EMPIRICAL INVESTIGATION OF THE IMPACTS OF KNOWLEDGE MANAGEMENT ON ORGANIZATIONAL LEARNING - A CASE STUDY OF HIGHER EDUCATION INSTITUTIONS

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ABSTRACT

Nowadays, knowledge management has become an inspiring catch-all in the eyes of researchers as it is a source of competitive advantage. Despite growing concern for organizational learning, less attention has been given to knowledge management. Therefore, this study sheds light on various dimensions of knowledge management that may help management get organizational learning benefits. The stratified simple random sampling technique was used to collect data from 255 faculty members of public and private universities of Pakistan. Due to the COVID-19 pandemic, the data were collected online. The data were analyzed through SmartPLS software v.3.0. The results revealed that knowledge acquisition, knowledge documentation, knowledge creation, and knowledge application positively influence organizational learning, whereas knowledge transfer has a non-significant effect on organizational learning. It is evident from this study that managers should focus more on knowledge management by valuing employee opinions and well-being. They should value their contribution, help employees when needed, and find more ways to enhance their learning attitude.

Keywords: Knowledge Acquisition, Knowledge Documentation, Knowledge Creation, Knowledge Application, Knowledge Transfer, Organizational Learning

INTRODUCTION

In the current competitive environment, a knowledge-based economy plays an imperative role in Higher Education Institutions (HEI's) (Masenya, 2021; Toimbek, 2021). As a learning institution, the organization will be capable of prolonging knowledge and skills, producing excellent graduates, improving innovation and creativity, and effectively contributing to knowledge production and intellectual property development (Tian et al., 2018; Jung, 2020). For organizations to meet the demands of today's market, they must expand their knowledge base with the knowledge capital, so they need to keep learning. Due to the overlapping growth in the education sectors, the HEI's urged the implementation of the knowledge management system to manage and distribute the organization's knowledge (Shehabat & Berrish, 2021). According to (Mahdinezhad et al., 2018), the university is perfect for a production and knowledge creation environment.

Therefore, knowledge management's primary purpose of higher education is the stability of the university and the way to use existing knowledge effectively and prepare to develop new knowledge and gain the ability to handle challenges of continuous survival. In other words, it is

believed that the need and the importance of applying knowledge management in universities can lead to changes in opinions and perceptions (Camacho, 2021). So, to survive in a contemporary business environment, the practitioners and academicians both have found that Knowledge Management (KM) and Organizational Learning (OL) have a substantial effect on Organizational performance in higher education institutions (Rehman et al., 2019). At the same time, it seems clear that knowledge management and organizational learning are important for the organization's performance. However, little research has been done on how these concepts interact with each other higher education in developing countries (Ramjeawon & Rowley, 2020; Su et al., 2021). For this reason, working with learning organizations, knowledge-driven principles, along with a knowledge-sharing infrastructure, can ensure the success of sustainable and long-lasting organizations. However, the current study focuses on the impact ofKMP onOL in the Higher educational context of Pakistan.

HYPOTHESES DEVELOPMENT AND LITERATUREREVIEW

Knowledge Management (KM)

For the organization's survival, performance, effectiveness, productivity, and knowledge management play a significant role in sharing the knowledge, which helps improve professional decisions and practices (Ramjeawon et al., 2020). Knowledge management is vital in obtaining information about the institutional resources to achieve desired objectives (Rehman, Khan & Javed, 2019). Organizations with value-added sources about knowledge management can grow competitiveness and effectiveness in the organizations. Thus, organizational credibility and success are contingent upon effective knowledge management practices (Yaacob et al., 2010). Effective knowledge management helps strengthen organizational performance with wide-ranging influence upon organizational success (Haider, 2019). Knowledge management is the emergent aspect of both management and leadership (Eustachio et al., 2020). It is an activity that involves the creation, description, packaging, organization, storage, and sharing of knowledge resources that thrive and exists within organizations (Tehseen et al., 2021). Thus, both OL and KM are recommended and validated as effective tools for increasing the organization's performance.

The KM is, thus, a process designed to identify and harness skills, expertise, experience, talents, and intellect of various cadres of personnel to support the organizations to attain its stated goals, reduce wastages and gain an advantage in a competitive environment (Munir et al., 2013). During past decades, knowledge management is considered the most dynamic feature with the necessary diverse elements (acquisition, creation, transfer, application & documentation) for the execution of organizational performance (Ijaz et al., 2016). Knowledge management in the education sector is recognized as the systematic and organized process of information disseminating and generating, together with distilling, selecting, and organizing tacit and explicit information to produce distinctive values which might be used to reinforce the learning and the teaching environment (Nilsook & Sriwongkol, 2009; Su et al., 2021). In higher education, knowledge management has certain aims like emerging tasks, eliminating resources (human), and evolving skills and knowledge of sustainable learning and teaching processes (Ngoc-Tan & Gregar, 2018). Thus, knowledge management is imperative for the standing and ranking of the universities.

According to Filius, et al., (2000); Feng, et al., (2012); Khodadad, et al., (2020), KM in this study are categorized:

Knowledge Acquisition (KA): According to Huang, et al., (2013), this practice involves acquiring and studying relevant knowledge from a variety of internal and external resources such as experience, experts, relevant documentation, plans, and more. Interviews, process mapping, concept mapping, observation, education, and training are the most well-known techniques for acquiring knowledge.

Knowledge Documentation (KD): Knowledge documentation is the extent to which knowledge is embedded and captured into organizational processes and procedures by encapsulating them in manuals, databases, and handbooks (Khodadad et al., 2020). Documented knowledge can be easily distributed and made available to other participants of the organization. IT and other knowledge dissemination mechanisms performed an important part in the documentation of knowledge.

