on knowledge management and organizational learning have already been undertaken since 1990s. For the present study to link and build the rationale on the stated construct to be

applicable for Pakistani service sector, the researchers went through a number of studies conducted in different countries from developed to developing and also conducted in Pakistan and found a strong positive relationship between knowledge management, organizational learning and organizational performance. For instance, Mahesh and Suresh (2009) concluded that organizations operating in this modern business where the key factor of production is knowledge, they need to manage the exchange of knowledge to maintain organizational effectiveness for enhanced performance. Significantly, Pandey and Dutta (2013) in their research on a medium-sized, global IT solutions company in India found a positive relationship between organizational capabilities to manage knowledge through knowledge capability infrastructure on the knowledge management excellence. Similarly, another study conducted on banking sector in Pakistan by Hassan (2013) revealed a positive correlation between organizational learning and long-term success of banking sector. Furthermore, Danish (2012) in his research in Pakistani service industry, found the steering role of organizational learning along with organizational change and knowledge sharing on knowledge management, thus enabling knowledge management in resulting increased organizational performance.

With the growing acknowledgement of knowledge management and organizational learning; the overwhelming consequences of these can be seen in organizational performance in both short and long runs (López-Nicolás &Meroño-Cerdán, 2011). For the present study, organizational performance has been considered in terms of effectiveness, efficiency, and relevance of strategy with vision. Yang and Yeh (2009) defined strategy being the main dimension of organizational performance as a process that determines mission, vision, policies, strategies, goals, and objectives that manages organizational resources in fulfilling organizational aims. Focusing on the applicability of leveraging organizational knowledge; knowledge management should be considered as an internal strategy that can be executed in aligned with organizational mission and vision for achieving organizational performance (Lin, 2011; Pandey *et al.*, 2018).

It is portrayed in business literature that knowledge management delivers strategic results regarding capacity enhancement, effective decision-making, competitiveness, and profitability (Chen & Huang, 2009). Ferreira *et al.* (2018) advocated that the focus of knowledge management strategy is on business processes as business strategy is tied to business processes. A growing body of literature including Donate and Canales (2011); López-Nicolás and Meroño-Cerdán (2011); Schiuma (2012); Schiumma *et al.* (2012) emphasized on the significance of knowledge management for sustainable organizational performance. Knowledge exchange is essential

among employees for maintaining organizational effectiveness in this knowledge economy (Gold *et al.,* 2001).

In addition, Carrillo *et al.* (2003) in their research provided justification for organizations to adopt knowledge management strategy by linking organizational performance to knowledge management. In this respect, the strategic value of knowledge management is critical to organizational competitive success (Whelan and Carcary, 2011). They further argued that effective management of top performing knowledge workers, their insights and experiences that is embedded in individuals' know-how and actions is necessary for increased organizational performance.

Given the widening possibilities, improved organizational performance depends not only on other organizational resources or tangible assets but also on effective management of knowledge (Lee and Sukoco, 2007), hence enabling organizational learning. Cabrera *et al.* (2006) stated that individual knowledge becomes group knowledge, ultimately results in organizational knowledge that steers organizational learning through knowledge sharing. This knowledge subsequently becomes an eminent source of competitive advantage (Lin, 2011). Overall, the role of knowledge sharing based on shared organizational vision becomes part of organizational strategy and then it may be perceived as a process known as organizational learning. Nonaka and Takeuchi (1995) supported the argument that setting organizational vision is not enough unless and until it is effectively communicated throughout the organization.

Bogner and Bansal (2007) pointed out that how organizational learning is related to important organizational outcomes. Following researchers including Easterby-Smit and Lyles (2011); Kumaraswamy and Chitale (2012); Lee and Gandolfi (2007) supported the construct of organizational learning and endorsed that organizational learning results in increased effectiveness and efficiency in business processes through collective utilization of employees' insights and experiences for better visioning of routine business practices. Furthermore, Zellmer-Bruhn and Gibson (2006) argued that organizational learning at teams' level positively influence task performance ultimately results in increasing organizational performance at large.

