THE ROLE OF ORGANIZATIONAL CULTURE AS MODERATOR IN THE RELATIONSHIP BETWEEN KNOWLEDGE MANAGEMENT AND ORGANIZATIONAL LEARNING IN JORDANIAN UNIVERSITIES

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ABSTRACT

This is an empirical study of the direct relationship between knowledge management and organizational learning in the universities of Jordan, with the moderating effect of organizational culture on such relationship. The study collected data with the help of a questionnaire survey, whose copies were distributed to academics working in Jordanian universities. From the total 370 distributed copies of the survey questionnaire, 266 were retrieved and deemed valid to be analyzed. Data was thus analyzed with the help of Smart PLS (3.2.8), and based on the findings, there is significant effect of knowledge management on organizational learning, specifically knowledge dimensions of knowledge acquisition, knowledge conversion, knowledge application and knowledge protection. Moreover, the findings supported the positive moderating effect of organizational culture on the relationship between knowledge management and organizational learning. Based on the obtained findings, the study recommends that universities in Jordan stress on knowledge management when drawing up strategies to facilitate organizational learning. Also, organizational culture has to be developed and promoted in a way that strengthens the knowledge management-organizational learning relationship.

Keywords: Knowledge Management, Organizational Learning, Organizational Culture, Jordan

INTRODUCTION

Knowledge management (KM) has been among the most recent major interests and issues that business management has been focusing on. This is within logic and reason as knowledge holds the position as the top strategic resource of any business organization (Nouri, Ghorbani & Soltani, 2017) and as consequence, knowledge workers and knowledge management has been at the forefront in their role when it comes to using networks, decentralized data stores, data communication and making decision artifacts more accessible (Croasdell, Jennex & Christianson, 2003). In relation to this, the adoption of resource-based view in firm success prediction has been touted as being too simplistic because a knowledge economy is characterized by knowledge management along with land, labor and business acumen. Specifically, capabilities of knowledge management, namely acquisition, conversion and application of knowledge, stem from the firm's operations and the structural and cultural configurations of the firm (Liao & Wu, 2009).

In the same line of argument, organizational learning (OL)-knowledge management relationship is one that is intimately interwoven and despite the variation of terminology, both fields are concerned with organizational learning needs upon which knowledge management is the practical basis. Also, knowledge management and organizational learning, owing to their similarities, have confounded management as a result of which it remains an interesting topic within issues and practice (Liao & Wu, 2009).

Prior relevant findings supported a general positive effect of knowledge management on organizational learning (Noruzy, Dalfard, Azhdari, Nazari-Shirkouhi & Rezazadeh, 2013). In particular, manufacturing firms that are successful in their organizational learning appear to have a higher likelihood to be also successful in knowledge creation, sharing, storage, application, and management, as stressed in Comlek, Kitapci, Celik and Ozsahin (2012). Through the thorough review of past literature, the adopted mechanisms are still ambiguous as a result of which the KM-OL relationship findings remains mixed (Abdi, Mardani, Senin, Tupenaite, Naimaviciene, Kanapeckiene & Kutut, 2018).

More importantly, studies on the relationship between organizational culture (OC) and knowledge management (KM) has evidenced their relationship, with the implementation success of the latter depending on the former, indicating that OC is a critical factor and determinant of KM and in turn, organizational innovation (Abdi et al., 2018). It is crucial for managers to keep the significance of learning into core consideration in order that they can facilitate a culture within which the basic values cater towards knowledge creation and sharing (Noruzy et al., 2013).

When it comes to industries, the OECD defined the two types of knowledge-intensive ones in 2001 – first, is the high-tech industrial firms in the manufacturing sector and this covers aerospace, electronic as well as biotechnology industries. In the second type of knowledge-intensive industries, service firms are included such as communications, education and those that provide information services (Liao & Wu, 2009) and in the present study, knowledge management and organizational learning relationship is examined in the context of the latter industries, particularly in universities.

