The Role of Knowledge Evaluation in Reinforcing Knowledge Management Strategy

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Abstract

Although the concept of KM has been broadly discussed in the present literature, it is still progressing and a plethora of models as well as concepts exist. This plethora has resulted in KM concept fragmentation. The presented model investigates the relationship between knowledge evaluation and KM factors (i.e., knowledge creation, knowledge adoption, knowledge adaptation, and knowledge embodiment) that organizations are supposed to take to achieve a competitive advantage. A questionnaire was developed to collect data. The population of this study consists of five large global Information and Communication Technology MNCs operating in Jordan, resulting in (93) individual questionnaires for analysis. The questionnaire was shown to be reliable and valid. The results reveal that KM factors (i.e., knowledge creation and knowledge adoption) are significant and have a strong influence on knowledge evaluation, while KM factors (i.e., knowledge adaptation and knowledge embodiment) are insignificant and have a negative influence on knowledge evaluation at the surveyed corporations. Implications, recommendations, and future research are also discussed.

Keywords: Knowledge creation, Knowledge adoption, Knowledge adaptation, Knowledge embodiment, knowledge evaluation, MNCs, Jordan.

Introduction

The concept of knowledge management (KM) is still evolving and attracting academic scholars and managers of business organizations alike. Strategies to attain (or maintain) a competitive advantage are increasingly being determined by the development or realization of distinct organizational capabilities (Hitt et al., 2016) that emerge from strategic insights (Venkitachalam & Willmott, 2017). The foundations of these competencies are knowledge assets, which, when harnessed and managed effectively, provide "core competencies" which are difficult to imitate. Accordingly, knowledge and its assets initiate the basis of a novel form of competitive distinction that relies on the content found in the modern world (Massingham & Holaibi, 2017). This content may be found in products, services, or even rooted within certain operations and procedures that offer outstanding services. The rationale for a focus on "knowledge" and its management has been addressed by many scholars. Although many of the initial research endeavours were hindered by attempts to "define" knowledge and KM, substantial progress is evident in the area of knowledge creation (Nonaka & Takeuchi, 1995; von Krogh et al., 2000). For the purpose of this paper, the author defines KM as the accumulation of processes that lead to the creation, adoption, adaptation, and embodiment of knowledge. This definition suggests that KM is a set of combined activities for knowledge utilization to reinforce competitive advantage.

Although the concept of KM has been broadly discussed in the present literature, it is still progressing and a plethora of models, as well as definitions, exist. This plethora has resulted in KM concept fragmentation and lack of consensus (Jackson et al., 2020). Thus, the presented model aims at creating a basis for future empirical research within the concept of KM. It also aims at enriching our understanding regarding the value of endogenous and exogenous knowledge to enhance the capability of organizations.

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Therefore, this paper investigates and validates the KM model suggested by (Karasneh, 2002) in multinational corporations (MNCs) operating in the Jordanian context. In his model, the author argues that knowledge is the strategy of any organization that seeks to achieve a competitive advantage.

The paper proceeds as follows. The next section presents an overview of the KM model. The overview is followed by the literature review that sets out the hypotheses of this study. Afterwards, the methodology for the study is presented. Then, the paper presents the results of the empirical study in achieving the goals as set out above. In the last section, the paper discusses managerial implications and highlights future research directions.

An Overview of KM Model

The proposed model sheds light on more than one aspect of KM. While knowledge creation (KC) is a significant component of KM, it is only a component. Extensions to this work, postulated by a number of authors, include additional components for a KM model. These may be broadly categorized as "knowledge adoption" (Kadopt.) (including acquisition and transfer of best practice knowledge) (Fakhrorazi et al., 2013; González et al., 2005; Hsu et al., 2007; Karasneh, 2019). Knowledge adaptation (Kadapt.) (including the modification, customization, and identification of substantial knowledge) (Karasneh, 2002; Karasneh & Al-Khalili, 2009; Russo & Vurro, 2010; Uotila, 2018). Knowledge embodiment (Kembody), including the distribution and dissemination of knowledge) (Andone, 2009; Kuah et al., 2012; Martins et al., 2017). Knowledge evaluation (KE) is required to assess knowledge in use (embedded within processes), and knowledge created or acquired, to ensure its quality and appropriateness for purposeful action within each particular context which emerges. The framework presented, incorporating the nucleus of KE, is intended to facilitate future empirical evaluation and testing and to stimulate further academic debate.