Knowledge Transfer (KT): Transfer of knowledge, also known as sharing and disseminating, involves exchanging, transporting, and distributing the right knowledge to the right people. According to Tuzun & Kalemci (2012), this attribute implicates the process of distributing structured and embodied knowledge across both internal and external organizational environments.

Knowledge Creation (KC): This dimension indicates the process of emergent new knowledge and replacing it with the existing knowledge in an implicit and clear knowledge database. Vikas & Shivraj (2014) have pointed out that knowledge is created by transforming tacit and explicit knowledge. As a result of such transformation, information is organized into a structure.

Knowledge Application (KAPP): The knowledge application is also called knowledge utilization, knowledge use, and knowledge reuse. Song, et al., (2005) defines this as the application of knowledge to achieve goals and to improve performance by using existing knowledge. The implementation of knowledge is believed to take along economic benefits to the organization and its knowledgeable employees.

Organizational Learning (OL)

Adopting the learning culture is an effective strategy to augment organizational performance. Learning (organizational) is a continuous process where people in the organizations continuously expand their knowledge to create desired results and improve the organization's standard (Kavalic et al., 2021). According to a definition, it is the procedure of refining activities over better understanding and knowledge. Learning in an organization occurs when a group member faces any problem and learns about it in their organization. In a sense, individuals first learn about problems and then share them in their organization (Kumar, 2005). OL is a continuous change cycle and has three stages; deep learning cycle, learning infrastructure, and results. The deep learning cycle focuses on fundamental organizational learning both collectively and individually. Learning infrastructure is to learn from the deep learning cycle and results to achieve measurable outcomes. In such organizations, the behavior of team members is modifying for creating change (Bates & Khasawneh, 2007). The organizational effort to remain competitive, learning is considered as a dynamic force for the academic and economic stability and rapid transition towards their tasks and obligations (Gülhan & Zafer, 2015).

The organizations where people learned through their own experience inevitably become the learning organization. The organization, which is said to be a learning organization, is not about the continued existence, but it is only about adaptive learning in the environmental change (Milia & Birdi, 2010). When individuals share learning within an organization, the organization becomes a learning organization. There are three OL levels: the first is the individual level, the second is the grouping level, and the third is the organization level (Gunsel et al., 2011). The organization is called a learning organization that trains employees by creating, acquiring, and transferring knowledge and changing activities to provide new knowledge and understanding (Muhammad et al., 2016). OL is always connected with new changes, and learning is the only main thing that helps survive in the business world. The experience and learning arches are used as the learning measure. They are considered a multi-dimensional and multifaceted concept that builds many surrounding sub-processes at the individual, team, and institutional levels (Rehman et al., 2019). Thus, learning new things and implementing novel ideas are the critical success factors for organizational performance and success (Hartono et al., 2017).

Knowledge Acquisition and Organizational Learning

The knowledge Acquisition (KA)involves the internal process of the organization, which helps to start from the individual and integrate the organizational level and the creation of tacit and explicit knowledge that identifies and absorbs information and external sources of knowledge (Islam et al., 2014; Gonzalez et al., 2017). Consequently, the acquisition of knowledge occurs at all three levels of the organization, *i.e.,* Individual, team, and organizational/institutional. Once acquired, the organization can benefit from this knowledge in the form of productivity, increased creativity, reduced response time, and improved decision making (Shahzadi et al., 2015). Therefore, this study means how to require individuals in the organization to understand the different available resources and how the organization uses this knowledge to obtain the ultimate benefits (Hassan, 2021). Thus, the study assumes that KA is the creation of knowledge in the learning process of an organization, as well as the external acquisition of knowledge that has arisen as a result of associative actions with other organizations, business consulting, and academic educational institutions. In other words, with the acquisition of knowledge, procedures change. According to Turyasingura (2011), as an entity learns that a range of potential behavior changes through information processing, knowledge acquisition affects the way organizations learn.

H1: Knowledge acquisition has a positive impact on organizational learning.

Knowledge Documentation and Organizational Learning

Knowledge Documentation (KD) is an essential feature of a knowledge management system, helping organizations determine how to place important documents in their official records (Rehman, 2020). Knowledge documents represent the extent to which knowledge is encapsulated in manuals, databases, and handbooks to be captured and included in organizational procedures and processes (Agarwal, Kiran & Verma, 2012). Similarly, the documented knowledge is easily disseminated and made available to other members of the organizations (Turyasingura, 2011). According to (Navidi et al., 2017), the organization does not have enough knowledge in its possession. The organization must ensure that knowledge flows to enable the interpersonal learning process, resulting in performance improvement. Therefore, knowledge documentation ultimately enhances individuals, teams, and institutions (Gonzalvezet al., 2014). Thus, OL can essentially be contested by sharing insights at the individuals, team, and organizational levels. Second, this sharing occursthrough the transmission of knowledge and information through organizational memory. Subsequently, organizational memory is promoted through the practice of knowledge documentation. By implication, knowledge documents positively impact organizational learning at the above three levels (Martins & Meyer, 2012).

H2: Knowledge documentation has a positive impact on organizational learning.

Knowledge Transfer and Organizational Learning

Knowledge Transfer (KT) is another influential attribute of knowledge management and performs a significant role in sharing knowledge in the context of an organization (Dijk et al., 2016). According to Turyasingura (2011), knowledge transfer is sometimes considered synonymous with knowledge sharing, as the current research suggests. When knowledge is transferred between people and teams within an organization, it means disseminating knowledge from person to person and from team to team. (Garicano & Wu, 2012). However, according to (Gonzalez et al., 2017), this sharing process requires organizations to mobilize to create a "shared environment."A systematic approach to knowledge transfer is the most effective. Tuzun, et al., (2012) describe this as a means of sharing knowledge.

