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An Investigation of the Impact of Knowledge Management on Human Resource Performance in Management of Keshavarzi Bank Branches in Tehran

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Abstract

This article attempts at several foci. Its main objective is to explore the impact of knowledge management (KM) on human resource (HR) performance in management of Keshavarzi bank branches in Tehran. It also considers prioritization of various elements of HR performance and proposes suggestions for improvement of performance through utilization of KM components. For purposes of this study, a questionnaire, including 21 questions, was implemented. First, reliability analysis was conducted to identify and eliminate irrelevant variables. The researchers also used Kolmogorov-Smirnov test to consider the normality of variables' distribution. Friedman rank order test was also performed on employee performance components. Finally, to analyze the impact of KM on employee performance and its components, one-sample t-tests were performed. In light of the results, KM significantly influenced HR performance as well as all performance components, except for environment. Directions for further research are also proposed.

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1. Introduction

“The success of a firm lies more in its capabilities related to knowledge and learning than in its physical assets.” (Noh, Kim, & Jang, 2014, p. 1)

Nowadays, the role of knowledge management (KM) and the processes for managing it has become vital for the survival of organizations. Although KM is an evolving paradigm in management (Gourlay, 2001), it still plays a strategic business function in organizations and influences human capital, teamwork, and overall organizational performance and effectiveness (Feng, Chen, & Liou, 2005; Lee, Lee, & Kang, 2005; Marques & Simon, 2006; Yenyurt, Cavusgil, & Hult, 2005). Among different organizations, performance improvement of banks, as intermediaries among monetary and financial markets and organizations active in different economic sectors, is of prominent importance. Improvement of bank performance directly and severely impacts improvement of different economic sectors. Additionally, banks and organizations, in general, owe their performance improvement to employee performance improvement. Thus, a particularly interesting question for organizations is how to improve organizational performance which, in itself, entails the question of which factors lead to improved HR performance. As conceptualized in literature, the semiotic link between knowledge and performance is of paramount importance to success and well-being of organizations (Akdere, 2009). Furthermore, studies have found that effective management of knowledge is a valuable source of competitive advantage (Nahapiet & Ghoshal, 1998). These have given rise to increased attention to KM. This possible has even had greater impact on bank and has, indeed, become a cause of major concern for them.

It should also be noted that organizations which recognize the critical importance of KM appoint chief knowledge officers for knowledge creation, diffusion, and utilization and establish KM systems. An effective mechanism for employee and organizational performance improvement is designing and establishment of KM systems. Such a system enables an accurate definition of knowledge and information, knowledge development, and knowledge sharing which brings about improvement of employee performance. The debate over the role of KM in organizations has become more complex during the past decade because the nature of knowledge utilized and consumed on a daily basis in a given organization has also become complex due to continuous progress in technological advances and inventions and their implications for the workplace (Ciborra & Andreu, 2001; Dutta, 1997; Gottschalk, 2000).

Myriad of factors may influence HR performance in Keshavarzi bank, to name just a few, job satisfaction, appropriate indicators of evaluation, non-discrimination among employees, job security, suitable work environment, and appropriate management styles. This article's aim is to contribute to an improved understanding of the impact of KM on HR performance. It addresses these related questions: 1) Does KM influence HR performance? and 2) Does KM influences components of HR performance? The article goes on to consider how employee performance may improve in Keshavarzi bank branches in Tehran.

2. Literature

A precise definition of knowledge is central to KM discussions. In order to propose a clear definition of knowledge, first different levels of KM hierarchy should be examined namely data, information, knowledge, and science.

The first level of KM is data which includes special numbers, figures, diagrams, or characteristics derived from observation, experience, or estimation. Data, by themselves, do not carry a specific meaning. Rather, one can regard data as raw material for decision-making. Information forms the second level of KM. It includes data in a specific area. At this level, data is classified, recycled, and organized to be able to carry meaning. In other words, when data is logically classified for a particular purpose, it is transformed into information. (Jamshidi & Mirabi, 2011).

When information is analyzed, processed, and inserted into a text, it is converted into knowledge. In fact, knowledge includes inferring and identifying uncommon patterns, underlying trends, and exceptions in data or

information. When knowledge is used to make effective decisions, improve decision-making and decision quality, and when productivity and profitability are aimed at, knowledge turns into science (Jamshidi & Mirabi, 2011).