Educational institutions in the context of Jordan are expected to bring about the development of knowledge environment base through empowerment, capitalization, and critical success factors adoption – these can enable the further exploitation of opportunities (Alzoubi & Alnajjar, 2010). However, due to the lack of studies focusing on the institutions of higher learning in Jordan, particularly to examine knowledge management and organizational learning, the realization of the above seem impossible.

This study reviewed relevant literature and empirical studies dedicated to the role of organizational culture moderating role in the knowledge management-organizational learning relationship and found only a few studies. This motivated the author to conduct the present study to provide insight into KM and OL processes within Jordanian universities. This study and its findings are expected to have theoretical and practical implications, concerning the universities in Jordan.

LITERATURE REVIEW

Organizational Learning

Organizational learning was defined by Nouri et al. (2017) as a field of knowledge in the organizational theory that examines learning models and the organization's adaptation. In fact, literature has proposed several definitions of the concept; for instance, organizational learning was referred to as activities that the organizations take up to transform learning capabilities of individuals and competitors (Liao & Wu, 2009). Another study described organizational learning as a process (conscious/unconscious) that involves influencing the activities of the organization via the acquisition, reaching and evaluation of knowledge with the help of organization's history (Comlek et al., 2012). Added to the above, organizational learning according to King (2009) is among the significant methods that organizations can bring about enhanced knowledge use in a sustainable manner.

By now, it is evident that organizational learning is a dynamic knowledge-based process, indicating the shift from different action levels, ranging from individual to group, to organization, and looping to return again as claimed by Jerez-Gomez, Cespedes-Lorente and

Valle-Cabrera (2005). Also, according to Joseph and Mark (2004), organizational learning comprises of processes that involves the learning of individuals, groups, teams, communities and organizations. On the other hand, Noruzy et al. (2013) referred to organizational learning as a collective capability of the organization built on experiential and cognitive processes, while Joseph and Dai (2009) described it as faster compared to the environmental changes, which is why it may be utilized for change management.

Organizational learning dimensions were proposed by Jerez-Gomez et al. (2005), after which other studies adopted them (e.g., Liao & Wu, 2009; Nouri et al., 2017). There are generally four proposed dimensions of organizational learning, and they are management commitment, system perspective, openness and experimentation, and knowledge transfer and integration. However, in the present study, organizational learning is considered as a uni-dimensional construct.

Knowledge Management

There is a consensus among scholars as to the knowledge management practices need to match the context of the organization in order so that competitive edge is developed (Zheng, Yang & Mc Lean, 2010). Studies of this caliber initially defined the concept of knowledge management; to begin with knowledge management was referred to by Liao and Wu (2009) as the process of acquiring, converting, and applying knowledge, and Joseph and Mark (2004) described it as the set of processes that brings about changes to the present knowledge processing pattern of the organization for optimum knowledge processes and outcomes.

Moreover, knowledge management was viewed from the organizational capability's perspective by Gold, Malhotra and Segars (2001) in that it is the acquisition, conversion, application and protection of knowledge. Meanwhile, Abdi et al. (2018) defined the concept as the creation, sharing and flow of knowledge in the organization, with the dimensions being capturing, creating, disseminating, organizing, and storing knowledge. This definition matches with that of Noruzy et al.'s (2013), who proposed four interrelated processes in KM (i.e., knowledge acquisition, knowledge transfer, knowledge integration, and knowledge conversion). Furthermore, other studies (Nouri et al., 2017; Lin, 2015; Zheng et al., 2010) stated that knowledge management is generally creating, registering, refining, disseminating, and applying knowledge.

Aside from the above definitions of knowledge proposed by various authors, Croasdell et al. (2003) described the knowledge management concept as an evolutionary combination of framed experiences, contextual information, values, and insights of experts forming a framework that is invaluable for the evaluation and inclusion of novel experiences and information within the processes of corporate decision-making. However, Tang (2017) viewed knowledge management as a business process involving the creation and use of knowledge in the organization.