Based on the above-discussed arguments, we propose that knowledge management and organizational learning enhance organizational performance and result in sustainable competitive advantage (see Figure 1). Therefore, the study proposes the following research hypotheses:

H1. *Knowledge management has a significant positive impact in organizational performance*

H2. *Organizational learning mediates the positive relationship between knowledge management and organizational performance*

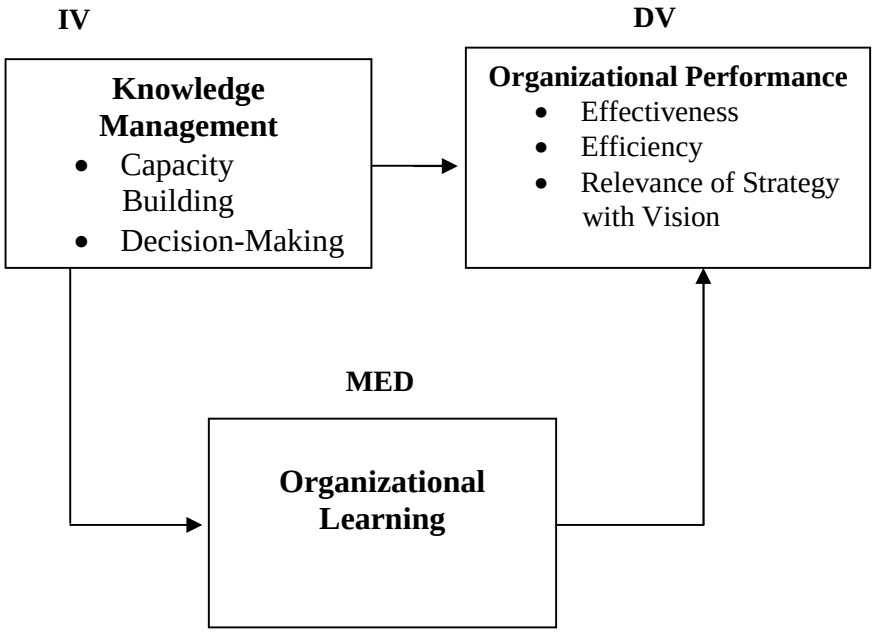

Figure 1 Theoretical Framework

Methodology

Sample and Sampling

The current study aims to measure the impact of knowledge management in organizational performance through mediating role of organizational learning in service sector in Pakistan. The target population in this study is the service sector because service intensive organizations are more inclined towards knowledge management and thus, organizational learning practices for effective knowledge management are more apparent than any other sector (Farzin *et al.*, 2014).

Non-experimental purposive sampling is used in this study. Purposive sampling also known as restrictive sampling arbitrarily chooses respondents. This may however be considered a limitation of this study. The potential respondents were managers, assistant managers, and personnel working in operations, procurement, marketing, and other departments related to the study. Recent literature in SEM argues the appropriate sample size should be greater than N = 207 (Hair *et al.*, 2017). Thereby, a total of 250 questionnaires were administered by the researchers in these companies in Punjab, Pakistan. The researchers received 224 filled questionnaires and 213 were processed in this study; leaving a response rate of 85%.

Measurement and Instrument

The study aimed in investigating the impact of knowledge management on organizational performance through mediating role of organizational learning. Thereby, the study contained one independent variable, one mediating variable, and one dependent variable. The research instrument contained 9 items of knowledge management adapted from Kamhawi (2012), 7 items of organizational learning adapted from Zack *et al.* (2009), and 7 items of organizational performance adapted from Gold *et al.* (2001), measured on 5-point Likert scale (1 for strongly disagree to 5 for strongly agree).