Similarly, individuals communicate their knowledge to others by exchanging notions, thoughts, beliefs, knowledge, and experiences in teamwork or informally through conversations

while contributing to task execution (Gao et al., 2008). Knowledge transfer at the individual level occurs when an individual is willing to help or learn from others in developing new skills and abilities. In contrast, it is argued that if the knowledge is not properly shared, it is devalued. The idea that knowledge sharing promotes organizational learning has helped justify Spinello's (2000) claim that Knowledge Sharing (KS) and OL are meticulously linked.

H3: Knowledge transfer has a positive impact on organizational learning.

Knowledge Creation and Organizational Learning

Knowledge creation is also considered an important attribute of knowledge management, which indicates the abilities of the organizations to identify the informational needs in a more systematic manner (Nafei, 2014). Knowledge creation is sometimes referred to as knowledge construction, is considered one of the most important processes in managing knowledge, as knowledge must be produced before knowledge is shared, used, and documented (Ives & Combs, 2012). According to (Moodysson, 2008), the organization generates novel-based knowledge by achieving the goals of an organization utilizing internal and external resources of the organization. Besides, knowledge creation means creating or acquiring knowledge in adopting information and communication to organizational norms and values (Rehman, 2020). In Higher academic institutions, the creation of knowledge is only possible through research. When knowledge is created, individual and group learning occurs within the organization (Nazari & Emami, 2012). Gholami et al., (2013),their study confirmed such a relationship and proved that knowledge creation had a statistically significant effect on organizational learning as a whole. So, by using the most appropriate mechanisms, learning at the individual level turn into team learning and then ultimately in institutional learning (Boh et al., 2013).

H4: Knowledge creation has a positive impact on organizational learning.

Knowledge Application and Organizational Learning

Knowledge application is also cited as knowledge utilization (Turyasingura, 2011), knowledge implementation (Gholami et al., 2013), knowledge use (Gonzalezet al., 2017), and knowledge reuse. According to (Hassan, 2021), the application of knowledge is related to individuals' ability to recognize, access, and use information and knowledge stored in the formal and informal organization of memory systems. In another study, knowledge application means using available knowledge to make decisions, improve learning abilities, and achieve goals and performance of the organization (Song et al., 2005). Similarly, through the integration, innovation, creation, and expansion of the existing knowledge base, knowledge should be used as the basis for the development of new knowledge. Still, it should be used as the basis for decision-making (Volberda et al., 2010).

H5: Knowledge application has a positive impact on organizational learning.

Studies Related to Linking Knowledge Management and Organizational Learning

Organizational learning is defined as the progression of Knowledge (Qureshi et al., 2016). KM accentuates the content of knowledge used in data acquisition, assimilation, transmission, and its application, while organizational learning emphasizes the processes. KM is claimed as a process, and OL is tied to the process as the ultimate goal. KM helps organizations incorporate their knowledge into their methods to pursue their goals and improve their practices (Haider & Kayani, 2020). It can only be achieved through the effective generation, assimilation, and distribution of knowledge (Rehman et al., 2019). This knowledge is to be generated through manageable organizational learning processes, which are maintained through the management of knowledge processes (Fani et al., 2015). Therefore, organizational learning and knowledge

management may appear to be complementary (Nafei, 2014). Organizational knowledge is applied to what has been created due to these learning processes. This part of the literature is often related to the nature and location of the organizational knowledge (Jaber & Caglar, 2017). In organizational theory, organizational learning is a field of knowledge, which explores models and theories about organizational learning and adaptation methods (Sarand et al., 2015). The existing organizational learning is essentially effective in knowledge management and role, which affects the organization's long-term performance. Process learning is also based on an understanding of conceptual knowledge management (Luxmi, 2014).

H6: The knowledge management process (knowledge acquisition, knowledge documentation, knowledge transfer, knowledge creation, and knowledge application) has a positive impact on organizational learning.

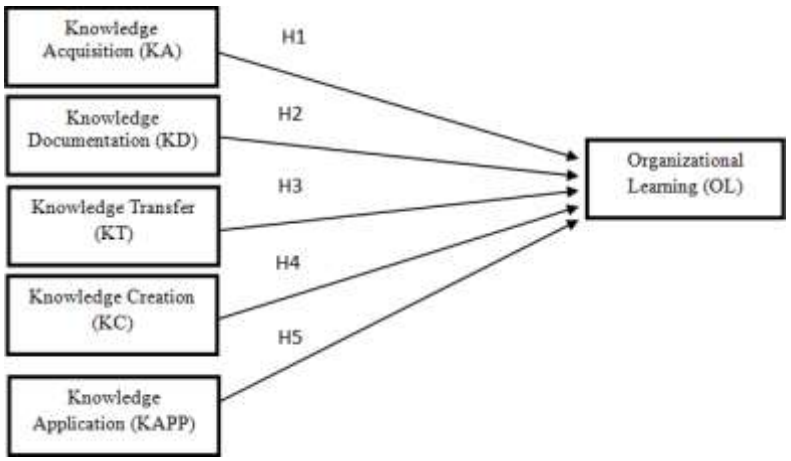

FIGURE 1
RESEARCH MODEL

METHODS

Participants of the Study

Due to limited resources and unavoidable time constraints, it is impossible to collect data for the entire population. Therefore, data were collected and evaluated using a simple random sampling technique. This study aimed to investigate the impact of knowledge management practices on organizational learning among the faculty members working in public and private universities located in Pakistan's different cities, *i.e.,* Gomal University (Dera Ismail Khan, KP), Bahria University (Lahore), Capital University of Science and Technology (Islamabad) and IBA (Karachi). The first author visited the universities and sought permission to complete the research. Because of COVID-19, there have been few universities closed; therefore, data were also collected online. There are 350 surveys conducted, and 255 respondents returned the complete surveys with a list of questions. During the COVID-19 pandemic's challenging times, the response rate was very encouraging, and the response rate was 72.85%. The current study respondents are: 77.6% were male, and only 22.4% were female. Regarding the educational studies, most of the respondents are MPhil/ MS and Ph.D. holders. The majority of job tenure of 1-10 to 11-20 years has different job positions Lecturer, Assistant& Associate professors, and full professors.