In this study, knowledge management dimensions brought forward by Gold et al. (2001) and further developed by Noruzy et al. (2013) are considered – they constitute four interconnected processes namely, acquisition of knowledge, conversion of knowledge, application of knowledge and lastly, protection of knowledge

Organizational Culture

Debatably, the top significant hindrance to effective management of knowledge is the culture of the organization. According to Gold et al. (2001) based on the organizational capabilities, knowledge infrastructure is formed by the technology, structure and culture of the organization, while Lin (2015) defined culture of the organization as the different beliefs, institutions, behaviors, processes and structures within it, which influences the behavior of the

employees and create results-orientated, tight-control, close systems, professional-oriented and job-oriented workers.

In addition, organizational culture is the fundamental promoting block of an innovative working environment (Joseph & Dai, 2009) as it represents the processes of how things are carried out. Literature has authors who attempted to describe organizational culture using other factors like criteria of success, dominating characteristic, employee management, organizational glue, organizational leadership, and strategic emphases (Abdi et al., 2018). Finally, organizational culture based on Zheng et al.'s (2010) study is developed from the workers' adaptability, consistency, mission and involvement.

This study adopts the organizational culture definition brought forward by Gold et al. (2001), which is a culture that supports and encourages knowledge-related activities. A strong knowledge culture requires a clear corporate vision highlighting the goals and values of the organization (one that values knowledge) and knowledge required to achieve them.

Knowledge Management and Organizational Learning

Based on reviewed literature, organizational learning arises when prior knowledge and novel situational knowledge becomes insufficient (Joseph & Mark, 2004). Also, the knowledge management-organizational learning relationship is closely intertwined and despite the variation in the terminologies, both fields are covered under the same organizational learning needs and knowledge management basis that is invaluable to resolving practical issues (Liao & Wu, 2009). Studies regarding the relationship between the two constructs support a positive and significant association and these include Abdi et al. (2018), Croasdell et al. (2003), Joseph and Mark (2004), King (2009), Liao and Wu (2009), Noruzy et al. (2013) and Nouri et al. (2017). Nevertheless, literature gap calls for additional empirical studies and thus, the present study attempts to contribute to literature while minimizing the gap.

More specifically, in literature, Liao and Wu (2009) revealed a positive and significant knowledge management-organizational learning relationship involving 327 knowledge-intensive firms in Taiwan. Their finding was aligned with that reported by Abdi et al. (2018) in Iran, involving 279 firm suppliers of automobile parts to Khodro Company (leading automobile manufacturer in Iran). The authors found organizational learning to have a key mediating role in the relationship between organizational innovation and knowledge management.

Also in Iran, a significant positive knowledge management-organizational learning relationship was revealed by Noruzy et al. (2013), in their study of 280 manufacturing firm managers (senior, executive, administrative and other-levels). In another study, Nouri et al. (2017) revealed the positive impact of knowledge management on organizational learning in the context of employees working in agricultural banks in Ardabil Province, Iran. Based on the literature findings, this study proposes the following hypothesis for testing.

H1: There is positive relationship between knowledge management and organizational learning
H1b: There is positive relationship between knowledge conversion and organizational learning
H1c: There is positive relationship between knowledge application and organizational learning
H1d: There is positive relationship between knowledge protection and organizational learning

Moderating Role of Organizational Culture

The many aspects of organizational culture may promote or prevent knowledge management initiative from being implemented, which indicates that it may also be the key to the success/failure of the organization (Abdi et al., 2019). This highlights the needs for a culture that promotes the operations of the organization within the demands of knowledge – because a learning-centered culture with structure and actors transmitting knowledge, would lead to empowered human resources inclined towards learning (Joseph & Dai, 2009).

In past studies about organizational culture and knowledge management, a general positive relationship was supported, and this includes Abdi et al. (2018), Lin (2015), Zheng et al. (2010) and Tang (2017). As for studies focused on organizational culture-organizational learning relationship, some also supported a positive relationship (e.g., Abdi et al., 2018; Josephy& Dai, 2009).

To the best of the author's knowledge, this is the first study to examine organizational culture as a moderating variable between knowledge management and organizational learning. The study is of the belief that organizational culture can enhance the relationship between the two constructs as their direct relationship has yet to be confirmed. Based on the above, the present study proposes the following moderating hypothesis of organizational culture for testing.