Data Analysis

The study analyzed data in two steps. First, descriptive statistics and correlation analysis was analyzed using Statistical Packages for Social Sciences (SPSS) v 20.0. Second, to assess the structural equation model, the study employs Analysis of Moment Structures (SPSS-AMOS). Structural equation modeling is a very useful technique in the development of the theoretical models (Hair, Ringle, &Sarstedt, 2011).

Descriptive Statistics and Constructs Correlation

Descriptive statistics are used to check the representation of sample with respect to population. In this approach, quantitative analysis is conducted, and Skewness and Kurtosis are found to confirm the normality of data. The results are encouraging indeed. Table 1 indicates the descriptive statistics of the main study. The values of skewness and kurtosis are between -3 to +3 (Groeneveld &Meeden, 1984). Thus, in this study, all the variables are normally distributed. Furthermore, mean of all the three variables are also given in the table 1. Knowledge management has a mean value of 3.88, organizational learning has a mean value of 3.85, and organizational performance has a mean value of 3.82.

Cronbach's Alpha is presented in table 1. The result demonstrates the reliability of each item of the measurement scale. The Cronbach's Alpha of the knowledge management scale is 0.776. Cronbach's Alpha for organizational learning scale is 0.739 and for organizational performance, the Cronbach's Alpha is 0.868. Reliability index for the instrument as a whole with 23 items is 0.909. Results are highly significant in terms of reliability of the measurement instrument (Bland & Altman, 1997). Further, all the factor loadings were above 0.4, thereby, the study didn't suffer from validity issues (Bagozzi, Yi, & Philipps, 1991).

Table 1 Descriptive Statistics

	Cronbach's Alpha	Mean	Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
KM	0.776	3.8840	.54663	.533	.227	.302	.451
OL	0.739	3.8571	.56791	.163	.227	-.418	.451
OP	0.868	3.8255	.72661	.696	.227	-.539	.451

Note. KM=knowledge management, OL=organizational learning, OP=organizational performance

The study analyzed the Pearson correlations (see table 2). The findings reveal that positive relationship exists between all the proposed variables. There exists a positive relationship between knowledge management and organizational learning with a value of 0.721. In addition, a positive correlation exists between knowledge management and organizational performance with a value of 0.678. Similarly, organizational learning is also positively related with organizational performance having a value of 0.616. For any analysis, the value of significance "P" should be less than 0.01 (2-tailed) (Landau, 2004).

Table 2 Correlations

			KM	OL	OP
KM	Pearson correlation		1	-	-
		Sig. (2-tailed)		-	
		N	213	-	
	OL	Pearson correlation	.721(**)	1	
		Sig. (2-tailed)	.000		
		N	213	213	
	OP	Pearson correlation	.678(**)	.616(**)	1

Sig. (2-tailed)	.000	.000
N	213	213
213		

***Correlation is significant at the 0.01 level (2-tailed).*

Structural Equation Model

Regression weights of analysis are produced by using AMOS 18.0 and are presented in table 3. Results of this analysis reveal that the model is recursive. Current studies in mediation recommend testing the indirect effects directly that transmits that effect (Hayes, 2009; Shrout & Bolger, 2002). Therefore, the researchers examined significance of the path from knowledge management to organizational learning and the path from organizational learning to organizational performance. The results indicate that when knowledge management goes up by 1, organizational performance goes up by 0.647. This justifies that higher the knowledge management practice, more will be organizational performance. Estimates for knowledge management and organizational learning and organizational learning and organizational performance are 0.749 and 0.338 with p value less than 0.01. Organizational learning and organizational performance goes up in a positive way as if knowledge management and organizational learning strategies are being employed and practiced in organizations. S.E. represents standard error for all possible values. Standard error values are 0.068, 0.129, and 0.124 respectively. For any analysis, the value of P should be less than 0.01 (2-tailed). All the statements in this study are significant for this size of sample under suitable assumptions (Arbuckle, 2010). H1 represents the positive association between knowledge management and organizational performance. This hypothesis is proved by this analysis. Since, the value of P is 0.00 for H1, which states that knowledge management has a positive impact in organizational performance. Thus, hypothesis H1 is accepted. Likewise, H2 is also accepted and proved by this analysis that organizational learning mediates the positive relationship between knowledge management and organizational performance.