The author believes that although knowledge creation is a central part of the conceptual KM model, other crucial sources of knowledge exist, such as knowledge adoption, meaning a certain organization's acquisition of knowledge from other external sources due to any hardships hindering the creation of their own knowledge; and knowledge adaptation (Kadapt.) meaning a certain organization's effort to customize and fit knowledge according to the internal needs of its organizational environment. As a result, Kadopt. appears to be dependent on Kadapt. It may be even dangerous for an organization to adopt knowledge without proper adaptation. At last, when knowledge has been properly existent within a firm, it is necessary to further embody it within a firm's processes and organizational environment. Thus, knowledge embodiment can be perceived as the capability of the corporation to codify, distribute, transfer, and translate the adapted knowledge into real practice (Karasneh, 2019; Smart et al., 2003).

All previous steps within KM model demand evaluation at each and every level. This ongoing step (i.e., KE) requires a fertile organizational context in which knowledge sharing and reflection are prevalent to validate the suitability of all KM entities. Therefore, KE is meant for expediting future empirical evaluation and academic debates.

Literature Review and Hypotheses

Knowledge Evaluation

It is valuable to invoke that KE is required as an essential part of each KM component (i.e., KC, Kadopt, Kadapt, Kembody). Merging (i.e., infusing) KE as a component is necessary for testing all forms of knowledge in application within organizations. This is done to validate the suitability of applied knowledge in a certain context as well as developing a sense of empirical evaluation for future requirements. Karasneh (2019) defines KE as a review of knowledge from various sources, both internal and external, for an intended purpose within a specific context. It can be seen as the organization's capability to assess the amount of knowledge available and accessible in the organisation. Cousins et al. (2004) define evaluation as a "systematic inquiry leading to judgements about program (or organisation) merit, worth, significance and support for program (or organizational) decision-making". They argue that evaluation leads to knowledge production, the validity, credibility,

sophistication, timeliness and relevance of which depend on the evaluation processes in place. It also leads to forms of the use of the knowledge produced.

Patton (2012) refers to evaluation's practice as "the systematic collection of information about activities, characteristics and outcomes of programs, personnel and products for use by specific people to reduce uncertainties, improve effectiveness and make decisions with regard to what those programs, personnel or products are doing and affecting". Patton (2012) asserts that "Utilization-Focused Evaluation" begins with the premise that evaluations should be judged by their utility and actual use; therefore, evaluators should facilitate the evaluation process and design any evaluation with careful consideration of how everything that is done, from beginning to end, will affect use. Shin et al. (2001) present a theoretical framework that consists of five main research streams (i.e., culture, knowledge location, awareness, evaluation and absorption). They argue that all components work together in a chain towards achieving a competitive advantage. Within this chain, knowledge evaluation is present between all streams. The absence of KE might thus result in a breakage in this theoretical KM chain. Several authors (e.g., Ahn & Chang, 2004; Liao et al., 2009; Lyu et al., 2016; Milley et al., 2018; Patton, 2012; Shin et al., 2001; Waal, 2017; Wong et al., 2015) identify the significance of knowledge evaluation in assessing the performance of KM in specific organizational context.

Kim (2006) indicates that KM evaluation has been widely investigated using both quantitative and qualitative approaches. Yet, no consensus has been reached. Chen & Chen (2006) explore the development of KM evaluation between 1995 and 2004. They state that the capability to remain dynamic and acquire new insights into the power of effective KM performance evaluation will be the heart of future KM research.

In conclusion, knowledge evaluation is the core of each component of KM model (i.e., creation, adoption, adaptation and embodiment) in which organizations can assess their KM performance.

Knowledge Creation

Nonaka & Takeuchi (1995) and Nonaka & Krogh (2009) exert their efforts to conceptualize knowledge creation as a tactical asset for firms to attain a competitive advantage. They indicate that knowledge creation is "a dialectical process, in which various contradictions are synthesized through dynamic interactions among individuals, the organization and the environment". Further, they assert that organizational knowledge creation is "the capability of a company as a whole to create new knowledge, disseminate it throughout the organization and embody it in products, services and systems".