Measures

The questionnaire consisted of 35-items in total. Adapted measurement scales were used in the research, and the study examined knowledge management using Filius et al. (2000)

twenty-one-item scale, including (5- items) for knowledge acquisition, documentation (3-items), transfer (4-items), creation (5-items), and application based on (4-items). Furthermore, the dependent variable is based on a fourteen-item scale of organizational learning (Watkins & Marsick, 2003) from the original forty-three-item scale (Watkins & Marsick, 1997). This scale has been validated by (Islam et al., 2013) in the Asian context. Respondents were questioned on a seventh-point Likert scale ranging from 1-strongly disagree to 7-strongly agree. It is a practical method for data collection since it helps to effectively and efficiently collect information. The pilot study aimed to make sure that the questionnaire was correct to perform a more rigorous investigation. Further, to verify the reliability of latent variables, Cronbach's alpha was measured. For all variables, Cronbach's alpha was above 0.70, as reliability above the 0.7 thresholds is considered appropriate (Henseler et al., 2009). Table 1 describes the findings of the Cronbach's alpha test.

This multivariate factual research explored the following factors: factor loading, convergent validity, and discrimination validity assessed according to Fornell-Larcker, and using structural equation modeling, Hair, et al., (2018) evaluated the predictive relevance (Q2), a difference (R^2), and effect size (f2).

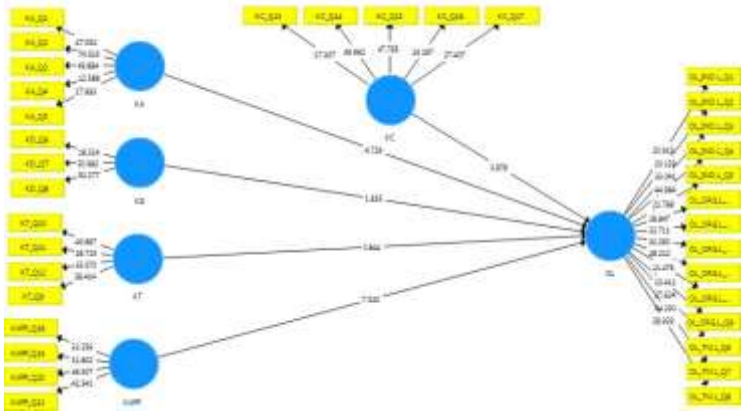

FIGURE 2
GRAPHICAL REPRESENTATION PLS-PATH ANALYSIS OF (N=5000 BOOTSTRAPPEDSAMPLES) - INNER MODEL

Figure 2 revealed that when T's value is between -1.96 and +1.96, the connection between factors will be insignificant at the confidence level of 95%. When T is <-1.96 and >+1.96, the connection between factors will be significant at the confidence level of 95%. Thus, figure 2 reveals significant connections between the factors.

RESULTS

Measurement Model

The analysis was performed using Smart PLS v.3.0 (Ringle et al., 2015). In the initial phase of the measurement model, the variables of the survey questionnaire are validated, and the instrument is made accurate. Based on the bootstrapping technique (T-tests for 5000 sub-samples), (Hair et al., 2016) analyzed the degree of significance for loadings, weights, and path coefficients. Factor load measurements are conducted, as is Cronbach's Alpha (α), Composite Reliability (CR), and Average Variance Difference Extracted (AVE). In addition, the value of clear indicators can also be assessed through an examination of the particular and factor loads. The Hair, et al., (2017) study suggested that loading greater than 0.50 across two or more factors was significant. Therefore, as shown in Table 1, the effects of all six constructs, *i.e.*, Knowledge Acquisition, Knowledge Application, Knowledge Creation, Knowledge Documentation, Knowledge Transfer, and Organizational Learning, are relevant measures of their respective

constructs. Fornell and Larcker calculate AVE, and if it is below 0.5, composite reliability is higher than 0.6, thus indicating convergent validity of the construct (Hair et al., 2016). Hair, et al., (2017) proposed this technique to demonstrate that the loaded objects within a range between 0.40 and 0.70 can be omitted if the observed variables increase the scale's composite reliability. Both estimates of factor loadings, CR and AVE, are more significant than the suggested criterion for cutoff. Accordingly, Table 1 indicates the convergent validity of the measurement model.

Table 1
MEASUREMENT MODEL

Constructs \Items	Factor Loading	α	CR	AVE	Authors
Knowledge Acquisition (KA)		0.861	0.902	0.652	
Teachers acquire sufficient new knowledge from external sources.	0.873				Filius, et al., (2000)
The university collects information about the requirements of its Teachers.	0.897				
Teachers acquire knowledge through experience and adopting innovative skills.	0.876				
Te\achers acquire knowledge through libraries and the internet.					
A University helps teachers acquire knowledge in different fields.	0.724				
Knowledge Application (KAPP)		0.872	0.913	0.723	
Teachers promote new knowledge externally in the market through the dissemination of research findings.	0.824				
The experiences of students and other clients are used to improve our programs and courses.	0.84				
Teachers promote new knowledge internally within the Institution.	0.881				
We creatively apply existing know-how in new applications.	0.855				
Knowledge Creation (KC)		0.861	0.9	0.645	
My organization stimulates formal and informal networking between its Teachers and experts outside an institution.	0.709				
Teachers are enhancing knowledge by applying new ideas in their workplace.	0.867				
The university seeks to provide data to fill the knowledge gap.	0.873				
My organization enables Teachers to become familiar with the work of other employees in an institution.	0.761				
Teachers are rewarded for new ideas and knowledge by the university.	0.794				
Knowledge Documentation (KD)		0.744	0.856	0.666	
We frequently make use of brainstorming sessions to find solutions for problems we meet within our work.	0.716				
The university has up-to-date handbooks and work	0.872				
The guidelines, which are frequently used.					
Our Institution informs all Teachers systematically of	0.852				
Changes in procedures, handbooks, etc.					
Knowledge Transfer (KT)		0.868	0.91	0.717	
Teachers transfer knowledge of their best practice to their colleagues.	0.842				