The relations among data, information, and knowledge are by no means absolute and hierarchical. It is Individuals and conditions that determine the existence and nature of data, information, or knowledge. It is imperative to mention that knowledge is more complete than information and information is more complete than data (Figure 1).

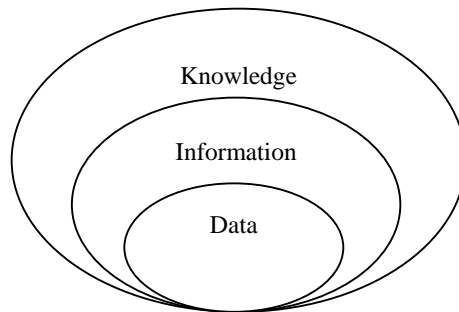


Figure 1. Relations among Data, Information, and Knowledge

Many scholars have unanimously identified four types of knowledge, namely explicit, implicit, personal, and social knowledge. Explicit knowledge is tangible and can be described formally and systematically. This type of knowledge is independent from employees. Rather, it lies in books, information systems of computers, and other organizational documents, and is also codifiable and verbally expressible. This type of knowledge can be easily transferred from one person to another through speech or writing (Jamshidi & Mirabi, 2011).

However, implicit knowledge is tangible and cannot be easily accessed because its content and sources are inside the individual's mind. It is acquired through experience and operational learning and is, in fact, unrecorded knowledge within organizations. The proverb "Man knows more than he utters" refers to the existence of implicit knowledge. This type of knowledge is deeply embedded in subconscious mind, and, thus, few other than the experts can gain access to it and describe it. It is embodied in the form of ideas, facts, assumptions, questions, decisions, guesses, and thoughts which hardly turn into documents and whose mastery is a daunting, if not impossible, task (Jamshidi & Mirabi, 2011).

Personal knowledge resides in the individual and has roots in their personal actions. Social knowledge, however, lies in social and cultural systems of an organization. Many scholars argue that knowledge resides in man's mind and cannot be easily identified or transferred from one person to another. It is believed to lie in experiences, beliefs, values, and culture of a person or an organization. In fact, knowledge is specific property of people or organizations and is seldom copied by others. Such knowledge provides competitive advantage for the individual and the firm.

KM is a method for simplification and improvement of the process of creating, sharing, distributing, capturing, and understanding knowledge in a company (Karlsen & Gottschalk, 2004). According to Bounfour (2003), KM is a set of procedures, infrastructures, and technical and managerial tools designed for creation, sharing, and implementation of information and knowledge inside and outside organizations. The Challenge of KM is one of how to generate and leverage collective knowledge in an organization to create value that leads to competitive advantage (Zhang, 2007). KM is an approach to managing and increasing an organization's knowledge assets, which might include knowledge of organization's finances, processes, personal services, products, and customers (Cope, Cope, & Hotard, 2006). It provides the body of knowledge in organizations with an organizational structure. Therefore, it creates a unique structure for the knowledge basis of organization (Plessis, 2007). Alavi and Leidner (2001) believe that KM is managing knowledge through organizational and systematic processes to organize,

stabilize, apply, and share both explicit and implicit knowledge of employees, improve organizational performance, and create value (Hung, Huang, & Lin, 2005).

As Figure 2 shows, Alavi and Leidner (2001) identified four primary organizational KM processes, namely knowledge creation, knowledge storage and retrieval, knowledge distribution, and knowledge application.