H2: organizational culture moderates the relationship between knowledge management and organizational learning.

Study Model

The study model is developed and proposed based on the discussion of literature studies and their findings. Figure 1 displays the proposed study model.

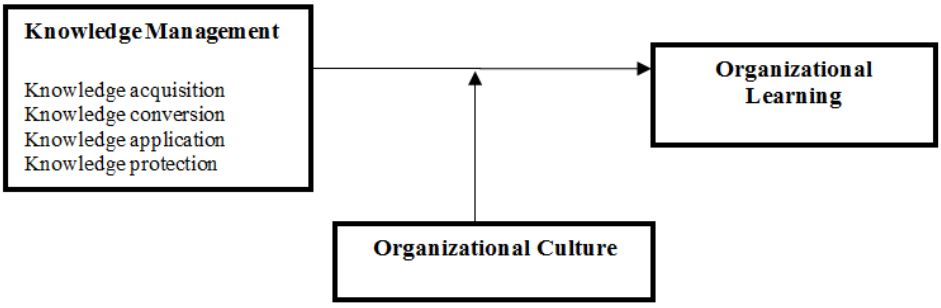

FIGURE 1
STUDY FRAMEWORK

Research Method

Population and Sample

The study population comprises universities in Jordan gathered from a list obtained from the Jordanian Ministry of Higher Education and Scientific Research. In the Jordanian public and private universities, a total of 11,394 academicians are listed (Annual Statistical Report, 2019-2020) and this was considered as the population of the study. The sample determination proposed by Krejcie and Morgan (1970) was 370, then applied to determine the number of samples suitable for the number of population – which was 370. Therefore, 370 academics were chosen through random sampling to be the study sample, after which 370 questionnaire copies were distributed to them in their universities.

From the total 370 questionnaire copies administered to the sample, 266 were returned and on close scrutiny, they were considered suitable for analysis – indicating that the response rate was at 71.90%.

Instrument and Measures

A close-ended questionnaire was developed in this study for the purpose of gathering data and the items within it were adopted from prior relevant studies. The questionnaire items

were measured using a 5-point Likert scale. More specifically, organizational learning was measured using 16 items adopted from (Jerez-Gomez et al., 2005; Liao & Wu, 2009; Nouri et al., 2017). Added to this, knowledge management was measured using 54 items adopted from Gold et al. (2001), and further developed by Noruzy et al. (2013), with four interrelated processes. Finally, organizational culture, which was the study's moderating variable, was measured using 13 items taken from Gold et al.'s (2001) study.

Data Analysis

Data gathered was analyzed using Smart PLS (3.2.8), which was a statistical tool utilized for data analysis using Partial Least Square – Structural Equation Modeling (PLS-SEM). This tool has been extended in business field studies including those of human resource management and marketing (Hair, Sarstedt, Ringle & Mena, 2012), and was recommended by Davari and Rezazadeh (2013) in predicting a group of equations for the research model in a simultaneous manner and developing variables relationships. Thus, PLS-SEM was used in this study to carry out a thorough analysis of the relationships examined. In SEM there are two steps to the analysis involving the inner and outer model, investigating the independent-dependent variables relationships and the latent constructs with their observed pointers. PLS offers variance analysis through Smart PLS (Vinzi, Trinchera& Amato, 2010), and thus, it was employed in the current study.

RESULTS

Sample Characteristics

Academics in Jordanian universities made up the study sample, with majority of them being male (63%), and the remaining (37%) were female individuals, indicating the negligible number of female academics in the universities of Jordan. Majority of the sample were also aged 40 years and above (77%) who were PhD holders (93%), and over a decade of experience (58%). Finally, the study sample units were equally divided between public and private institutions of higher learning.

Assessment of the Measurement Models

The proposed study model is characterized by higher-order reflective-informative elements, calling for the performance of several verifications in the form of convergent validity, items loadings, average variance extracted (AVE) and composite reliability (CR) (refer to Table 1 for results). Based on the obtained results, the items loadings exceeded 0.70, which achieved Hair et al.'s (2017) recommended value, and the AVEs ranged from 0.535 to 0.691, which also achieved Hair et al.'s (2009) 0.5 threshold. Aside from the above, the values of CR ranged from 0.828 to 0.927, indicating that they are acceptable based on the criterion established by Hair et al. (2009).