Teachers exchange their ideas while discussing particular issues.	0.826				
Colleagues inform one another regularly about positive Experiences and successful projects undertaken.	0.833				
The organization has procedures for collecting and distributing suggestions coming from the Teachers.	0.884				
Organizational Learning (OL)		0.868	0.91	0.717	
Teachers help each other in learning.	0.75				Watkins et al. (2003)
Teachers are given time to participate in the learning process.	0.759				
Teachers are rewarded for learning.	0.805				
Teachers give open and honest feedback to each other.	0.845				
Teachers spend time building trust among each other.	0.76				
Teams have the freedom to adapt learning goals as needed.	0.744				
Teams revise their thinking as a result of group discussions or information collected.	0.748				
Teams are confident that the Institution will act on their recommendations.	0.78				
An Organization creates systems for measuring gaps between the current and expected performance.	0.762				
The organization recognizes teachers' initiatives.	0.607				
Teachers have the freedom to use the resources required.	0.683				
The Institution works with outside for meeting their mutual needs.	0.778				
Decisions are taken according to the organizational values.	0.813				
Check, and balance is adopted in the use of resources.	0.762				

Abbreviations: Cronbach's alpha (α), Composite Reliability (CR), and Average Variance Extracted (AVE).

To reveal that the model's convergent validity was commensurate with the pre-specified criteria, we investigated the discriminative validity of the latent variables, which showed that they were independent of each other (Hair et al., 2017). Table 2 indicates that there should be more than the squares of correlation between the AVE constructs and every other construct for each construct. However, the hypothesized model is considered to have considerable discriminant validity when the constructs' relationship is lower than the Average Variance's Extracted (AVE) square root (Fornell et al., 1981).

Table 2
DISCRIMINANT VALIDITY

Constructs	KA	KAPP	KC	KD	KT	OL
KA	0.807					
KAPP	0.648	0.85				
KC	0.615	0.754	0.803			
KD	0.699	0.619	0.735	0.839		
KT	0.572	0.544	0.719	0.816	0.847	
OL	0.748	0.805	0.783	0.738	0.664	0.759

Abbreviations: Knowledge Acquisition (KA), Knowledge Application (KAPP), Knowledge Creation (KC), Knowledge Documentation (KD), Knowledge Transfer (KT) and Organizational Learning (OL).

Structural Equation Model

The structural equation model of the observed data is after the measurement parameter has been estimated. By using bootstrapping methods, we were able to obtain substantial levels of association between the constructs. To analyze the connections between knowledge management dimensions and organizational learning, we used the suggested methods by (Henseler et al., 2015). Therefore, four specific criteria were used to analyze both the structural equation model's direct and indirect effects: First, our analyses focus on all constructs. To estimate the amount of variance for each construct, we then measure the degree of R^2 for endogenous latent variables (Hair et al., 2018). Depending on the study configuration, an appropriate evaluation of R^2 can be made (Cohen, 1998). During the assessment, 0.26, 0.13, and 0.09 were determined to be high, medium, and low, respectively. Despite this, the direct effect model in the current study has a 78.7% R^2 value for the endogenous variables of the defined organizational learning, which means that 78.7% of the change in organizational learning is predicted by the knowledge management process (KA, KD, KT, KC, and KAPP). Therefore, as Table 3 and Figure 3 indicate, the model shows a reasonable predictive accuracy.

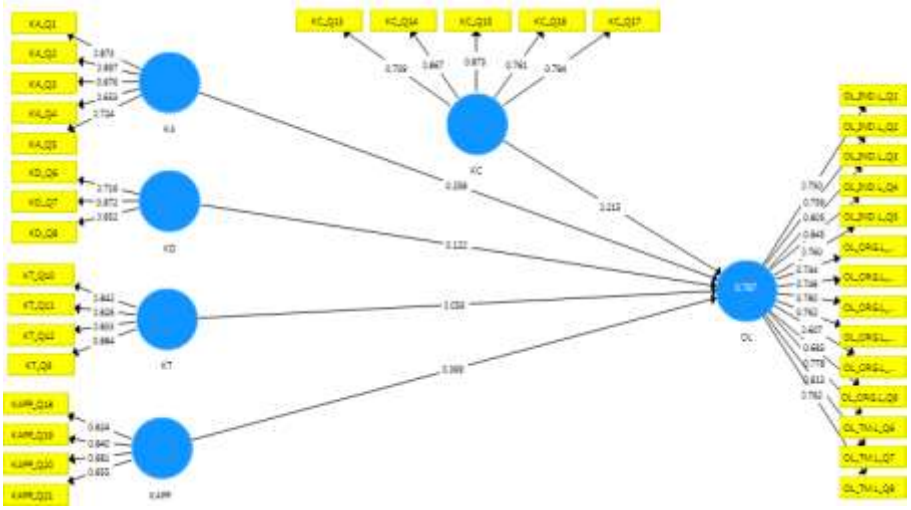

FIGURE 3
STRUCTURAL EQUATIONS MODEL

Table 3
THE PLS METHOD COEFFICIENT OF DETERMINATION

	R Square	R Square Adjusted	Q^2
Organizational Learning	0.787	0.783	0.446

Second, to determine the predictive significance (Q^2), a cross-validation redundancy measure was used to evaluate the investigation model's accuracy in assessing its significant aspects (Hair et al., 2017). The direct effects of KA, KD, KT, KC and KAPP on OL are shown in Table 3 as a value of Q^2=0.446, indicating that the value of Q^2 is higher than zero. Therefore, the model's appropriate predictive relevance can be considered (Henseler et al., 2015). The results also confirm the H1 to H4 as the direct effect of KA to OL (β=0.259, p<0.000), KT to OL (β=0.369, p<0.000), KC to OL (β=0.214, p<0.000) and KD to OL (β=0.121, p<0.05) are statistically significant and positive (β=0.259, β=0.369, and β=0.214 at p<0.000) respectively.

