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The Influence of Knowledge Management Capabilities on Organizational Performance: A Study of Private University in Malaysia

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Abstract: ***In today's rapidly changing environment, knowledge is viewed by organizations as a key strategic and competitive resource. Several case studies, applications, and rich literature support the belief that Knowledge Management Capabilities (KMC) plays a vital role in organizational success. The purpose of this paper is to find the influence of the KMCs' elements on the organizational performance of a Malaysian private university. The literature review is conducted and based on the literature; the paper incorporates elements of KMC that include knowledge acquisition, knowledge application, technology infrastructure, organizational culture, and organizational structure. Data of the study collected from 39 respondents by using convenience-sampling technique. The finding reveals that the five proposed hypotheses are supported. Organizational structure has the strongest influence on organizational performance. Discussion, practical recommendations, and direction for future work are given***

Keywords: Knowledge Capabilities, Culture, Acquisition, Malaysia

1. Introduction

In today's rapidly changing environment, knowledge is viewed by organizations as a key strategic and competitive resource. Effective management of individual knowledge within the work place has become critical to business success. The importance of knowledge cannot be overstated. Several case studies, applications, and rich literature support the belief that Knowledge Management Capabilities (KMC) plays a vital role in organizational success [1], [2], [3], [4], [5], [6]. KMC is defined as ability of an organization to leverage existing knowledge through continuous learning to create new knowledge [14]. Many researchers have investigated the influence on KMC on organizational performance. However, researchers tend to view KMC differently. While [9] divided KMC to process and infrastructure capabilities, [10] divided KMC to product, customer, and managerial. In this paper, the literature is combined and integrated to develop a model that can suit the environment of the university.

The studies in the field of KMC have largely focused on three major streams: the nature of knowledge; the processes of KM such as creation and sharing of knowledge; and the technical infrastructure of KM [7]. Nevertheless, most of the available literature is investigating the KMC in business organizations [8], [9], [10], [11], [12], [13]. This study is investigating KMC in educational institution. The study aims to discover the influences of KMC on the organizational performance of Malaysian private university. Issues related to knowledge management have been identified in the university. This includes loss of knowledge and weak knowledge sharing which lead to reinventing the wheel and as a result additional operational cost.

The university is privately owned university focuses mainly on three major; Business Studies, Engineering, and Information Technology (IT). By 2020, the university aims to be a world-class university. The need for effective utilization of KMC in the university is vital to achieve this purpose. This study reviews the existing literature on KMC and organizational performance and develops the research model along with the hypotheses. The paper consists of six sections. Frist section provides the background of the study followed by literature review, conceptual model, and methodology. Next, the paper presents the findings of the study and conclusion with implication of the study.

2. Literature Review

2.1 KMC

2.1.1 Definition of KMC

KMC has been defined by many researchers. There is no universal definition. However, [15] mentioned that the essential of KMC lies in knowledge routines that are commonly driven by learning processes that are conducted by using knowledge processes. Bose [14] defined KMC as "the ability of an organization to leverage existing knowledge through continuous learning to create new knowledge." In the same vein, Liu et al. [16] viewed KMC as the ability to acquire knowledge and to protect this knowledge to encourage staff to share their knowledge. In this paper, the definition of [14] is adopted because the aim of this paper is to identify the influence of KMC on the organizational performance of the university by leveraging its existing knowledge.

2.1.2 KMC Elements

Researchers have viewed KMC elements differently. Gold et al [9] divided KMC into process and infrastructure. Processes include acquiring, converting, applying, and protecting knowledge. According to their view, infrastructure includes organizational structure, culture, and technology.

Simply, [10] viewed KMC as product, customer, and managerial. They added that these three kinds of KMC could be measured by four main dimensions: creation, transfer, integration, and leverage. Fan et al [11] pointed out that KMC could be measured by seven attributes: technology, structure, culture, acquisition, conversion, application, and protection. For [12] KMC, can be explained based on resource based and knowledge based capabilities. Different resources will result in different KMC and influence the infrastructure capability of KMC, including technology, organizational structure, and culture. In addition, the knowledge-based aspects greatly focus on intangible assets, KM process, and managing different kinds of knowledge. These aspects include expertise, learning, and information capabilities.