Table 1
RESULTS OF MEASUREMENT MODEL

	Items Loading		Cronbach's Alpha	Composite Reliability	(AVE)
Knowledge acquisition	KA1	0.855			
	KA2	0.813			
	KA3	0.695			
	KA4	0.797			
	KA5	0.731			
	KA6	0.835			
	KA7	0.767	0.888	0.896	0.643

	KA8	0.832			
	KA10	0.864			
	KA11	0.813			
	KA12	0.766			
	KA10	0.784			
Knowledge application	KAP1	0.773	0.926	0.927	0.674
	KAP2	0.895			
	KAP3	0.850			
	KAP4	0.875			
	KAP5	0.805			
	KAP6	0.908			
	KAP7	0.846			
	KAP8	0.753			
	KAP10	0.853			
	KAP11	0.753			
	KAP12	0.704			
Knowledge conversion	KC1	0.778	0.865	0.868	0.653
	KC2	0.809			
	KC3	0.825			
	KC4	0.740			
	KC5	0.853			
	KC6	0.851			
	KC7	0.865			
	KC8	0.736			
	KC9	0.834			
	KC10	0.780			
Knowledge protection	KP1	0.724	0.820	0.822	0.691
	KP2	0.788			
	KP3	0.704			
	KP4	0.834			
	KP5	0.758			
	KP6	0.761			
	KP7	0.747			
	KP8	0.724			
	KP9	0.704			
	KP10	0.704			
Organizational Culture	OC1	0.736	0.925	0.931	0.535
	OC2	0.724			
	OC3	0.704			
	OC4	0.788			
	OC5	0.704			
	OC6	0.834			
	OC7	0.758			
	OC8	0.761			
	OC10	0.777			
	OC11	0.733			
	OC12	0.728			
Organizational Learning	OL1	0.718	0.926	0.929	0.641
	OL2	0.762			
	OL3	0.801			
	OL4	0.831			
	OL5	0.822			
	OL6	0.808			
	OL7	0.846			
	OL8	0.800			
	OL9	0.797			
	OL1	0.718			
	OL10	0.837			
	OL11	0.837			
	OL12	0.771			

	OL13	0.856			
	OL14	0.771			
	OL15	0.838			
	OL16	0.789			

Following the testing of convergent validity, the discriminant validity was confirmed following Fornell and Larcker's (1981) suggestions. The study made use of Fornell-Larcker criterion for this purpose, despite the criticism from prior studies (Henseler et al., 2015). Table 2 shows that the constructs had suitable discriminant validity values.

Table 2
DISCRIMINANT VALIDITY USING FORNELL AND LACKER CRITERION

Constructs	Knowledge Acquisition	Knowledge Application	Knowledge Conversion	Knowledge Protection	Organizational Culture	Organizational Learning
Knowledge acquisition	**0.802**					
Knowledge application	0.633	**0.821**				
Knowledge conversion	0.677	0.563	**0.808**			
Knowledge protection	0.466	0.644	0.513	**0.831**		
Organizational Culture	0.605	0.655	0.608	0.611	**0.731**	
Organizational Learning	0.610	0.575	0.605	0.523	0.541	**0.801**

An alternative test for discriminant validity was proposed by Henseler et al. (2015) in the form of Heterotrait-Monotrait (HTMT) ratio of correlations – a robust method to test discriminant validity. This study also employed HTMT to establish this type of validity, following the rule of thumb that HTMT value exceeding 0.85 (Hamid, Sami &Sidek, 2017) or if it exceeds 0.90 (Gold et al., 2001), then discriminant validity is an issue. Table 3 contains the HTMT values and based on the table, the required threshold is achieved (Kline, 2011; Gold et al., 2001), confirming the measurement model's sufficient level of discriminant validity.