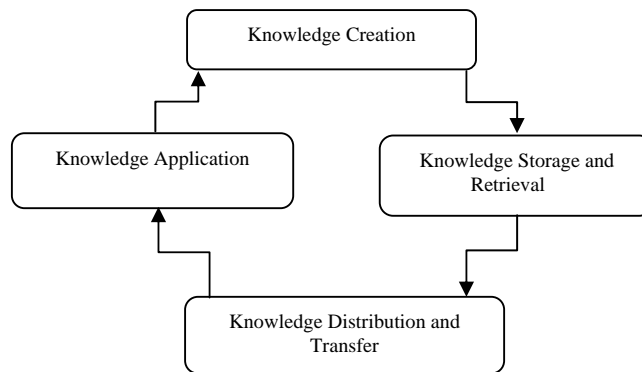


Fig 2. General Model of Knowledge

The first process, which is knowledge creation, involves activities associated with knowledge entry into the system, namely development, discovery, and capture and understanding. It is a process in which new knowledge is created or the current content of knowledge is replaced with new content (Alavi & Leidner, 2001). This latter process is called creating knowledge by evolution (Snider & Nissen, 2003). A whole project team or part of it might be recipient of knowledge transfer. Knowledge may be generated collectively by a project team. This method of knowledge creation is emphasized by individuals who regard knowledge as a social product. Some examples of tools for collective knowledge creation are meetings, discussions, and group work. The newly created knowledge may be stored in organization knowledge repositories or immediately transferred to other members (Akdere, 2009). The second process, i.e. knowledge storage and retrieval, deals with activities which make the knowledge permanent in the system. Scholars have unequivocally argued that the key factor in accomplishing this is organizational memory which pertains to the ability of an organization to store and maintain knowledge. According to (Blessing, Goerk, & Bach, 2001), the rights to knowledge repository maintenance are restricted to people working at the organization level. In addition, unnecessary knowledge is not placed in the repository. By applying such organizational solution redundant placement of the same knowledge in the repository is also avoided (Akdere, 2009).

The third stage, knowledge distribution and transfer, involves knowledge flow from one sector or individual to another. It includes relationships associated with translating, transferring, interpreting, and recycling of knowledge. According to community perspective on KM, presence of wide-ranging, positive relationships among organization's members is a basic prerequisite for knowledge transfer (Akdere, 2009). In fact, transfer is a method for passing on knowledge. It consists of communication between two parties, the sender and the receiver. The roles of sender and receiver may be played by whole teams or individuals (Alavi & Leidner, 2001). Another type of knowledge passing is knowledge sharing, which is a pre-requisite to quality management. Ultimately, knowledge application represents activities related to execution of knowledge in organizational processes. Knowledge application is the major process of micro-knowledge life cycle. In this process knowledge is directly applied to task performance or problem solving. It may be possessed and applied by individuals or teams (Ajmal & Koskimen, 2008). According to Alavi and Leidner (2001), companies benefit not from mere existence of knowledge, rather from its proper application.

3. Research methodology

The issue of KM has been of longstanding interest to both researchers and practitioners. Research has explored the relationship between KM and performance. However, to the best of our knowledge, few studies have addressed the impact of KM on organizational performance. The present research will hopefully help untangle the relationship between KM and capability to achieve performance excellence. For purposes of this research, for the independent variable (KM), Alavi and Leidner's (1999) model and for the dependent variable the 1980 ACHIEVE model of Heresy and Goldsmith were implemented. The former consists of culture, information, and technology, and the latter, HR performance, includes and, actually, stands for ability, clarity, help, incentive, evaluation, validity, and environment. The present research is widely concerned with the effect of KM on HR performance components. It seeks answer to two sets of hypotheses, a primary (hypothesis 1), and a series of secondary (hypothesis 2) hypotheses.

hypothesis 1. KM significantly impacts HR performance.

hypothesis 2. KM significantly influences HR performance components, namely ability, clarity, help, incentive, evaluation, validity, and environment. Therefore, hypothesis 2 consists of 7 sub-hypotheses which are described below.

hypothesis 2-1: Evaluation is considerably influenced by KM.

hypothesis 2-2: KM has great impact on incentive.

hypothesis 2-3: KM significantly influences environment.

hypothesis 2-4: KM has a major bearing on ability.

hypothesis 2-5: Clarity is strongly influenced by KM.

hypothesis 2-6: KM exerts strong influence on help.

hypothesis 2-7: KM greatly impacts validity.

Alavi and Leidner (1999) identified three major dimensions of KM, namely informational, technological, and cultural. In informational dimension, managers, rather than regarding KM as a system for knowledge storage and retrieval, consider it a means to trace who maintains knowledge and transfers it. In technological aspect, however, managers link KM with available technology. Such technology forms the basis of organizational technology including data, intranet, web, and existing tools such search engines, multi-media materials, and decision-making tools. Identified technology capabilities include IT infrastructure, integrated databases, interoperability of existing systems, expert systems, and a common set of web and e-mail products. Finally, in cultural dimension, researchers have identified organizational learning, communications, and nurturing intellectual property as elements of KM. Cultural capabilities identified include teamwork and knowledge sharing (Wild & Kenneth, 2008). Without an appropriate cooperative culture based on trust, KM strategies cannot be successfully implemented. If organizational culture does not facilitate sharing and distribution of knowledge, KM will face challenges.