Nonaka & Takeuchi (1995) argue that organizations create knowledge through a knowledge-creating process in which tacit and explicit knowledge work together to form new knowledge. This process works amongst individuals and cannot be restricted to a single person. According to them, the inter-actions between tacit/explicit knowledge have resulted in four modes of knowledge conversion referred to as (SECI).

Subsequently, researchers of knowledge creation based their work on the theory coined by Nonaka and his colleagues. In fact, most of the academic research that followed Nonaka's theory of knowledge creation focused on analyzing his theories rather than finding a proper application of it for organizations to create knowledge. Bryant (2005) indicates that externalization's strategy is a powerful form of KC and provides a key source of innovation and new ideas in firms. He investigates the relationship between peer mentoring and knowledge creation and sharing. Moreover, he indicates that high levels of KC entail high perceived levels of peer mentoring.

Karasneh (2020) indicate that an organization can achieve a competitive advantage through the implementation of a KC strategy. He further asserts that knowledge creation's strategy enables organizations to develop new products and services through innovation, real-life application and creating consensus amongst working groups within firms. Dul et al. (2011) investigate physical work environment influence on the innovation of knowledge workers, compared with the effects of creative personality and social-organizational work environment. Results support HR practices that focus on

the individual, on the social-organizational work environment and on the physical work environment in order to elevate knowledge worker creativity.

Most of the work tackled up to date has been devoted to identifying the relationship between KC and innovation (Easa, 2011; Popadiuk & Choo, 2006), developing knowledge strategies for KC and transfer (Krogh et al., 2001), examining innovation creation and innovation adoption of workers within the workplace (Yusof et al., 2014), knowledge transfer as an enabling role in KC (Fischer, 2001; Nair et al., 2015) and the relationship between KC and organizational learning (Brix, 2017; Ramírez et al., 2011). Sankowska (2013) asserts that KC provides the basis for innovation. She further argues that organizations which implement a KC strategy have higher chances in achieving creativity and process development within the workplace. Therefore, the following hypothesis is proposed:

H1: KC has a positive relationship with KE.

Knowledge Adoption

Generally speaking, as knowledge is required and important for organizations to achieve a competitive advantage (Hsu et al., 2007), the adoption of best practice knowledge has become an alternative vein for organizations. Teigland & Wasko (2009) indicate that knowledge adoption can be seen as an action that organizations carry out to maintain efficiency and effectiveness through utilizing the certainty and clarity of the organization's context. Knowledge adoption requires the organization's capacity to collect and appreciate knowledge of systems and structures.

Knowledge adoption has been perceived by several scholars as knowledge acquisition (Karasneh, 2019), knowledge transfer (McFadyen & Cannella, 2005; Nonaka & Krogh, 2009;) knowledge exchange (Nonaka & Krogh, 2009) to refer to the adoption of knowledge from external sources. These sources have been identified as best practices (Krogh et al., 2001). Authors (i.e., Bock et al., 2005; Liu & Liu, 2008) indicate that knowledge acquisition is the initial premise for knowledge creation.

Kotabe et al. (2011) investigate how the acquired knowledge affects firms' new product market performance. They conclude that knowledge acquisition could only enhance new product market performance in the presence of realized absorptive capacity.

Liao et al. (2009) investigate the relationships between absorptive capacity, knowledge acquisition and innovation capability. They conclude that absorptive capacity is the mediator between knowledge acquisition and innovation capability, and that knowledge acquisition has a positive effect on absorptive capacity. Bharadwaj et al. (2016) examine the effectiveness of various KM entities such as creation, adaptation, storage, distribution, and practice, along with infrastructure entities, on organizational knowledge efficiency. Researchers conclude that firms are developing the awareness to view knowledge as a tactical asset that aids in maintaining their competitive advantage in the market. Svetina & Prodan (2008) explore to what level different knowledge entities contribute to organizations' creativity. Researchers indicate that a certain organization's internal sources positively impact its creative performance. They further conclude that in-house learning is an insufficient method for innovation; thus, firms ought to infuse their internal knowledge with externally applied knowledge practices.

To conclude, (Jiang et al. 2021) indicate that "acquired external knowledge relies on the extent to which firms can break the defensive routine of the existing knowledge system." Therefore, in light of the previous literature, the following hypothesis is proposed:

H2: Kadopt. has a positive relationship with KE.