Table 3 Regression weights

	Estimate	**S. E.**	**P**
OP< --- KM	0.647	.068	.000
OL< --- KM	0.749	.129	.000
OP < --- OL	0.338	.124	.007

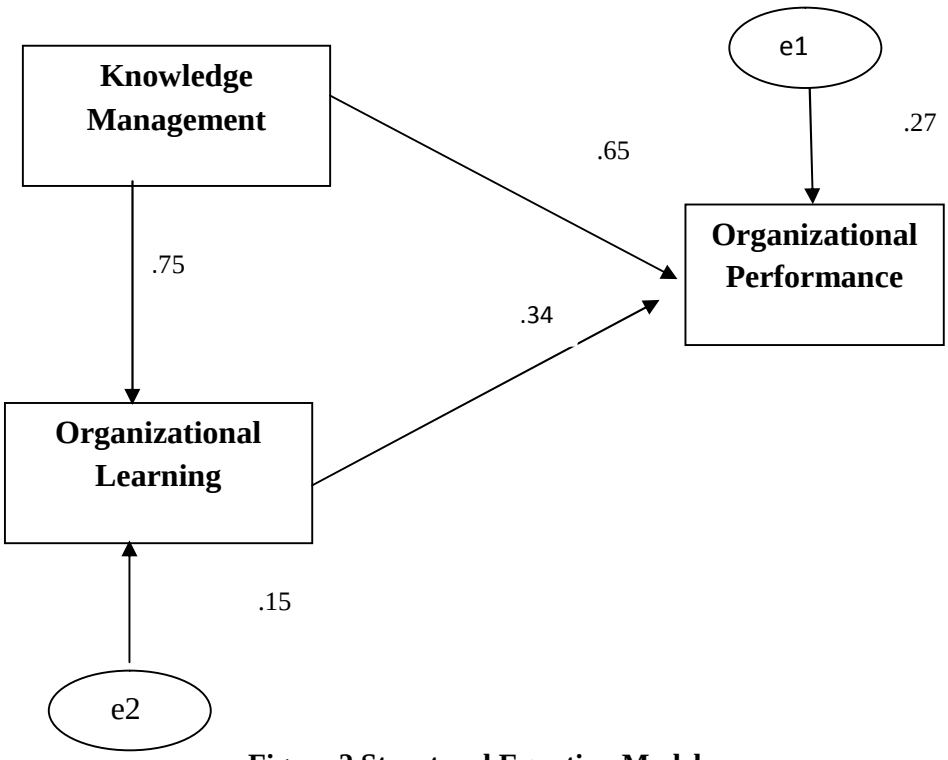

Figure 2 Structural Equation Model

Discussion

The results of present study are in conformity with several studies conducted earlier. The study is bifurcated into two parts, as in first phase knowledge management impact organizational performance through enabling organizational learning. Further, organizational learning acts as a mediating variable between knowledge management and organizational performance and influences organizational performance. The developed theoretical framework and the empirical investigation of the study are in line with each other.

Pandey and Datta (2013) endorsed the importance of knowledge management in this modern business leadership management era. Darroch and McNaughton (2002) further argued that knowledge management is very necessary for resolving operational uncertainties in business success. Likewise, Chen and Huang (2009) state that for providing better customer value and for gaining a competitive advantage on competitors, it is required by organizations to exercise knowledge management practices successfully. The theoretical construct and the empirical results justify and prove that

knowledge management is positively correlated with organizational performance.