Table 3
HTMT TEST

Construct	Knowledge acquisition	Knowledge application	Knowledge conversion	Knowledge protection	Organizational Culture	Organizational Learning
Knowledge acquisition						
Knowledge application	**0.863**					
Knowledge conversion	0.761	**0.790**				
Knowledge protection	0.865	0.821	**0.867**			
Organizational Culture	0.642	0.693	0.651	**0.650**		
Organizational Learning	0.631	0.593	0.628	0.536	**0.565**	

Assessment of Structural Model

The assessment of the structural model involves obtaining the coefficient of determination and the path coefficients level of significance (beta values) through the use of R-square (Hair et al., 2011)Accordingly, the engendered result in this study is 0.415, indicating the variance of organizational learning explained by the knowledge management dimensions. The items path coefficients and R-square values are presented in Figure 2.

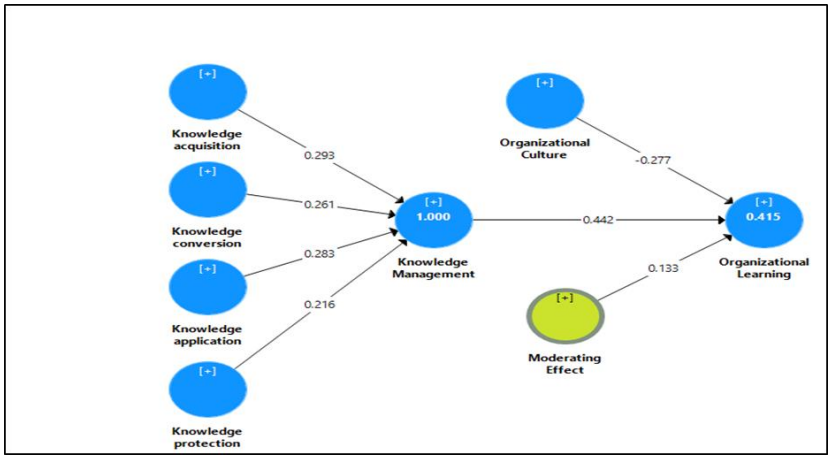

FIGURE 2
PATH COEFFICIENTS AND R SQUARE

Furthermore, the next step of structural model analysis is the use of bootstrapping procedure to test the effects and their significance. Based on the analysis, knowledge acquisition (β= 0.293), knowledge conversion (β= 0.261), knowledge application (β=0.283) and knowledge protection (β= 0.216) all had significant and direct effects on organizational learning with general beta value of (β=0.442) found between knowledge management and organizational learning. Lastly, the results also supported the positive moderating role of organizational culture on knowledge management and organizational learning (β= 0.133), supporting the moderating hypothesis. The structural model results are displayed in Table 4, while the validated model is presented in Figure 3.

Table 4
STRUCTURAL MODEL RESULTS

Hypotheses	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Knowledge Management -> Organizational Learning	0.446	0.096	4.653	**0.000**
Knowledge acquisition -> Organizational Learning	0.130	0.028	4.627	**0.000**
Knowledge application -> Organizational Learning	0.126	0.027	4.680	**0.000**
Knowledge conversion -> Organizational Learning	0.116	0.025	4.620	**0.000**
Knowledge protection -> Organizational Learning	0.098	0.022	4.680	**0.000**
Moderating Effect_ -> Organizational Learning	0.133	0.061	2.171	**0.031**