Knowledge Adaptation

Knowledge adaptation highlights the organization's capability to customize created or adopted knowledge to its needs. This customization entails that the organizational context is well defined for individuals to learn, capture, adjust and adapt knowledge. Nonaka et al. (2000) refer to adaptation as the ability of organizations to balance between order and chaos. This balance entails a minimum of organizational integration and a maximum of organizational adaptation towards environmental

changes. This balance also has been recognized by several authors (e.g., Gupta et al., 2006; Lavie & Rosenkopf, 2006; Russo & Vurro, 2010; Zahra & George, 2002) in the form of exploration and exploitation strategies. Uotila (2018) defines exploitation as "the organization's ability to refine and utilize its existing knowledge, competences and opportunities, whereas exploration is the organization's ability to find completely new knowledge, competences and opportunities". Thus, the proper exploration-exploitation balance depends, in complex ways, on the pressures for global *versus* local adaptability posed by the interaction of turbulence and complexity.

According to Cohen & Levinthal (1989) absorptive capacity is the ability to learn from external knowledge through processes of knowledge identification, assimilation and exploitation. Authors (i.e., Cohen & Levinthal, 1989; Matusik & Heeley, 2005; Spithoven et al., 2010; Zahra & George, 2002) argue that absorptive capacity is a critical tool for an organizations to adapt external knowledge into its internal context. This tool is a vital vein for organizations when tackling their innovative and competitive abilities (Matusik & Heeley, 2005; Rasmussen & Hall, 2016).

Karasneh & Al-Khalili (2009) refer to adaptation as the customization of adopted knowledge to meet the needs of the organization, as well as the identification of significant knowledge in the organization in order for it to be disseminated and shared among individuals in the organization. They investigate KM's strategy and the practicing activities at the Ministry of Education in Jordan. They conclude that while there are high-practicing levels of knowledge adoption and knowledge creation, the practicing levels of knowledge adaptation and knowledge embodiment remain medium.

Therefore, in light of the previous literature, the following hypothesis is proposed:

H3: Kadapt. has a positive relationship with KE.

Knowledge Embodiment

Knowledge embodiment may be defined as the ability of the organization to codify, distribute, transfer, and translate the adapted knowledge into practice. According to Nonaka & Takeuchi (1995), organizational knowledge creation is "the capability of a company as a whole to create new knowledge, disseminate it throughout the organization, and embody it in products, services, and systems". This embodiment depends highly on shared organizational context. Karasneh (2020) indicates that embodiment refers to translating data and information into symbols that others can understand. Knowledge embodiment aims at producing a form of organizational knowledge that is easily accessible for those who demand it. Rippa (2011) indicates that Kembody involves applying the knowledge acquired to a range of other domains and contexts, thus expanding the meaning of the knowledge. It is also important at this stage to consider knowledge disposition, validation and evolution after the use of knowledge. Nonaka & Krogh (2009) view embodied knowledge as "intuitive, tied to the senses, and escaping any formal analysis through self-introspection". McAdam (2000) argues that knowledge embodiment can draw on novel knowledge construction and facilitate the fusion of innovation within firms. He further suggests different drivers for enhancing kembody (i.e., the need for embodiment for constructed knowledge, supportive organizational structure, learning networks, open and receptive culture, trust, the role of the knowledge worker, and converting tacit to explicit knowledge). He suggests that the creative application of knowledge embodiment is crucial for a firm's success and competitiveness in the market. Fourcade (2010) defines "embodied knowledge" as a form of knowledge that cannot be easily dissociated from the personal qualities of its bearer and thus becomes legitimate regardless of the conditions under which it is dismissed as irrelevant.

In conclusion, Kembody is held as a chief source of knowledge where individuals can share, assess, customize and use knowledge in light of their previous and adapted knowledge. Therefore, in light of the previous literature, the following hypothesis is proposed:

H4: Kembody has a positive relationship with KE.

Method

The data for this research were collected from MNCs, which are thought to be a highly "knowledge-intensive industry" that offers diverse innovative products and services (Seleim & Khalil, 2011). The population of this study is made up of all managerial levels who were randomly selected from MNCs based in Amman, Jordan. The managerial staff is divided into five categories (i.e., chief officers, directors, managers, team leaders and supervisors). Five large global Information and Communication Technology (ICT) MNCs operating in Jordan were selected. Generally, it is believed that MNCs utilize and engage in KM tools more than local corporations.