Lin (2011) linked knowledge management to organizational learning by justifying that the role of knowledge management is to enable individual knowledge group and group knowledge organizational thus, improves organizational performance. Easterby-Smith and Lyles (2011) pointed out that how organizational learning is associated with enhanced organizational performance. Furthermore, Zellmer-Bruhn and Gibson (2006) argued that organizational learning at teams' level positively influence task performance ultimately results in increasing organizational performance at large.

Thus, both theoretical and empirical data validate all the proposed hypotheses such as H1 and H2. It is validated that knowledge management is positively correlated with organizational performance. In addition, organizational learning mediates the positive relationship between knowledge management and organizational performance. Therefore, knowledge management and organizational learning are perceived to be eminent strategies to be executed to achieve enhanced organizational performance.

Conclusion

This study is conducted to analyze the impact of knowledge management on organizational performance through mediating role of organizational learning in service sector in Pakistan. The study considers the industry profiling of service sector in Pakistan being a knowledge-driven economy rather a technology-driven economy and found a strong positive influence of knowledge management and organizational learning on achieving higher organizational performance. For carrying on the cause, the authors argue that organizations must understand their value prepositions and must realize the importance of exploiting human skills. It is the human capital which leads organizations towards excellence. The study provides evidence that knowledge management and organizational learning strategies focus on the key elements and requirements. For instance, rather considering the importance of leadership, the strategic output of knowledge management and organizational learning is to focus on collective leadership. Whenever, we talk about knowledge management and organizational learning, we are talking about a strategy. Knowledge management and organizational learning are supposed to be the key strategic resources to be deployed effectively to enhance organizational performance. Rather, both should be considered in compliance with organizational vision to achieve short and long-term goals and objectives.

The core philosophy of knowledge management is to get right knowledge at right time in right place. The need is to become aware of the fact that how things are done and ultimately a proper knowledge infrastructure is required that ensures the availability of knowledge. The study provides evidence that the concrete output of knowledge management and organizational learning is effective and efficient organizational performance. Additionally, the study found organizational learning strategy is an eminent source that steers knowledge management as a mediating variable and results in increased organizational performance.

Limitations and Directions for Future Research

There are few limitations in this study. The study is conducted on service sector in Pakistan, and because of the significance of this study, it is limited to service industry in Pakistan including banking, IT and Telecom. To ensure the demographic validity of data with respect to areas, the data is collected from multiple cities. For this reason, few companies from each city are being chosen and visited by researcher. Because of this, generalization of this research is compromised.

The study is significantly important as is provides rich insights to managers and practitioners as well as to researchers on knowledge management and organizational learning. However, the study is restricted to service sector in Pakistan. Another research can be undertaken on public sector organizations. Furthermore, to ensure the generalization of this construct, the sample size can be enhanced. Additionally, the current study threw light on knowledge management strategy. Only knowledge creation process is somewhat discussed in this study for an understanding of the construct. Future studies should use time lag data and longitudinal research designs to yield the causality of the relationship. Furthermore, an integrative view of knowledge management and organizational learning can be tested with internet of things (IOT) in future studies.

References

Arbuckle, J. L. (2010). IBM SPSS Amos 19 user's guide. *Crawfordville, FL: Amos Development Corporation*, *635*.

Archer-Brown, C., &Kietzmann, J. (2018). Strategic knowledge management and enterprise social media. *Journal of knowledge management*, *22*(6), 1288-1309.

Argote, L., & Miron-Spektor, E. (2011). Organizational learning: From experience to knowledge. *Organization science*, *22*(5), 1123-1137.

Bagozzi, R. P., Yi, Y., & Phillips, L. W. (1991). Assessing construct validity in organizational research. *Administrative science quarterly*, 421-458.

Berta, W., Cranley, L., Dearing, J. W., Dogherty, E. J., Squires, J. E., & Estabrooks, C. A. (2015). Why (we think) facilitation works: insights from organizational learning theory. *Implementation Science*, *10*(1), 141.

