

Impact of Knowledge Management with Islamic Work Ethics on Innovation and Quality Competitiveness

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Abstract

This paper aims at embodying an in-depth investigation of the Knowledge Management (KM) and Islamic Work Ethics (IWE) on quality competitiveness and innovation prevailing in the health care industry. The fundamentals of KM and IWE on quality competitiveness and innovation were examined by using a valid survey instrument. A total of 250 administrative and medical officers serving in the public sector organizations of Pakistan contributed to the survey. The empirical findings indicated that KM for innovation is substantial in the public sector organizations. The association of KM with innovation and employees' quality competitiveness in public sector organizations was found to moderate IWE. While the research was notable and confined to Pakistan's public sector organizations, this study has far-reaching consequences for the advancement of a bright workforce in other sectors and across regions. Further, a cross-sectional study stimulated the confirmation of results. A consideration of KM, IWE, and its consequences among the pledge of the workforce for innovation enables public sector organizations to design and implement upgraded initiatives. To counter the significant need for determining IWE and its work outcomes in non-Western working domains, this article identified the extent to which IWE influences the relationship between KM and innovation aptitude of public sector organizations. Scholars and practitioners will find the novelty of the study variable. Our study has certain limitations, like reliance on cross-sectional data. In the future, longitudinal data may be used. Secondly, we used only one sector which restricts the generalizability of the study. In the future, the study could be replicated by other sectors.

Keywords: Islamic work ethics, Knowledge management, Innovation, Quality competitiveness

Introduction

KM as a blend of all activities occurs during the knowledge collection, distribution, and application. The organizations that utilized such kind of procedures to adopt the fast-changing and growing business world can achieve organizational efficiency to better regulate and shape their future (Darroch & Jenny, 2005). The topical

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developments in innovation built numerous academic research works that eventually led to the progress and consolidation of the concept and theory of KM (Davenport & Prusak, 1998; Stewart et al, 1997). It has been noticed that a lack of reported studies and researches exist related to KM in the public sectors (McAdam, Rodney, & Reid 2001). The solicitation of KM is as important for public sector companies as for private sector companies. However, despite its significance, KM in the public sector is still in its infancy (Ahbabi *et al.*, 2019). Public sector organizations are encouraging KM while regarding the fact that the prevailing competitive environment further pushes the business towards rapid response to changes (Beekun & Badawi, 2005; McAdam, Rodney, & Renee Reid, 2001; Stewart *et al.*, 1997). Liu *et al.* (2001) argued that KM is the main source to educate the employees which ultimately augments employee potential and accelerates the integration of KM. KM plays a vital role in an organization to survive in a quality competitive environment. According to Carnero (2000), managers need comprehensive, conversant evidence, and expect confidence in knowledgeable workers based on their level of activity. However, if these experts do not actively continue to deepen their level of knowledge, then this hope is useless. Quality is one of the required components which comes from the minds of the customers, and what they want? And this could only be possible if we have strong integrated customer knowledge. Otherwise, it may not be possible to get competitiveness in the market. Though tremendous KM tools and techniques do not solely affirm effective KM across organizations, it is necessary for innovation and quality competitiveness.

The notion of IWE originated in the Quran, the practices and sayings of Prophet Mohammad who addressed that ‘hard work triggered sins to be cleansed’ and that ‘no one eats better food than he who eats from his work’. For illustration, the Quran frequently speaks of honest and fair practices in trade and also calls for innovativeness through continuous learning. The Quran inspires mankind to obtain technology and learn skills, further highly appreciating those who struggle hard to earn a living. The Quran contradicts indolence and time wastage by either involving in any unproductive activity or remaining idle. Islamic ethics guides humanity not to beg or to live as a burden on the efforts of others (Abeng, 1997). Despite being an assorted concept, the values and ideologies about doing work which has been recognized as work ethic, remain perilous to convince an individual’s intention for KM at the workplace. At present, the multi-dimensional research work on Protestant Work Ethic (PWE) backed by Abeng (1997) has become relevant and broadly reflected in some major research journals. The inherent value of hard work in the ideology of PWE that actualized from the western tradition is similar to a quality admired in civilizations of Islam, also quoted in the Quran, reflected in the sayings and practices of Prophet Mohammad (PBUH) and the early Islamic