However, the results of H5 are insignificant. The value of the direct effect of KT to OL (β=0.059, p>0.05) is not significant. Thus, H1, H2, H3, H4, and H5 were accepted, and H5 was rejected.

In the third step, Effect size (f^2) is defined as how the independent variable perceives the magnitude of the effect of exogenous (independent variable) on endogenous (dependent variable) (Hair et al., 2017). Based on Cohen (1988), the range of potential effect sizes is 0.02 to 0.15 or 0.35 small, medium, or large effects. Table 4 illustrates the result of the f^2 values for KA to OL (f^2= 0.136), KAPP to OL (f^2= 0.239), KC to OL (f^2= 0.062), KD to OL (f^2= 0.115), and for KT to OL (f^2= 0.004) accordingly. This finding reflects the hypothesized effects of the small, medium and large, exogenous constructs on the hypothesized effects of the endogenous construct.

Table 4
STRUCTURAL EQUATIONS MODEL RESULTS

Hypothesis	Relationship between Constructs	β	M	S.D	T Values	f^2 Values	P Values	Remarks
H1	KA -> OL	0.259***	0.26	0.06	4.729	0.136	0	Supported
H2	KAPP -> OL	0.369***	0.37	0.05	7.52	0.239	0	Supported
H3	KC -> OL	0.214***	0.214	0.06	3.878	0.062	0	Supported
H4	KD -> OL	0.121*	0.129	0.05	3.835	0.115	0.034	Supported
H5	KT -> OL	0.059	0.059	0.07	0.844	0.004	0.398	Not Supported

Abbreviations: Knowledge Acquisition (KA), Knowledge Application (KAPP), Knowledge Creation (KC),Knowledge Documentation (KD),Knowledge Transfer (KT)and Organizational Learning **(**OL).*p<0.05,**p<0.01,***p<0.001.

DISCUSSIONS AND CONCLUSION

To increase organizational learning, organizations need to increase spending on research and development (Tian et al., 2018; Rehman, 2020). The study provides empirical evidence on the relationship between KM and OL in HEI's of Pakistan. The study seeks to offer leadership a strategy that improves the knowledge management of faculty to keep educational institutions high on academics, which in turn increases the efficiency and effectiveness of public and private sector HEI's (Aldholay et al., 2018). The current study's findings depict that knowledge acquisition, knowledge documentation, knowledge transfer, knowledge creation, and knowledge application show a statistically significant and positive influence on organizational learning. The results of the current study areconsistent with the previous studies of (Sarand et al., 2015, Jaber et al., 2017; Mahdinezhad et al., 2018; Rehman, 2020) has found that there is a significant and positive association between predictor variables (KA, KD, KT, KC, and KAP) and dependent variable OL.

Implications

The findings of the current research study would be helpful for administrators in academic institutions (HEI's) understand the decisive role of KM and OL. Furthermore, management's priority was to determine academic performance and effectiveness (Shehabat et al., 2021). This study provides management with knowledge about the role of knowledge management to enhance an organization's learning among employees in public and private sector higher education institutions. By valuing their contributions, helping them when needed, and providing more ways to show support to individual employees, it would serve as clear reasons for management to focus more on knowledge management. Moreover, the study can also provide teachers with guidelines on what is needed to maintain more commitment to the university.

Ongoing research also helps managers at both public and private sector universities by introducing specific policies that encourage employees to enrich their standards and act as a repository of knowledge for corporations. By doing so, universities can better their performance. They may consider using effective knowledge management policies and strategies and creating a supportive learning environment. In higher education institutions, this will improve team-level learning, which benefits individual and organizational learning. Furthermore, this study helps public universities' management consider organizational learning and redesign organization strategies to create a suitable environment for managing knowledge among academics (Aldholay et al., 2018). Therefore, a sound reward mechanism includes recognition for sharing knowledge and leadership support and commitment to valuing knowledge to achieve high performance and enrich service quality.

Limitations and Suggestions for Future Work

The study sample was mainly originated from the developing country Pakistan universities. Therefore, future studies can be expanded to include developed country's universities also compare our resultsfor better conclusions. The present study used quantitative methods that have distributed questionnaires to faculty members of public and private universities. Thus, future researchers may consider obtaining deeper qualitative data from both teachers and leaders of Pakistan's selected public and private sector research universities. Using qualitative data can better understand the underlying reasons, opinions, and motivations, thereby uncovering trends in thoughts and opinions and deepening the problem. The current study was cross-sectional rather than longitudinal. The future researcher used a longitudinal approach better to understand the relationship and causality among study variables.

Furthermore, future researchers can advance the model by checking mediators like culture and the global environment. Additionally, they can examine moderators such as organizational social capital and personal characteristics. Integrating more relevant variables can help elevate the already developed grounds for research in this specific area.

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REFERENCES

Agarwal, P.D., Kiran, R., & Verma, A.K. (2012). Knowledge sharing for stimulating learningenvironment in institutions of higher technical education. *African Journal of Business Management, 6*(16), 5533-5542.

Aldholay, A.H., Abdullah, Z., Ramayah, T., Isaac, O., & Mutahar, A.M. (2018). Online learning usage and performance among students within public universities in Yemen. *Int. J. Services and Standards, 12*(2), 163–179.

Bates, R., & Khasawneh, S. (2007). Organizational learning culture, learning transfer climate and perceived innovation in Jordanian organizations. *International Journal of Training and Development, 9*(2), 96-109.