Bland, J. M., & Altman, D. G. (1997). Statistics notes: Cronbach's alpha. *Bmj*, *314*(7080), 572.

Bogner, W. C., & Bansal, P. (2007). Knowledge management as the basis of sustained high performance. *Journal of Management Studies*, *44*(1), 165-188.

Busch, M. (2006). *Examining Organizational Learning for Applications in Human Service Organizations.* PhD Thesis. Indiana University. Retrieved June 2, 2013, from https://scholarworks.iupui.edu.

Cabrera, A., Collins, W. C., & Salgado, J. F. (2006). Determinants of individual engagement in knowledge sharing. *The International Journal of Human Resource Management*, *17*(2), 245-264.

Cantner, U., Joel, K., & Schmidt, T. (2009). The use of knowledge management by German innovators. *Journal of Knowledge Management*, *13*(4), 187-203.

Carrillo, P. M., Robinson, H. S., Anumba, C. J., & Al-Ghassani, A. M. (2003). IMPaKT: A framework for linking knowledge management to business performance. *Electronic Journal of Knowledge Management*, *1*(1), 1-12.

Chen, C. J., & Huang, J. W. (2009). Strategic human resource practices and innovation performance—The mediating role of knowledge management capacity. *Journal of business research*, *62*(1), 104-114.

Chen, Y. Y., Yeh, S. P., & Huang, H. L. (2012). Does knowledge management "fit" matter to business performance? *Journal of knowledge management*, *16*(5), 671-687.

Danish, R.Q. (2012). Impact of Knowledge Management Practices on Organizational Performance: an Evidence from Pakistan, *International Journal of Scientific and Engineering Research*, *3*(8).

Darroch, J., & McNaughton, R. (2002). Examining the link between knowledge management practices and types of innovation. *Journal of intellectual capital*, *3*(3), 210-222.

Donate, M. J., & Canales, J. I. (2012). A new approach to the concept of knowledge strategy. *Journal of Knowledge Management*, *16*(1), 22-44.

Drucker, P. F. (1999). Knowledge-worker productivity: The biggest challenge. *California management review*, *41*(2), 79-94.

Easterby-Smith, M., & Lyles, M. A. (Eds.). (2011). *Handbook of organizational learning and knowledge management*. John Wiley & Sons.

Eisenhardt, K. M., & Santos, F. M. (2002). Knowledge-based view: A new theory of strategy. *Handbook of strategy and management*, *1*(1), 139-164.

Farzin, M. R., Kahreh, M. S., Hesan, M., & Khalouei, A. (2014). A survey of critical success factors for strategic knowledge management implementation: Applications for Service Sector. *Procedia-Social and Behavioral Sciences*, *109*, 595-599.

Ferreira, J., Mueller, J., & Papa, A. (2018). Strategic knowledge management: theory, practice and future challenges. *Journal of Knowledge Management*.

Fernández-Mesa, A., & Alegre, J. (2015). Entrepreneurial orientation and export intensity: Examining the interplay of organizational learning and innovation. *International Business Review*, *24*(1), 148-156.

Gold, A. H., Malhotra, A., &Segars, A. H. (2001). Knowledge management: An organizational capabilities perspective. *Journal of management information systems*, *18*(1), 185-214.

Groeneveld, R. A., &Meeden, G. (1984). Measuring skewness and kurtosis. *Journal of the Royal Statistical Society: Series D (The Statistician), 33*(4), 391-399.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017*). A primer on partial least squares structural equation modelling (PLS-SEM),* Sage Publicaitons, Thousand Oaks, CA.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice*, *19*(2), 139-152.

Hassan, M. (2013). Inter Relationships between Learning Orientation, Relationship Orientation, and Business Performance: an Empirical Study on Pakistani Banking Sector, *Middle-East Journal of Scientific Research, 16*(7), 957-966.

Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication monographs*, *76*(4), 408-420.