A questionnaire instrument was designed based on an extensive investigation of theoretical and empirical studies relating to the constructs of the research with some amendments to satisfy the requirements of the research (Table 1). The questionnaire comprises five KM constructs: KC, Kadopt., Kadapt. Kembody, and KE.

The questionnaire first draft was validated through pilot testing on (10) managerial staff working in Orange Group headquarter. The final edited version of the questionnaire was emailed to the managers after contacting the general manager of each corporation and getting a list of the managers' emails. A total of 150 questionnaires were distributed via email, of which 93 were returned, with a response rate of 62 percent. Respondents were fit in terms of implementing knowledge, which is essential for KC and usage.

The questionnaire was designed based on prior content validity studies, as stated earlier. The items of the questionnaire were assessed on a 5-point Likert- scale ranging from (1) to (5) representing (1) as "minimal" to (5) as "extensive". The internal consistency of the items was evaluated by Cronbach's alpha coefficient.

Table 1. Research constructs.

Research constructs	No. of Items	References
KC	5	(Ahn & Chang, 2004; Bryant, 2005; Chen & Huang, 2007; Karasneh, 2019; Kuah et al., 2012)
Kadopt.	6	(González et al., 2005; Hsu et al., 2007; Lopez-Nicolas & Soto-Acosta, 2010; Patton, 2012)
Kadapt.	5	(Karasneh, 2002; Karasneh, 2019; Russo & Vurro, 2010; Uotila, 2018)
Kembody	6	(Andone, 2009; Karasneh, 2019; Karasneh & Al-Khalili, 2009; Kuah et al., 2012)
KE	6	(Guyadeen & Seasons, 2016; Rašula et al., 2012; Shin et al., 2001)

Data Analysis and Results

The Statistical Package for Social Sciences (SPSS Version 23) program was utilized to analyze the questionnaire of participants to test the demographic factors of the questionnaire items (i.e., 93). The respondents profile consists of male (71.0 %); above 40-49 years age group (32.3 %); education bachelor's degree (50.5 %); above 10-years' experience group (37.6 %). The analysis of targeted group is as follows: Supervisors (47.3 %); Directors (23.7 percent); Managers (12.9 %); Team leaders (11.8 %); and Chief officers (04.3 %).

Alpha reliability estimates were used to measure the internal consistency of the questionnaire items. Sekaran & Bougie (2013) state that " the reliability of a measure is an indication of the stability and consistency with which the instrument measures the concept and helps assess the -goodness of a measure". Table (2) shows the results of questionnaire reliability. Cronbach's alpha reliability estimates were as follows: KC (0.91), Kadopt. (0.93), Kadapt. (0.89), Kembody (0.93), and KE (0.91). The highest alpha value is (0.93) and it refers to Kadopt. and Kembody, while the minimum value is (0.89) and it refers to Kadapt. All of these estimates are close to (1). In general, Sekaran and Bougie (2013) state that "the closer Cronbach's alpha is to 1, the higher is the internal consistency reliability".

Table 2. Reliability analysis summary (N= 93).

KM constructs	No. of Items	Excluded items	Cronbach's α
KC	5	0	0.91
Kadopt.	6	0	0.93
Kadapt.	5	0	0.89
Kembody	6	0	0.93
KE	6	0	0.91

Regression analysis was carried out to answer the four research hypotheses. Table (3) shows the results of multiple regression analysis summarizing the relationship between KE as a dependent variable and KM components (i.e., KC, Kadopt, Kadapt, and Kembody) as independent variables.

Table 3. Multiple regression results (N= 93).

KM constructs	Beta	t-value	p-value
KC	0.258	2.032	0.045
Kadopt.	0.361	2.798	0.006
Kadapt.	- 0.007	- 0.047	0.962
Kembody	0.116	0.794	0.429

Note: Dependent Variable: KE.