4. Measures

Oxford English dictionary defines performance as execution, application, or performing any planned or arranged task. Such a definition not only encompasses inputs and outputs, but also relates performance to accomplishment of a task as well as to its outcomes. Therefore, performance can be defined as behavior or the method organizations, groups, and individuals adopt to perform a task.

In our country governmental sector plays a substantial economic role. Accordingly, increased efficiency of this sector can dramatically impact the whole economy and influence economic trends, even in non-governmental sectors. Since Keshavarzi bank is a governmental organization, enhancement of its HR performance may improve performance and utilization levels in other sectors, such as organizational, industrial, and agricultural sectors, and ultimately the whole economy. Hence, the importance of HR performance. Past studies have investigated the relationships among enterprise performance, KM, and technological capability (Gokmen & Hamsioglu, 2011, Wu, Yu, & Wu, 2012).

Heresy and Goldsmith in their ACHIEVE model have proposed seven main factors which affect HR performance, namely ability, clarity, help, incentive, evaluation, validity, and environment. Ability represents individual knowledge and skills which render better accomplishment of a task or duty possible. Well-trained employees can make more efficient use of existing assets and, subsequently, offer better products (Yaghubi et al., 2011). Clarity refers to understanding and acceptance of conventionalized methods for accomplishing tasks and the time and place to implement those methods. Employees can fully grasp the problem only if organizational goals and their method of attainment and priorities are exactly clarified for them. Help refers to organizational support which employees need in order to successfully accomplish tasks. Organizational support factors include, to name just a few, budget, tools and equipments needed to accomplish the task, help from other agencies, availability of the product, high product quality, and adequate supply of HR (Yaghubi et al., 2011). Evaluation deals with ensuring that employee behavior and performance conforms to organizational standards, goals, and expectations. It helps diagnose employee strengths and weaknesses and provides employees with record of their behavior and performance. To evaluate employee performance and behavior, organizations should only rely on accurate information (Abol-alaei, 2010).

Incentive is the desire of individuals to successfully carry out a specific task (Yaghubi et al., 2011). Humans have various types of needs. Some needs are economic, while others are social. Likewise, employees have various needs including reasonable salary, security, belonging to a group, respect, growth and efflorescence, and sense of identity. Striking a balance in provision for these needs helps boost employee incentives to achieve organizational goals and execute relevant plans (Abol-alaei, 2010).

Validity refers to the appropriateness and lawfulness of managers' decisions with regard to HR. Managers are assumed to ensure that employee-related decisions are sensible concerning firm policies and employee rights. Ultimately, environmental factors include competition, changes in market conditions, governmental regulations, and supplies.

The present research fits within the category of applied and descriptive research. The organization under study was Keshavarzi bank branches of Terhan.

The research population was all employees in management of Keshavarzi bank branches of Tehran. Since population size was small, a sample of 68 individuals, equal to population size, was selected for the purpose of analysis.

To answer our research questions, we gathered data through primary, i.e. survey, and secondary (library) methods. For purposes of this study, a questionnaire, including 21 questions, was designed based on a five-point Likert scale.

Both reliability and validity of the questionnaire used were confirmed. After ensuring these two essential components of the measure, the questionnaire was modified to reflect experts' feedback and then administered to participants.

5. Research Findings

Reliability analysis was conducted to identify and eliminate variables which were irrelevant to our research construct and yielded a Cronbach's alpha of .80, which indicates a high level of reliability. To ensure validity, feedback was solicited from several university professors and Keshavarzi bank managers. Both reliability and validity of the questionnaire were confirmed. To analyze the impact of KM and KM components on employee performance, one-sample t-tests were performed. In addition, the researchers used Kolmogorov-Smirnov test to consider the normality of variables' distribution. The test showed homogeneity of variables with a normal distribution. Friedman test was also performed to rank components of KM and employee performance.