Huber, G.P. (2004). *The Necessary Nature of Future Firms. Attributes of Survivors in A Changing World*, Sage, Thousand Oaks, CA.

Im, S., Vorhies, D. W., Kim, N., & Heiman, B. (2016). How knowledge management capabilities help leverage knowledge resources and strategic orientation for new product advantages in b-to-b high-technology firms. *Journal of Business-to-Business Marketing*, *23*(2), 87-110.

Kamhawi, E. M. (2012). Knowledge management fishbone: a standard framework of organizational enablers. *Journal of Knowledge Management*, *16*(5), 808-828.

Kumaraswamy, K.S.N. and Chitale, C.M. (2012). Collaborative Knowledge Sharing Strategy to Enhance Organizational Learning. *Journal of Management Development, 31*(3), 308-322.

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

Landau, S. (2004). *A handbook of statistical analyses using SPSS*. CRC.

Lee, L.T-S. and Gandolfi, F. (2007). A Tertiary School Organization on the Road to become a Learning Organization. *International Journal of Innovation and Learning, 4*, 290-307.

Lee, L. T. S., &Sukoco, B. M. (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), 549.

Lin, H. F. (2011). Antecedents of the stage-based knowledge management evolution. *Journal of Knowledge Management*, *15*(1), 136-155.

López-Nicolás, C., &Meroño-Cerdán, Á. L. (2011). Strategic knowledge management, innovation and performance. *International journal of information management*, *31*(6), 502-509.

Mahesh, K., & Suresh, J. K. (2009). Knowledge criteria for organization design. *Journal of Knowledge Management*, *13*(4), 41-51.

Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company: How Japanese companies create the dynamics of innovation*. Oxford university press.

Nonaka, I., & Toyama, R. (2015). The knowledge-creating theory revisited: knowledge creation as a synthesizing process. In *The essentials of knowledge management* (pp. 95-110). Palgrave Macmillan, London.

Pandey, S. C., & Dutta, A. (2013). Role of knowledge infrastructure capabilities in knowledge management. *Journal of knowledge management*, *17*(3), 435-453.

Pandey, S. C., Dutta, A., & Nayak, A. K. (2018). Organizational capabilities and knowledge management success: a quartet of case studies. *Kybernetes*, *47*(1), 222-238.

Sadri McCampbell, A., Moorhead Clare, L., & Howard Gitters, S. (1999). Knowledge management: the new challenge for the 21st century. *Journal of knowledge management*, *3*(3), 172-179.

Schiuma, G. (2012). Managing knowledge for business performance improvement. *Journal of Knowledge Management*, *16*(4), 515-522.

Schiuma, G., Carlucci, D., and Lerro, A. (2012). Managing Knowledge Process for Value Creation. *The Journal of Information and Knowledge Management Systems*, *42*(1), 04-14.

Serenko, A., Bontis, N., &Hardie, T. (2007). Organizational size and knowledge flow: a proposed theoretical link. *Journal of Intellectual Capital*, *8*(4), 610-627.

Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: new procedures and recommendations. *Psychological methods*, *7*(4), 422.

Tseng, S. M. (2010). The correlation between organizational culture and knowledge conversion on corporate performance. *Journal of knowledge management*, *14*(2), 269-284.

Whelan, E., &Carcary, M. (2011). Integrating talent and knowledge management: where are the benefits? *Journal of knowledge management*, *15*(4), 675-687.

Yang, C. C., &Yeh, T. M. (2009). An integrated implementation model of strategic planning, BSC and Hoshin management. *Total Quality Management*, *20*(9), 989-1002.

Zack, M., McKeen, J., & Singh, S. (2009). Knowledge management and organizational performance: an exploratory analysis. *Journal of knowledge management*, *13*(6), 392-409.

Zellmer-Bruhn, M., & Gibson, C. (2006). Multinational organization context: Implications for team learning and performance. *Academy of management journal*, *49*(3), 501-518.