The values of (Beta) show that there are only two factors that affect KE (i.e., KC and Kadopt). The regression results of the KC variable show that (Beta = 0.258, t- value = 2.032, p- value = 0.045). These results indicate a significant impact of KC on KE in MNCs based in Jordan. Similarly, the regression results of the Kadopt variable show that (Beta = 0.361, t- value = 2.798, p- value = 0.006) indicating a significant impact of Kadopt on KE in MNCs based in Jordan. Moreover, an initial screening of Table (3) indicates that factors (i.e., Kadapt and Kembody) have no significant impact on KE in MNCs. These results have encouraged the researcher to carry out further investigations to identify first, whether or not these variables are present in the surveyed corporations' environment and then explain to what extent each of the two significant factors (i.e., creation and adoption) explain the variation in the KE environment in MNCs. To do so, stepwise regression was conducted as appears in Table (4).

Table 4. Stepwise regression (N= 93).

KM constructs	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
KC	0.618	0.381	0.375	0.48359	56.117	0.000
Kembody	0.653	0.427	0.414	0.46802		

Note: Dependent Variable: KE.

The results reveal that insignificant factors (i.e., adaptation and embodiment) have been excluded, which indicates that these factors are not present and hence do not affect KE in MNCs based in Jordan. Moreover, the results assert that creation and adoption have a significant impact on MNCs' KE. Interestingly, R^2 shows the variance in the dependent variable (KE) which is predictable by the two independent factors (creation and adoption). The R^2 value is 0.427, which indicates that the research model explains 42.7% of the variance in KE. The overall regression model is significant (F= 56.117 and $p \leq 0.000$).

Based on the regression analysis, we can only accept the following hypotheses:

H1: Knowledge creation has a positive relationship with knowledge evaluation.

H2: Knowledge adoption has a positive relationship with knowledge evaluation.

Discussion

The relationship between knowledge evaluation and the KM dimensions (i.e., knowledge creation, knowledge adoption, knowledge adaptation, and knowledge embodiment) that organizations are supposed to take to achieve a competitive advantage and excel is still inexplicit. It is important to know that a dearth of empirical investigation regarding such components exists.

The current study sets the basis of an empirical test highlighting the relationship between knowledge evaluation and knowledge management factors. Study results reveal that knowledge creation and adoption have a significant relationship with knowledge evaluation. While knowledge adaptation and knowledge embodiment have an insignificant relationship with knowledge evaluation.

Even though knowledge creation regression's result (p-value=0.045) reveals a positive relationship with knowledge evaluation, it is still beyond expectation. Similarly, knowledge adoption regression's result (p-value=0.006) also reveals a positive relationship with knowledge evaluation which happens to be surprising in the case of MNCs.

Knowledge creation result indicates that MNCs operating in Jordan encourage and utilize brainstorming and know-how of employees to generate novel ideas. The study further reveals that knowledge creation/knowledge evaluation relationship plays a moderate role in MNCs. Knowledge creation is found to be positive among the factors contributing to knowledge evaluation in this study. This result is consistent with (Gholami et al., 2013; Laeeque & Babar, 2017; Marra, 2004; Nonaka et al., 2000; Szijarto et al., 2018). As stated earlier, knowledge creation in MNCs needs to be supported and encouraged by top management of MNCs to be significantly recognized at (p-value=0.000) and/ or to be significantly better than knowledge adoption. It is crucial for MNCs to initiate an organizational capability which can be significantly recognized.

Marra (2004) states that "evaluation can align knowledge across different organizational layers, functions, and roles. This process is in itself an endogenously produced knowledge system, whose specific components and properties enable managers to create an organizational advancement strategy to exploit actual and future sources of competitive advantage". Karasneh & Al-zoubi (2019) indicate that it is important for organizations to initiate and facilitate a specific context that builds in self-determination and freedom in order to create novel ideas.

Knowledge adoption is found to have a significant relationship with knowledge evaluation. This result is consistent with (González et al., 2005; Hsu et al., 2007; Lopez-Nicolas & Soto-Acosta, 2010; Patton, 2012). From the organizational knowledge perspective, adopting best practices knowledge is critical for sustaining and achieving a competitive advantage. Patton (2012) states that "best practices have become the most sought-after form of knowledge not just effective practices; or decent practices or better practices—but best". Adopting best practices knowledge benefits organization members, supporting organizational survival and competitiveness (Fakhrorazi et al., 2013), avoiding wheel re-invention (Lopez & Esteves, 2013), enabling direct or indirect interaction with a knowledge source (He et al., 2013). Thus, MNCs based in Jordan ought to sustain and safeguard knowledge adoption strategy to compete and excel.