Boh, W.F., Nguyen, T.T., & Xu, Y. (2013). Knowledge transfer across dissimilar cultures. *Journal of Knowledge Management, 17*(1), 29-46.

Camacho, H., Coto, M., & Jensen, S.P. (2021). Participatory methods to support knowledge management systems design in educational environments. *International Journal of Knowledge Management Studies*, *12*(1), 34-54.

Dijk, A., Hendriks, P., & Leroux, R.I. (2016). Knowledge sharing and social capital in globally distributed execution. *Journal of Knowledge Management, 20*(2), 327-342.

Eustachio, J.H.P.P., Caldana, A.C.F., Will, M., Salvia, A.L., Rampasso, I.S., Anholon, R., ... & Kovaleva, M. (2020). Sustainability leadership in higher education institutions: An overview of challenges. *Sustainability*, *12*(9), 3761.

Fani, A.A., Fard, D.H., & Yakhkeshi, H. (2015). The relationship between knowledge management and organizational learning within middle and senior managers of Iranian public organizations. *Information and Knowledge Management*, *5*,No.6.

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.*

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

Fornell, C., & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39-50.

Gao, F., Li, M., & Clarke, S. (2008). Knowledge, management, and knowledge management in business operations. *Journal of Knowledge Management*, *12*(2), 3-17.

Garicano, L., & Wu, Y. (2012). Knowledge, communication, and organizational capabilities. *Organization Science*, *23*(5), 1382-1397.

Gholami, H.M., Asli, N.M., Shirkouhi, N.S., & Noruzy, A. (2013). Investigating the influence of knowledge management practices on organizational performance: An Empirical Study, *Acta Polytechnica Hungarica*, *10*(2).

Gonzalez, D.V.R., & Martins, F.M. (2017). Knowledge management process: A theoretical conceptual research, *Gest. Prod.*, São Carlos, *24*(2), 248-265.

Gonzalvez, M.A.A., Toledo, O.A.C., & Rodriguez, A.R.I. (2014). The management and construction of knowledge as an innovation strategy for collaborative learning through the use and creation of learning communities and networks. *International Journal of Knowledge Management*, *10*(4), 38-49.

Gülhan, K., & Zafer, A. (2015). The mediating role of organizational learning capability on the relationship between innovation and firm's performance. *Social and Behavioral Sciences*, *210*, 164 – 169.

Gunsel, A., Siachoub, E., & Acar, A.Z. (2011). Knowledge management and learning capability to enhance organizational innovativeness, knowledge. *5th International Conference, Social and Behavioral Sciences 24, 880–888.*

Haider, S.A. (2019). Impact of customer knowledge management capability on project performance with mediating role of agility and moderating role of team skills (Doctoral dissertation, CAPITAL UNIVERSITY).

Haider, S.A., & Kayani, U.N. (2020). The impact of customer knowledge management capability on project performance-mediating role of strategic agility. *Journal of Knowledge Management*, *25*(2), 298-312.

Hair Jr, J.F., Sarstedt, M., Matthews, L.M., &Ringle, C.M. (2016). Identifying and treating unobserved heterogeneity with FIMIX-PLS: Part I–method. *European Business Review*.

Hair, J.F., Hult, G.T.M., Ringle, C.M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM) (2nd edition).*Thousand Oaks, CA: Sage.

Hair, J.F., Risher, J.J., Sarstedt, M., & Ringle, C.M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, *31*(1), 2-24.

Hair, J.F., Sarstedt, M., Ringle, C.M., & Gudergan, S.P. (2018). *Advanced issues in partial least squares structural equation modeling (3rd edition)*. Thousand Oaks, CA: Sage.

Hartono, E., Wahyudi, S., Harahap, P., & Yuniawan, A. (2017). Does organizational learning affect the performance of higher education lecturers in Indonesia? The Mediating Role of Teaching Competence. *International Journal of Environmental and Science Education*, *12*(4), 865-878.

Hassan, F.A. (2021). "Acquired organizational immune and its impact on the application of knowledge management strategies". Analytical study of the opinions of a sample of Lecturer staff at the Technical College of Engineering and the Technical Institute of Amara. *Journal of Economics and Administrative Sciences*, *27*(125).

Henseler, J., Ringle, C.M., &Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, *43*(1), 115-135.

Henseler, J., Ringle, C.M., & Sinkovics, R.R. (2009). The use of partial least squares path modeling in international marketing. *In New challenges to international marketing, 277-319, Emerald Group Publishing Limited*.

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

Ijaz, A.Q., Anbreen, N., & Mike, W. (2016). Impact of knowledge management on organizational learning in telecom sector of Pakistan. *European Journal of Business and Management, 8*(5), 112-116.

Islam, M.A., Agarwal, N.K., & Ikeda, M. (2014). Knowledge sharing amongst information professionals in Bangladesh: A quantitative analysis. *BOBCATSSS 2014 Proceedings, 1*(1), 224-231.

Islam, T., Khan, S.U.R., Ahmad, U.N.U., & Ahmad, I. (2013). Organizational learning culture and leader-member exchange quality The way to enhance organizational commitment and reduce turnover intentions. *The Learning Organization*, *20*, 4/5, pp. 322-337.

Ives, C., & Combs, B. (2012). The application of knowledge management and organizational learning to innovation performance. *Universal Journal of Management and Social Sciences, 2*(10), 26-42.

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.

Jung, J. (2020). The fourth industrial revolution, knowledge production and higher education in South Korea. *Journal of Higher Education Policy and Management*, *42*(2), 134-156.

Kavalic, M., Nikolic, M., Radosav, D., Stanisavljev, S., & Pecujlija, M. (2021). Influencing Factors on Knowledge Management for Organizational Sustainability. *Sustainability 2021, 13*, 1497.