scholars. Prophet Mohammed (PBUH) addressed that 'hard work triggered the sins to be cleared' and that 'no one eats better food than he eats from his job. "No profits are better than the income of one's effort", (Wickramasinghe, Vathsala, & Perera, 2010), and more precisely, "work is worship" (Aiken *et al.*, 1991). The concept of KM has progressed and gained meaningful attention in the hospital domain. Hospitals' current working environment, driven by constant innovations and globalized competition thrusts the connotation towards contest and survival. For contemporary managers, the matter of attention is to create new knowledge and innovative practices from the perspective of that knowledge. The introduction of KM procedures in organizations has several benefits - it has a profound impact on innovation and enhances the quality and innovation when the organization is adopting IWE practices. Better management of knowledge in organizations leads them in the right direction and success. Organizations cannot get leverage only from the presence of knowledge until knowledge is managed in the best way. Managing the knowledge, skills, and abilities of employees in a better way remains a current challenge for organizations. Knowledge is regarded as the worthiest asset of any organization. In the fast-growing business environment, and increasing competition in the world, knowledge is considered as wealth in uncertain and complex work processes (Jafari, Sajad, & Sprott, 2013). Organizations distinguish the significance of knowledge among the employees and other resources as a productive factor that cannot be disregarded. KM can build various options for organizations to grow. It can equip organizations with practices, procedures, and innovative strategies to reorganize their business effective ways (Wickramasinghe *et al.*, 2010). The healthcare service industry is considered to offer organizations with various new prospects to evaluate the work progress of complex and large data sets. With constant evolving trends, the data portfolio of departments depends upon electronic, therapeutic, and pharmaceutical records. It is noticeable that if healthcare services comprehend the significance and benefits of knowledge resources as managed properly, they will implement the tools, techniques, and strategies devised by KM.

Regardless of the emerging trend in research to establish and recognize the success factors for knowledge haring, most of the existing studies blatantly ascertain the persistent research on the significance of knowledge sharing and rousing researchers and practitioners (Chatzoglou, & Vraimaki, 2009; Chen, Chen & Kinshuk, 2009). Furthermore, it has been a solid declaration for a better and profound understanding of the factors that shape the behaviors for KM in the public sector organizations (Berg *et al.*, 2008). Outspreading care in medicinal services, related to building and using health information frameworks in organizations can provide more care to patients in clinical settings. Organizations that regard innovation and quality have to adopt changes rapidly,

and therefore, must have a boundless KM framework. The effect would be enhanced if IWE is practiced at the workplace because, in a society like Pakistan, where Islam is the dominant religion, people have great acceptance and respect for Islamic values like IWE. Knowledge is the elementary foundation that can add more value to it and reflect the efficiency and effectiveness in innovation and quality, which would be enhanced if KM is prejudiced by IWS. The basic aim of this study is the development and expansion of a KM framework that would facilitate the health sector to be more innovative and gain quality competitiveness by influencing IWE, which enables them to handle the continuous variations in the fast-growing environment. Proper and absolute determinations of factors' impact will also be beneficial for health policymakers.

Literature Review

KM is the triumph of classified objectives which further helps knowledgeable employees to create, enhance, and use their aptitude to transform the data and information. These employees can openly utilize available sources of data, experience, own abilities, identity, character, culture, and opinions through a process to add a sense of understanding in the data and information, which in turn, creates value for the organization in the eyes of their clients (Bari, Andrea, & Robbins, 2013). IWE require a thoughtful investigation because Muslims realize these ethics as ideal (Nasr, 1984). KM is contingent on the preface, as an individual cannot draw and exploit the complete capacity of his/her brain; likewise, an organization can also not make complete use of its knowledge in their human inventory (Krejcie & Morgan, 1970). KM facilitates the organizations to engender or protect credible and useful information to make probable having access to knowledge that could be utilized at once with particular goals like innovation and quality competitiveness, while adding IWE that would enhance the effect of KM on innovation and quality competitiveness.