Knowledge adaptation is found to have a negative relationship with knowledge evaluation. This result is inconsistent with (Karasneh & Al-Khalili, 2009; Rasmussen & Hall, 2016). Knowledge adaptation negative β value suggests that the relationship between knowledge adaptation and knowledge evaluation may be contingent on other factors, such as knowledge creation and knowledge adoption. Thus, MNCs should get the best out of the knowledge evaluation factor in order to cope with the ever-changing business environment.

The dynamic and turbulent business environment of Information and Communication Technology (ICT) in which MNCs engage rigorously requires such organization apply the concept of adaptive knowledge management (i.e., to develop, modify and adapt their strategies and work application). Bloom (1956) refers to adaptation as "well developed skills that the individual can modify the movement patterns of to fit special requirements". Thomson (2005) states that "adaptive knowledge management, is characterized by communication programs that are designed to experimentally compare selected policies or practices, by testing alternative hypotheses about the communication process".

Knowledge embodiment was found to be insignificant. This result is inconsistent with (Fourcade, 2010; Karasneh & Al-Khalili, 2009; Rippa, 2011). Contrary to what is expected, knowledge embodiment and knowledge evaluation do not complement one another. Therefore, MNCs based in

Jordan should develop an appropriate and organized organizational memory for adapted knowledge to enable employees to assess, customize, interpret and use knowledge. Nonaka et al. (2000) defined the Ba concept as "a shared context in which knowledge is shared, created and utilized". Chen & Huang (2007) identify organizational climate as "common practices, shared beliefs, and value systems that an organization follows".

Although the study results are embarrassing and confusing, the author tries to rationalize those results as appropriate as possible. Thus, further investigation is represented in the form of informal interview with four MNCs chief officers separately.

The author started with acquainting the officers with the study results (i.e., MNCs adopt knowledge more than creating it; MNCs do not evaluate adapted knowledge; MNCs do not evaluate embodied knowledge) that previously surprised the author. They indicated that for MNCs to sustain and achieve a competitive advantage, they need to rely not only on their capability to create needed knowledge, but also to acquire or adopt external knowledge as well as to keep up to date with the market's competition. The evaluation of either created knowledge or adopted best practice knowledge is indispensable. Concerning knowledge adaptation evaluation, all the interviewed chief officers confirmed that the culture and structure of the organization play a crucial role as the adaptation mission is the responsibility of external experts and/or consultations to reduce expenditure. As for knowledge embodiment evaluation, all the interviewed chief officers confirmed that the infrastructure also plays a critical role in distributing and transferring the adapted knowledge to employees. In fact, the companies are not able to cope with the dynamic nature of knowledge and technology infrastructure, as it is costly. One interviewee attributes the insignificant result of knowledge embodiment evaluation to failure in applying knowledge adaptation properly. Therefore, he criticizes his organization for not applying the concept of adaptive management (Duncan & Wintle, 2008). In fact, the concept of adaptive management stresses the significance of "learning by doing a structured iterative process of decision making with the capacity to gradually reduce uncertainty through system monitoring".

Limitations and Further Work

The data for this study is collected from a sample of MNCs operating in Jordan. Different organizational contexts may affect the results. Further study may examine the proposed KM model to include different industries (e.g., chemical, electrical, electronic, and construction) to understand the current study results amongst various productions. That is, of course, keeping in mind that each industry has its own special cases, and then setting up a comparison between the results of each industry in order to see whether or not knowledge evaluation impacts the processes of knowledge management. Moreover, the sample of this study is limited to (93) respondents in the ICT industry; a larger sample may allow for more advanced and robust statistical analysis that facilitates generalization. Furthermore, cultural differences may play a crucial role in affecting the results; hence, testing a sample from other countries would increase organizations' awareness.