Khodadad, M., Babolhavaeji, F., Momeni, E., & Hariri, N.A. (2020). Localization of knowledge management categories based on the basic model of knowledge building In the artistic field of the Islamic Propaganda Organization. *The Journal of Modern Thoughts in Education*, *15*(4), 138-153.

Kumar, N. (2005). Assessing the learning culture and performance of educational institutions. *Performance Improvement, 44*(9), 6.

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.

Mahdinezhad, M., Yusof, H., Rambeli, N., & Mansor, M. (2018). Knowledge management and organizational learning in educational organization. *International Journal of Management and Applied Science, 4*(2),

Martins, E.C., & Meyer, H.W.J. (2012). Organizational and behavioral factors that influence knowledge retention. *Journal of Knowledge Management*, *16*(1), 77-96.

Masenya, T.M. (2021). Adoption of knowledge-sharing strategies and its determinants in higher education institutions in South Africa. *In Enhancing Academic Research and Higher Education With Knowledge Management Principles*, 177-197, IGI Global.

Milia, L., & Birdi, K. (2010). The relationship between multiple levels of learning practices and objective and subjective organizational financial performance. *Journal of Organizational Behavior, 31*, 481-498.

Moodysson, J. (2008). Principles and practices of knowledge creation: On the organization of "buzz" and "pipelines" in life science communities. *Economic Geography, 84(4)*, 449-469.

Muhammad, F.K., & Muhammad, M.K. (2016). Analysis of different levels of organization learning. *European Journal of Business and Management*, *7(*26), 134-146.

Munir, Y., Saif, U.R., & Tahira, N. (2013). Mediating effect of knowledge sharing between knowledge capabilities and organizational effectiveness of higher education institutes of Pakistan. *Middle-East Journal of Scientific Research, 18*(6), 810-814.

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).

Navidi, F., Hassanzadeh, M., &Shojai, A.Z. (2017). Organizational knowledge documentation in project-based institutes. *The Electronic Library*, *35*(5), 994-1012.

Nazari, K., & Emami, M. (2012). Knowledge management: From theory to practice. *Australian Journal of Business and Management Research*, *1*(11), 22-30,

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.

Nilsook, P., & Sriwongkol, T. (2009). The development of multi-weblog with knowledge management for Thailand's higher education. In Information and Multimedia Technology, 2009. ICIMT'09. International Conference on, 315-318, IEEE.

Qureshi, I.A., Gardezi, N.A., & Whitty, M. (2016). Impact of knowledge management on organizational learning in telecom sector of Pakistan. *European Journal of Business and Management*, *8*(5).

Tehseen, S., & Haider, S.A. (2021). Impact of universities' partnerships on students' sustainable entrepreneurship intentions: A comparative study. *Sustainability*, *13*(9), 5025.

Rehman, K. (2020). Mediation of organizational learning and organizational culture on the Relationship between knowledge management and organizational Perfromance in HEI's of KP, Pakistan. PhD Dissertation: Submitted to Higher Education Commission.

Rehman, K., Khan, S.U., & Javed, A. (2019). Linking knowledge management with organizational performance through organizational learning: Evidence from higher education institutions in Pakistan. *Global Regional Review (GRR)*, *4*(4), 319 – 327

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.

Shahzadi, I., Hameed, R.M., & Kashif, A.R. (2015). Individual motivational factors of optimistic knowledge sharing behavior among University academia. *The Business & Management Review, 6*(1), 134-145.

Shehabat, I.M., & Berrish, M. (2021). Integration between knowledge management and total quality management in Jordanian Universities: Empirical study. *In Research Anthology on Preparing School Administrators to Lead Quality Education Programs*, 1405-1436, IGI Global.

Song, M., Van Der Bij, H., & Weggeman, M. (2005). Determinants of the level of knowledge application: A knowledge-based and information-processing perspective. *Journal of product innovation management*, *22*(5), 430-444.

Spinello, R.A. (2000) 'The knowledge chain', In Cortada, J. W. and Woods, J. A. (eds) *The Knowledge Management Year Book 2000–2001*, Butterworth-Heinemann, Woburn, 189–207.

Su, A., & Karadağ, E. (2021). The future of scientific research in turkish higher education. International the curriculum (innovations perspectives on emerging trends and integrating research-based learning across in higher education teaching and learning, *36*, Emerald Publishing Limited, 13-32.

Tian, G., Cai, H., & Jiang, Y. (2018). A study of the effects of organizational support on organizational learning based on knowledge management. *EURASIA J Math Sci and Tech Ed*, *14*(5), 1979-1986.

Toimbek, D. (2021). Problems and perspectives of transition to the knowledge-based economy in Kazakhstan. *Journal of the Knowledge Economy*, 1-38.

Turyasingura, W. (2011). *Interdependency of knowledge management and organisational learning: The case of higher education institutions in Uganda*. Unpublished PhD. thesis, University of the Witwatersrand.

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.

Ramjeawon, V.P., & Rowley, J. (2020). Embedding knowledge management in higher education institutions (HEIs): A comparison between two countries. *Studies in Higher Education*, *45*(11), 2324-2340.

Vikas, S., & Shivraj, K. (2014). Appropriate media choice for e-learning effectiveness: Role of learning domain and learning style. *Computers & Education*, *76*, 237-249.

Volberda, H.W., Foss, N.J., & Lyles, M.A. (2010). Absorbing the concept of absorptive capacity: How to realize its potential in the organization field. *Organization Science*, *21*(4), 931-951.

Watkins, K.E., & Marsick, V.J. (1997). In action: Creating the learning organization. American Society for Training and Development, Alexandria, VA.

Watkins, K.E., & Marsick, V.J. (2003). Sculpting the learning organization: Lessons in the Art and Science of Systematic Change, Jossey-Bass, San Francisco.

Yaacob, R.A., Jamaladdin, A., & Jusoff, K. (2010). Knowledge management and challenging roles of academic libraries. *Management Science and Engineering*, *4*(4), 14 - 23.