Regardless of its significance, there have been few pieces of research undertaken to study the comprehensive aspects of IWE and its effect on innovation. Therefore, the core aim of this study is to discover the direct impacts of KM on quality competitiveness, to explore the factors that may contribute to changes in the provision of IWE among individuals, and lastly, to investigate the role of IWE on KM and quality competitiveness.

Role of Knowledge Management on Product and Quality Competitiveness

Goddard (2020) noted that innovation in a rapidly changing environment is the focus of almost all organizations. Innovation does not have to be spontaneous. Indeed, workplace factors, including KM can have a positive impact on organizational innovation. KM is essential for innovation and the quality of the delivery process. The development of the field of information technology and the intensification of quality competition has transformed many traditional commercial companies from work-reliance

(employment-based companies) into knowledge-based companies. To survive in the business environment, organizations have adopted different approaches, for example, innovation and quality improvement (Linda, Thabane & Patricia, 2020). KM has become popular in various disciplines, and professionals have found that due to extensive empirical research, KM has a positive impact on innovation and qualitative competitiveness (Kianto *et al.*, 2016; Shujahat *et al.*, 2017b). KM is based on the premise that similar to individuals who cannot use the full power of the brain, organizations cannot make full use of knowledge in their hands. KM can help organizations protect or create useful information, empower people with the ability to use knowledge immediately to achieve specific final goals (such as innovation and process quality) to access knowledge, and can understand the organization's success. It can be said that if an organization can expand its use of knowledge by a small speed, it will likely have an incredible advantage, which is beneficial to the organization. Kotze and Plessis (2003) noted that innovation and process quality control are very important. The goal is to create knowledge, move the organization towards improvement, and achieve its desired goals. Innovation a process by which information is acquired, transferred, and combined to create new knowledge and ideas from it, and system quality provides rapid and sustainable innovation. Innovation is called a new selection process or idea, or it may be a new behavior appropriate for an organization that the organization considers valuable to its competitors. Innovation can be another product or service or adaptation of new technologies. Rapid changes in the competitive environment and customer needs prompted people to view the idea of knowledge creation as one of the conditions for creating business partnerships. KM is an important part of developing any organization in the business world. Parlbay (2000) described the incentive mechanism for KM in the development process, and found that KM can enhance innovation and competitive quality in different ways during the organizational process. Rodin (2002) also believed that if people believed that combining elements of knowledge to create a new idea was a possibility, then increasing the possibility of incorporating these elements of knowledge would increase the frequency of new groups, and thus would have a positive impact on new combinations. Gloet and Terziowski (2004) also concluded that there is an important and positive relationship between KM practices and product innovation, so organizations must strive to find a comprehensive method of KM to help enhance innovation and quality competitiveness.

Role of Islamic Work Ethics between Knowledge Management and Product Innovation, and Quality Competitiveness

IWE is the concept of Islam that emphasizes cooperation at work, negotiation as a way to overcome obstacles, avoiding mistakes to meet needs, and striving for