Conclusions, Implications and Recommendations

In the dynamic world of today, organizations are forced to realize that KE is an indispensable factor that all organizations ought to manage when initiating the knowledge management strategy within their workplace. Moreover, they ought to develop a knowledge management system that consists of knowledge creation, knowledge adoption, knowledge adaptation, and knowledge embodiment based on a knowledge evaluation factor incorporated alongside each factor. This strategy is expected to enable organizations to achieve a competitive advantage. This study identifies the influence of knowledge creation, knowledge adoption, knowledge adaptation, and knowledge embodiment on knowledge evaluation endeavours at MNCs based in Jordan. The author foresees that the study results may offer useful mechanisms for organizations and decision makers to achieve and sustain a successful knowledge management system.

In order to apply knowledge effectively, KE plays a key role in validating the applications of knowledge management factors. In this paper, the author investigated different KM factors and tested

their influence on knowledge evaluation at MNCs operating in Jordan. Briefly, this study revealed evidence between knowledge creation, knowledge adoption, knowledge adaptation, knowledge embodiment, and knowledge evaluation at the surveyed corporations. It is valuable to indicate that the KM literature consists of little investigation (Lin, 2007). This study offers various contributions to the literature. First, it advocates and validates the KM model. The empirical evidence that emerges from this study proves that knowledge evaluation is a core factor in the KM dilemma. Secondly, the study results bridge the gap in the literature review embodied in the dearth of an appropriate KM model that organizations can utilize to evaluate their practices. To Add, the current paper introduces a conceptual model, which has been tested and validated in MNCs based in Jordan. The academic significance of this research lies in its contribution to the existing literature by linking several knowledge management variables (i.e., creation, adoption, adaptation, and embodiment) and integrating these variables with knowledge evaluation. Lastly, although this research does not develop a completely novel idea, it motivates researchers and specialists to tackle issues and problems within the work environment differently. The main implication for practitioners is that the findings of this study enable them not to reinvent the wheel but to re-evaluate their existing KM practices to obtain insights into the type of productive practices required in today's world. This model enables corporations to gain, create, adopt, adapt, conserve, and evaluate their knowledge.

Upon analysis, the author recommends that decision makers in MNCs ought to define a strategy for KM factors' influence on knowledge evaluation to avoid re-inventing the wheel. Along this strategy, it is strongly recommended to focus on environments where knowledge management practice evaluation is part of their basic culture and is viewed as a formal norm.

دور تقييم المعرفة في تعزيز استراتيجية إدارة المعرفة

عبدالفتاح كراسنة

كلية الأعمال، قسم ادارة الأعمال، جامعة اليرموك، إربد، الأردن

الملخص

على الرغم من أن مفهوم إدارة االمعرفة قد تمت مناقشته على نطاق واسع في الأدبيات الحالية، فهو لا يزال يتطور، فهناك عدد كبير من النماذج والمفاهيم. وقد أدت هذه الوفرة إلى وجود إختلافات في المفهوم. يستقصي النموذج المقدم في هذه الدراسة العلاقة بين تقييم المعرفة وعوامل إدارة المعرفة (خلق المعرفة، وتبني المعرفة، وتكييف المعرفة، وتجسيد المعرفة) التي من المفترض أن تتخذها المنظمات لتحقيق ميزة تنافسية.

تم تطوير استبيانة لجمع البيانات. وتكون مجتمع الدراسة من خمس شركات عالمية كبيرة الحجم تعمل في مجال تكنولوجيا المعلومات والاتصالات في الأردن. وقد تم توزيع الاستبانة على العاملين في الشركات المبحوثة واسترداد (93) استجابة صالحة للتحليل، وثبت أن الاستبيانة موثوقة وصالحة.

أظهرت النتائج أن عاملي إدارة المعرفة (خلق المعرفة، وتبني المعرفة) مهمات ولهما تأثير قوي على تقييم المعرفة، بينما كان عاملا إدارة االمعرفة (تكييف المعرفة، وتجسيد المعرفة) غير مهمين ولهما تأثير سلبي على تقييم المعرفة في الشركات التي شملتها الدراسة. وتمت مناقشة النتائج وتقديم الاقتراحات والتوصيات وآفاق البحوث المستقبلية.

الكلمات المفتاحية: خلق المعرفة، تبني المعرفة، تكييف المعرفة، تجسيد المعرفة، تقييم المعرفة، الشركات متعددة الجنسيات، الأردن

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Conflict of Interest

I certify that there are no conflicts of interest associated with the work described in the article

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