Table 1: Number of Respondents According to Age and Education

Levels of Education	Percentage	age range	Percentage
Diploma and lower levels	19.1	20-30	2.9

Associate degree	13.2	30-40	52.9
B.A./ B.S.	47.1	40-50	44.1
M.A./ M.S. and higher degrees	20.6		

AS Table 1 shows, 19.1 percent of respondents had diploma or lower degrees, 13.2 associate degree, 47.1 B.A. / B.S degrees, and 20.6 M.A. / M.S. or higher degrees. 2.9 percent aged 20-30, 52.9 percent 30-40, and 44.1 percent 40-50.

First to ensure reliability of the questionnaire, reliability analysis was performed. Cronbach's alpha was estimated at .80 which is quite high. Kolmogorov Smirnov test was used to consider the normality of distribution of variables. The test showed homogeneity of variables with a normal distribution. The results of this test are provided in Table 2.

Table 2: Normality Test Results

	Evaluation	Incentive	Environment	Ability	Clarity	Help	Validity
Number of respondents	68	68	68	68	68	68	68
Mean	3.60	3.62	3.05	4.21	4.12	3.81	3.60
SD	.65	.67	.68	.45	.44	.58	.82
Z	1.99	1.72	1.64	1.49	1.65	1.30	1.35
Two-tailed Sig	.05	.05	.05	.06	.05	.06	.05

According to Table 2, for all components significance is greater than .05 which indicates that the variables had normal distribution. These allowed us to perform parametric tests.

6. Results

To test our hypotheses, one sample t-tests with a cut-off score of 3 were performed. Analysis results appear in Table 3.

Table 3. T-tests Results

	N	M	t	df	The Value of μ Test			
					Sig	Mean Difference	CI (.95)	
							LL	UL
H ₁	68	3.72	15.58	67	.00	.72	.63	.81
H ₂₋₁	68	3.60	7.60	67	.00	.60	.44	.76
H ₂₋₂	68	3.62	7.66	67	.00	.62	.46	.79
H ₂₋₃	68	3.05	.70	67	.48	.05	-.10	.22
H ₂₋₄	68	4.21	22.14	67	.00	1.21	1.10	1.32
H ₂₋₅	68	4.12	20.83	67	.00	1.12	1.01	1.23
H ₂₋₆	68	3.81	11.51	67	.00	.81	.67	.95
H ₂₋₇	68	3.60	6.05	67	.00	.60	.40	.80

According to Table 3, the hypotheses posed at the beginning of this study were tested and the following results were obtained.

hypothesis 1: KM strongly impacted HR performance. The significance of this component was lower than error probability, which is .5; the upper and lower bounds were positive; and the mean was greater than 3. Thus, hypothesis one was supported.

hypothesis 2-1: KM significantly impacts evaluation. Significance level of this component was lower than .5, i.e. error probability. In addition, since upper and lower levels, respectively UL and LL, were positive, and the mean of this component was greater than 3, the hypothesis was supported.

hypothesis 2-2: KM has a major bearing on incentive. This component's significance level was lower than error probability, i.e. .5. Additionally, since the UL and LL were positive, and mean of this component was greater than 3, the hypothesis was confirmed.

hypothesis 2-3: Environment is strongly influenced by KM. Significance level of this component was higher than error probability. In addition, since the UL was negative, LL was positive, and the mean of this component was lower than 3, the hypothesis was rejected.

hypothesis 2-4: KM has a strong influence on ability. Significance level of this component was lower than error probability; UL and LL were positive; and the mean of this component was greater than 3. Thus, the hypothesis was confirmed.

hypothesis 2-5: The impact of KM on clarity is considerable. This component's significance level was lower than error probability. Besides, the UL and LL were positive, and mean of this component was greater than 3. So, the hypothesis was supported.

hypothesis 2-6: KM significantly influences help. Significance level of this component was lower than error probability; UL and LL were positive; and the mean of this component was greater than 3. Therefore, the hypothesis was confirmed.

hypothesis 2-7: Validity is strongly influenced by KM. This component's significance was lower than error probability. Besides, upper and lower bounds were positive, and the mean was greater than 3. These lead to the confirmation of this hypothesis.

Overall, from among 7 secondary hypotheses 6 were supported. Therefore, generally it is concluded that KM significantly impacted HR performance in the targeted organization. To rank the influence of KM on components of HR performance, Friedman ranking test was performed. The results are provided in Tables4 and 5.