innovation and quality competitiveness (Youssef, 2000). The study of business ethics and its relationship with personal and organizational factors have generated knowledge that encourages product innovation, which has received high attention in the literature (Ali & Al-Owaihian, 2008; Ali, 2005). To investigate how IWE affects the impact of KM on innovation and competitiveness, it is widely required to reflect the professional ethics of Islam in order to reflect individual attitudes towards innovation and quality competitiveness of their organizations. IWE is a virtue. A person must make satisfactory efforts at work, which is an ingenious personal obligation. IWE highlights the role of collaboration and advice at work and is seen as a way to avoid obstacles and mistakes that will improve the impact of KM on innovation and quality competitiveness (Kankanhalli *et al.*, 2005). IWE may differ between different groups of people, but have a positive impact on innovation (Yesil, Sekkeli, & Dogan, 2012). Research conducted by Mortada *et al.* (2014) showed that IWE at the Institute of Electrical and Electronics Engineers had a positive role in KM. Ethics adapts to local conditions and varies from one community to another, but in Islam, professional ethics remain the same because they are derived from the Qur'an and hadith. Professional ethics, such as preventing bribery and avoiding intentional rape of others' wealth (Qur'an 2: 188); abstaining from alcohol (Quran 4:43); avoiding sexual intercourse outside of marriage (Qur'an 24: 2-3); it is not games of chance (Quran 2: 119)); truthfulness (Qur'an 33:39; Quran 5: 119); patience (Quran 25:63); modesty (Quran 24: 125); generosity (Quran 17:24); charity (Qur'an 2:43, 2:83, 2:110); every Muslim accepts honesty and trust (Qur'an 4:58).

In summary, IWE declares that life without work is meaningless, and everyone's moral obligation is to participate in economic activities (Ali, Abbas, 1992). Knowledge is the basis for adding more value to the contemporary business world and achieving innovation and specific competitiveness.

Hypotheses

Four hypotheses have been investigated in the health care industry of Pakistan to describe the impact of KM practices and competitive advantage. Following hypotheses are formulated (from H₁ to H₄) for the current study:

H₁: Knowledge Management has a significant and positive impact on innovation

H₂: Knowledge Management has a significant and positive impact on quality competitiveness

H₃: Islamic Work Ethics plays a moderating role between knowledge management and innovation

H₄: Islamic Work Ethics significantly moderates the relationship between knowledge management and Iuality competitiveness

Research Instrument

The KM scale, developed by Darroch (2003) comprises three dimensions; KM, knowledge dissemination, and knowledge responsiveness, which were utilized to conduct this study. Quality competitiveness was measured using the construct by Byrd *et al.* (2001). The five-point scale has been adopted from prior validated research instruments, where 1 meant strongly disagree and 5 meant strongly agree, to measure the construct of IWE (Alhyasat, 2012).

Data Collection

Initially, the research methodology discussed above comprehensively presents the entire procedure the researchers have adopted to solve the issues identified in the research problems. However, through using the primary research method for this study, data has been collected to figure out the relationship between variables and to find a solution to the indicated problem. The target population of the research study was taken from the healthcare industry and data has been gathered from the hospitals in Islamabad and Rawalpindi. In order to collect data from the available sample of the study, a disproportionate sampling technique was utilized in this research. The questionnaire of the research had been constructed using previously validated instruments for survey and then it was used in the organization's natural settings. Similarly, the questionnaire is pre-codified. The sampling frame used for this research study was from registered public and private hospitals. As far as the respondents were concerned, a total number of 250 respondents were selected with the margin error of 3.5% and 96.5% confidence interval by using statistical formula (Krejcie & Morgan, 1970). This has been the highest citation for sample calculation. The hospitals were located in different areas of Rawalpindi and Islamabad. Therefore, as per recommendation by the researchers (Krejcie & Morgan, 1970) of the population being located in different areas, the convenience sampling was the most effective technique for attaining a representative sample from the target audience (respondents) in comparison to the simple random sampling technique. The cluster might consist of a specific area, town, country, etc. In the case of this research, ten respondents had been taken from each of the Islamabad and Rawalpindi hospitals. Thus, convenience sampling had been used for the selection of the respondents on the firm level.

Data Analysis and Results

Two important tools used in the research for the data analysis were SPSS and AMOS. SPSS is utilized for composing data sheets by extracting information from the gathered data of the target population under study. Furthermore, for the acceptance of the hypothesis at a significance level of .05, direct and indirect effects have been utilized. Structural Equation Modelling, which is regarded to be one of the most reliable methods

for path analysis is also used. The generated result indicate that KM has a positive impact on competitive advantage, while IWE have a moderating impact. This regard that the overall model was fit and all values lie within the acceptance range. Thus, hypotheses H₁, H₂, H₃, H₄, and H₅ were found supported.