Miranda et al. [13] conceptualized KMC in specific stocks include human resource, technology infrastructure, and strategic templates and how to organize three key process include institutionalization, and internal and external learning processes. Their findings shows processes and stocks dimensions have strong influence on return on assets (ROA). Chen and Fong [15] employed the dynamic capabilities view (DCV). They pointed out that the core components of KM include people, processes, technology, organizational culture, and structure. Tseng [8] referred to processes of KMC to include knowledge conversion and protection, while KMC infrastructure includes organizational culture, structure, and technology.

Approaches of identifying the elements of KMC are similar. Most of the researchers refer to processes and infrastructure. This paper follows the same approach. Processes are operationalized to knowledge acquisition and application this is because it is believed that acquiring knowledge and applying knowledge are very important for the utilization of KMC at the university. For KMC infrastructure, it includes organizational structure, culture, and technology. This is because these elements are essential for effective KMC deployment [9].

2.1.2.1 KMC Process

a. Knowledge Acquisition

Mills and Smith [17] view knowledge acquisition as the degree to which an organization to develops or creates knowledge resources across functional boundaries. It is enabled by the processes and activities of interaction, feedback, innovation, brainstorming, and benchmarking. Knowledge acquisition reflects in part, a subset of an organization's absorptive capacity. It reflects an organization's ability to use its knowledge to create advantage, but does not guarantee that knowledge will be used effectively [18]. Research suggests strong and positive links between knowledge acquisition and performance measures. For example, [19] showed that knowledge creation practices were significantly related to organizational improvement. Further, when acquired knowledge is used appropriately, a significant and positive link is observed between knowledge acquisition and organizational performance [20]. Based on above, this paper proposes a positive link between knowledge acquisition and organizational performance of the university.

b. Knowledge Application

Bhatt [21] stated that ''knowledge application means making knowledge more active and relevant for the organization in creating value''. Bhatt [21] suggested that in order for organizations to create value they need to apply knowledge to their products and services by various means such as repackaging available knowledge, training and motivating its people to think creatively, and utilizing people's understanding of the organization's processes, products and services. Many companies encourage organizational learning in which individuals and teams can apply the knowledge gained to initiatives' such as new product development with the ultimate aim of improved performance in areas such as ''speed to market'' and innovation [22]. For knowledge to influence organizational performance, it has to be used to support the organization's processes. Hence, it is through utilization that acquired knowledge can be transformed from being one of the potential into a realized and dynamic capability that impact organizational performance [23], [20], [24]. Building on above, this paper predicts that knowledge application influences positively the organizational performance of the university.

2.1.2.2 KMC Infrastructure

a. Technology

The technology element of knowledge infrastructure comprises the IT systems that enable the integration of information and knowledge in the organization as well as the creation, transfer, storage and safekeeping of the organization's knowledge resource [25], [26]. Powell and Dent-Micallef [25] in their study of US companies, found that IT in and of itself did not enhance organizational performance, but could increase organizational performance when combined with other human and business assets. Although technology is not always linked directly to organizational performance, research shows that when combined with other resources IT can enhance performance and lead to sustained advantage [25], [27]. Technology infrastructure may not contribute directly to organizational performance; it is an essential enabler of other knowledge resources such as knowledge acquisition and knowledge application processes, which may themselves enhance organizational performance [20]. Building on the above literature, the paper assumes that technology infrastructure indirectly influence the organizational performance of the university.

b. Organizational Culture

Culture in the context of KM is considered a complex collection of values, beliefs, behaviors, and symbols that influences KM in companies [28]. Hence, a knowledge-supporting culture is considered as one of the most important factors influencing KM and the outcomes from its use [28], [29], and [1]. Aydin and Ceylan [30] showed that cultural dimensions were related to organization performance.

Changes in organizational culture are regarded as necessary for implementing knowledge management programs [21].

Turban et al. [31] pointed out that the ability of an organization to learn, develop memory, and share knowledge is dependent on its culture. Thus, positive changes in culture are expected to influence organizational performance and add momentum to other improvements taking place elsewhere in the organization [32]. Thus, it is proposed in this study that the organizational culture influence positively the organizational performance of the university.

c. Organizational Structure

Organizational structure comprises the organizational hierarchy, rules and regulations, and reporting relationships [33]. It is considered as means of co-ordination and control whereby organizational actors can be directed towards organizational effectiveness. KM theorists largely conclude that changes in an organization's structure, such as moving from hierarchical to flatter networked forms, are essential for the effective transfer and creation of knowledge in the organization [9], [34], [35]. Such changes by extension have been positively associated with improved outputs in both service and financial terms [36]. Building on the literature, this paper assumes that organizational structure influence positively the organizational performance of the university.