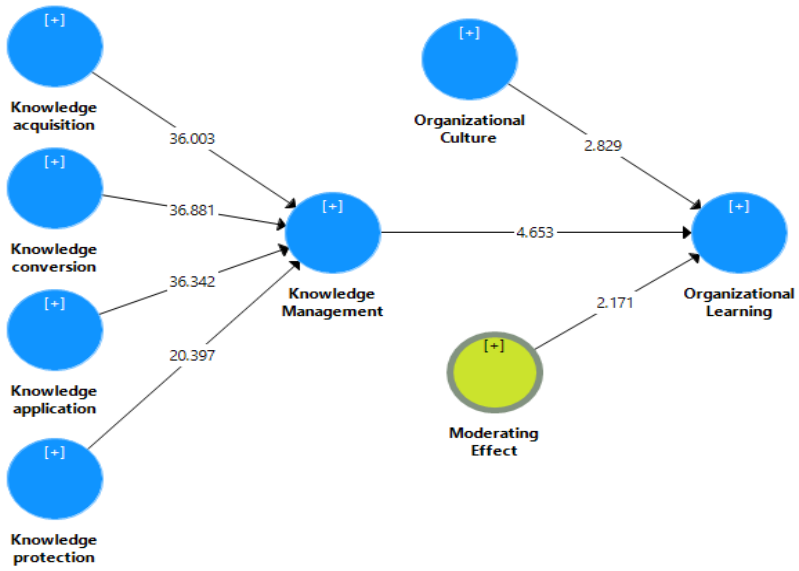

FIGURE 3
STRUCTURAL MODEL RESULTS

DISCUSSION

This empirical study primarily attempted to examine the direct relationship between knowledge management and organizational learning in the universities of Jordan and to examine the moderating role of organizational culture in the above relationship. Based on the analysis findings, there is a positive and significant relationship between knowledge management dimensions of knowledge acquisition, knowledge conversion, knowledge application and knowledge protection, and organizational learning. This finding is consistent with those reported by prior studies by Abdi et al. (2018), Croasdell et al. (2003), Joseph and Mark (2004), King (2009), Liao and Wu (2009), Noruzy et al. (2013) and Nouri et al. (2017).

To reiterate the findings, there is a positive relationship between knowledge management and organizational learning, indicating that institutions of higher learning that has effective knowledge management processes are more likely to improve organizational learning (Liao & Wu, 2009). In particular, universities that pay close attention to the dimensions of knowledge management, namely knowledge acquisition, knowledge conversion, knowledge application and knowledge protection have a higher likelihood to promote optimum organizational learning. In relation to this, universities that have higher organizational learning level, gain higher level of strategic capability, and a greater opportunity to obtain competitive advantage and long-term enhanced performance and survival.

Based on the results, organizational culture moderates the relationship between knowledge management and organizational learning in the positive direction. In an organization, learning is a part and parcel of culture and thus, educational institutions have to exert effort to enhance knowledge capabilities and to facilitate the right culture for the reinforcement of continuous learning.

The obtained statistical findings from the analysis support the assumption of the knowledge-based view of the firm, in that knowledge management is not a mere independent practice of management but also plays a key role in leveraging the influence of organizational culture on organizational effectiveness (Zheng et al., 2010).

This study has several contributions to both theory and practice; first, it shed light on the knowledge management process in Jordanian universities and the way such process enhances organizational learning. Second the findings can be used by practitioner and researcher circles

when it comes to handling knowledge management in universities, and this is particularly significant as studies of this caliber are still few and far between.

Regardless of the above-mentioned contributions to practice and theory, the study has its limitations, which limits the generalization of findings and provides avenues for future studies to follow. Future studies may extend the sample size and include other than academics – for instance, administrators (employees and managers) as this category of sample also contribute to organizational learning. Future studies may also integrate additional variables to the study model.

With regards to the recommendations, it is suggested that universities in Jordan concentrate on knowledge management when planning strategies so that organizational learning is promoted through them. Moreover, universities should consolidate a suitable organizational culture to support the relationship between knowledge management and organizational learning.

CONCLUSION

This study primarily aimed to examine the direct relationship between knowledge management dimensions and organizational learning in the context of the universities in Jordan. The study also examined the role of organizational culture in moderating the relationship between the above two constructs. Data was collected using a questionnaire survey, whose copies were administered to academics in Jordanian universities. Following data collection, data analysis was carried out through Smart PLS (3.2.8) and according to the obtained findings, there is a significant relationship between knowledge management and organizational learning, with the dimensions of the former (knowledge acquisition, knowledge conversion, knowledge application, and knowledge protection) individually having a significant effect on the latter. Lastly, organizational culture was revealed to have a positive moderating effect on the knowledge management-organizational learning relationship.

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