Table 4: Friedman Test Results

N= 68	Chi-square statistic= 130.92	df=6	Sig =.00
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As Table 4 shows, statistically significant differences emerged in the impact of the independent variable, i.e. KM, on dependent variables– components of HR performance. It means, the estimated significance of the seven components of performance is less than .05.

Table 5: Results of Friedman Test for Ranking Components of HR Performance Impacted by KM

Questionnaire Factors	Ranked Mean	Rank
Clarity	5.29	2
Ability	5.56	1
Help	4.21	3
Incentive	3.53	5
Evaluation	3.40	6
Validity	3.89	4
Environment	2.13	7

As Table 5 shows, from among 7 components of HR performance the broadest influence has been upon ability, clarity, help, validity, incentive, evaluation, and environment, respectively. The highest impact of KM has been upon ability (M= 5.56). However, Mean of environment is more scattered and is the lowest in comparison with other components.

7. Conclusions and Recommendations

The studies have been performed about the impact of KM on performance. The findings of this research are in line with those of Rajaei-pour and Rahimi (2008). This study revealed that KM impacts all components of HR performance, except for environment. Put differently, KM influences ability, clarity, help, validity, incentive, and evaluation first and foremost. However, its impact upon environment is minimal.

Organizations that create and share intellectual capital can enjoy a dominant position in world markets (Nahapiet & Ghoshal, 1998). Thus, companies should invest largely in knowledge systems and, thus, gain a sustained competitive advantage. Many studies argue that organizations should adopt KM that enables knowledge creation and storage (Alavi & Leidner, 2001). KM is based on resource-based theory that considers knowledge a precious strategic asset. It includes knowledge and information which lie at the heart of human resource development (HRD) practice in workplace. In addition, KM supports both paradigms of HRD, namely learning and performance (Akdere, 2009).

The aim of this article is to contribute to an improved comprehension of the impact of KM on organizational performance and its components. The overall conclusion of this investigation is that KM significantly impacts HR performance, as a whole, and components of HR performance, except for environment. This highlights the need to focus effort on transforming organizations to learning organizations and to enhance learning culture. Personal characteristics of organization leaders and the organizational culture are instrumental in determining data gathering, information sharing, and knowledge creation processes (Bock & Kim, 2002; Marshall & Stohl, 1993). This affects the ability of organization to become a learning organization wherein information is utilized in sense making, knowledge formation, and decision making processes (Desouza & Awazu, 2004; McPhee, Cormann, & Dooley, 2002; Ravishankar & Pan, 2008) and their organizational performance (Choi, Poon, & Davis, 2008; Marques & Simon, 2006).

The present study analyzed the impact of KM on HR performance and its components. The findings suggested that KM significantly influenced ability. Regarding ability, it is recommended that organizations put stress on succession culture and staff empowerment through holding seminars, conferences, taking staff to business-oriented recreations, mentoring, role plays, and management games. Concerning incentive, it is recommended that organizations provide strong support and encouragement for creative employees and those who constantly seek knowledge and let them participate in organizational decision making. The findings also suggest that KM affects clarity. It is, thus, suggested that organizations familiarize employees with their duties, mutual expectations, organizational goals and plans, and criteria for performance evaluation.

Another finding was that KM exerts impact on help, which leads to the suggestion that managers' consent should be obtained in implementing KM strategies. Furthermore, since KM was proved to influence evaluation and validity, it sounds to logic to suggest that organizations place huge emphasis on employees' learning, rather than on their committed mistakes, as well as on attainment of more knowledge, experience, and information on the part of managers which leads to greater validity of organization.

Ultimately, the study indicated that KM does not significantly impact environment. So, creating an environment where information are easily exchanged and shared among employees might help increase employees' knowledge.

There is at least one limitation of this article. The data were obtained in a subjective way, i.e. through using questionnaire. Another limitation is that this study examined the issue only in one city which might not be typical of other parts of the country. Comparisons of different cities might alter our results.

This article however is a start in an area ripe for further research. The importance of processes which determine whether KM can be connected with knowledge performance, namely knowledge processes and cultural context, are seldom targeted. Future studies could target this issue in Eastern contexts, especially in Iran. Furthermore, this study has examined KM in relation to performance only. Further studies may address KM in tandem with knowledge-based culture and the knowledge process.

The researchers also suggest further research to focus on national difference analysis through investigating the issue across various cultures. In addition, objective data could also be utilized in future research.

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