Results and Discussion

The research validates hypothesis one i.e. H₁ that KM is positively associated with innovation. Moreover, the correlation coefficient R=.49 is less than the p-value <.05, which further confirmed that there is a significant positive relationship between these two variables. The beta coefficient value (PI) is .38 at p-value <.05, declaring that KM is considered a major component of attaining innovation and competitive advantage and it has an important part in the beta coefficient. This illustrates that in order to foster the growth of the organization, firms should emphasize the KM system. It can be concluded that the findings of this research thesis are justified and validated as they are almost similar to the findings of the previous studies.

Table 1: *Summary of Hypotheses Results H₁-H₂*

Connection Between Variables	Beta value	Critical Value	P-value	Decision / Remarks
β ₁ (INO←KM)	0.69	12.31	0.00	Supported
β ₂ (QC← KM)	0.81	16.21	0.00	Supported

Note: KA= Knowledge Management, INNO = Innovation, QC = Quality Competitiveness

Moderation Analysis

Similarly, H₃, IWE significantly validates the relationship between innovation and KM, is found supported. It is shown that KM with innovation demonstrated a .038 beta coefficient value at a significance level of .05. Moreover, the conditional indirect impact at each level is found substantial. The relationship of KM with the IWE (moderator) regressed considerably with innovation, as indicated by the beta coefficient value of .141 at .05 significance level. The findings validate H₃ as IWE moderates the linkage between innovation and KM.

Table 2: *Model Coefficients for Conditional Indirect Effects of Knowledge Management on Innovation through Islamic Work Ethics*

Antecedent	Consequent							
	<i>M(KM)</i>			<i>INNO (Rep. Int.)</i>				
	<i>Coeff.</i>	<i>SE</i>	<i>P</i>	<i>Coeff.</i>	<i>SE</i>	<i>P</i>		
<i>M(KM)</i>	-	-	-	b_1	.304	0.147	<.04	
<i>V (IWE)</i>				b_2	.807	0.206	<.002	
<i>M X V</i>	---	---	--	b_3	.191	0.119	.003	
Constant	i_1	3.282	0.231	<.002	i_2	.331	0.221	<.002

KM = Knowledge Management (Independent Variable), CA = Competitive advantage (Dependent Variable), IWE= Islamic Work Ethics (Moderator)

In the approach of testing interaction between variables, KM was treated as a predictor against innovation, which is the dependent variable in the presence of IWE, which is the moderator. Consequently, following the guidelines of the research conducted by Aiken and West in 1991, the responses were organized and stored in ascending order and divided into two major groups on the values of the moderator. A scatter plot diagram was drawn and slopes were evaluated for low- and high-level values of the moderator i.e. IWE. Along with this, interactional based regression is used to explain the statistical significance which is indicated in Table 2. Through this analysis, it is identified that IDV KM was strongly related to innovation at higher levels of IWE. Thus, results showed that regression is .807 as compared to the medium regression of .441 and low levels regression of .209. This result implies that in the presence of higher levels of IWE, the effect of KM on innovation increases.

Table 3: *The Model Coefficients showing the Indirect Effect of Knowledge Management on Quality Competitiveness in the presence of Islamic Work Ethics*

Antecedent	Consequent							
	M(KM)			QC (Rep. Int.)				
	Coeff.	SE	P	Coeff.	SE	P		
M(KM)	–	–	–	b_1	.204	.148	< .05	
V(IWE)				b_2	.781	.620	<.001	
M X V	---	---	--	b_3	.072	.432	.002	
Constant	i_1	3.282	0.231	< .002	i_2	.421	.983	<.003

KM = Knowledge Management (IDV), QC = Quality Competitiveness (DV), IWE= Islamic Work Ethics (Moderator)

Depicting upon the research of evaluating the interaction between variables, KM was treated as the predictor against quality competitiveness in the existence of IWE. Consequently, following the guidelines of the research conducted by Aiken and West in 1991, the responses were organized and stored in ascending order and divided into two major groups on values of the moderator (Beekun & Badawi, 2005). A scatter plot diagram was drawn and slopes were evaluated for low- and high-level values of IWE. Along with this, in Table 3, the formal statistical significance is explained using the interactional based regression model. The result obtained through analysis claims that KM was strongly related to quality competitiveness at higher levels of IWE. Thus, results showed the regression of .781, as compared to the medium regression of .432, and low levels regression of .232. The result implies that the impact of KM on innovation is increased in the existence of higher levels of IWE.

Managerial Implications and Recommendations

The first recommendation is that companies need to make an effort to develop capacities related to KM in organizations by introducing IWE within the internal structure, before accommodating the external environment, where they have to maintain relationships with customers and suppliers. Second, it is recommended that managers should bring innovation within the internal structure of public and private hospitals. This step is essential for an organization to attain a competitive advantage. Along with that, it is indicated by the various other research studies that organizational innovation is dependent on KM and it is enhanced through introducing IWE as a moderator between KM and innovation in the organization. Third, it is regarded that the level of innovation in a particular organization is highly dependant on the previously accumulated knowledge related to that sector. As it is claimed that a crucial element for attaining a

competitive advantage is to bring innovation in the internal structure of the organization, especially in the healthcare sector thus, innovation should be ensured in the organization through introducing KM techniques in this sector. Similarly, for hospitals, not only internally generated knowledge is necessary but also the knowledge gathered from external sources is crucial. In fact, external knowledge is equally essential for hospitals in their day-to-day routine. Lastly, knowledge acquisition, handling, and storing it involves gathering information from various sources like suppliers, customers who are the ultimate beneficiaries, external consultees', and experiences from various related institutions. Thus, it is not only important for the organization to store gathered knowledge within the firm, but also important for that organization to distribute it to the rest of the hospitals. Thus, for that purpose, an atmosphere should be created that fosters common understanding, fluent, smooth, and face-to-face communication processes among these health organizations.

Moreover, certain other strategies need to be developed and implemented in hospitals that should be related to organizational innovation to improve the performance of hospitals, employees, and for KM. For instance, top management and employees should invest in introducing innovative capabilities.

For performance enrichment, they need to introduce strategies that add to innovation. Knowledge sources and IWE should be introduced and enhanced in the organization for the development of innovation, which will be the major source for competitive advantage.

Limitations and Future Direction of the Research

In this study, the significance of KM for an organization has been discussed. However, certain arguments are related to KM and require to be addressed to attain insight regarding the concept of KM. Furthermore, the need of the hour is to identify how adequately is the KM phenomenon adopted and its impact on firms' competitiveness and capability. Normally, historical evidence indicates that research studies are conducted in various settings, especially in the West, and come up with diversified outcomes which demand future research studies to be conducted in various other settings to obtain more validated results. This research study has been administrated in the scenario of Pakistan's hospital industry. There are very few research studies conducted before in this sector in Pakistan, according to the evidence presented by researchers. Thus, the present study is only focused on the hospital industry of Pakistan. However, future data may be gathered from other sectors as well, while other variables like organizational learning and organizational psychological capital may be added up to extend the research area.

Conclusion

This research article offers a theoretical framework and empirical assessment of the multidimensional relationship among innovativeness, KM, and IWE. The study has been carried out to relate KM and IWE variables. The study has also determined the variables to which KM is related. The finding indicates that there is a relationship between KM capabilities and innovation capabilities. This means KM is significantly related to innovation in the presence of IWE. The innovativeness of the organization increases in the presence of KM and IWE. Ultimately, researchers and scholars claim that there is a positive correlation between KM and innovation in the presence of IWE.

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