2.2 Organizational Performance

2.2.1 Definition of Organizational Performance

Lebans and Euske [36] define organizational performance as "a set of financial and nonfinancial indicators which offer information on the degree of achievement of objectives and results. Similarly, Richard et al. [37] pointed out that organizational performance encompasses three specific areas of outcomes: (a) financial performance, (b) product market performance, and (c) shareholder return. In agreement with the recent trend of defining organizational performance, [38] pointed out that, performance can be estimated based on quantitative and qualitative approach. This paper is adopting the definition of [36]. The paper aims to employ financial and non-financial indicators to measure the organizational performance.

3. Conceptual Model

Previous studies on KMC and organizational performance have shown that KMC influence positively the performance. Gold et al [9] proposed that elements of KMC influence positively the organizational performance. Knowledge acquisition and application has been identified as effective factors that influence organizational performance of business organization [11], [17]. Similarly, previous studies have shown that there is a link between infrastructure capabilities that include organizational culture, organizational structure, and technology and performance. For example, [28], [29], and [30], found a positive link between organizational culture and the performance of business organizations. Similarly, organizational structure was also identified as a factor that influences directly the performance of business organization [36]. Nevertheless, the technology found to have indirect relationship by other researchers [25], [26], [20].

Based on the above discussion and literature, the research model of this study is presented in Figure 1. Independent variables are the elements of KMC. This includes processes and infrastructure. Processes include knowledge acquisition and application. This is because knowledge must be acquired and created. Next, the knowledge must be utilized to increase the performance of the organization. This has to be supported by strong culture and smooth structure along with the technology that can facilitate the knowledge processes.

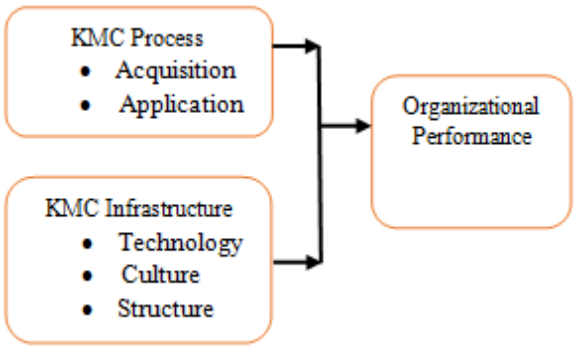

Figure 1: Research Model

Based on above, the hypotheses of this paper are as follows:

H1: knowledge acquisition influences positively organizational performance

H2: knowledge application influences positively organizational performance

H3: Technology indirectly influences organizational performance

H4: Organizational culture influences positively organizational performance

H5: Organizational structure influences positively organizational performance

4. Methodology

This paper is employing a quantitative approach; the population of the study is the entire postgraduate students, academic and non-academic staff at the university. A non-probability convenience sampling technique is employed in this paper. The choice of the techniques is due to the time and the accessibility of the respondents. A total of 39 respondents have participated in this study. Sekaran [39] suggested that a sample size of between 30 to 500 samples would be sufficient for most studies. Items of the measurement are 32 items and they were borrowed from many sources. Knowledge acquisition and application are borrowed from [40]. The alpha of the knowledge acquisition is 0.79 and for knowledge application is 0.79. Items of technology infrastructure, organizational culture, and structure are borrowed from [41]. Alpha of infrastructure is 0.70 and for organizational culture and structure are 0.72 and 0.77 respectively. This indicates that the measurements are reliable because the alpha is greater than 0.70 [39].

5. Findings and Discussion

5.1 Respondent profile

A total of 39 respondents have participated voluntarily in this study. The majority of the respondents are males and their age in the group age of 25-35 years. All the respondents are postgraduate's students and they are currently pursuing their postgraduate studies. Table 1 shows the descriptive information of the respondents.

Table 1: Descriptive Information of the Respondents

Age	*Label*	*Frequency*	*Percent*
Age	less than 25 years	2	5.1
	25-35 years	35	89.7
	36-45 years	2	5.1
	Total	39	100.0
Gender	Male	33	84.6
	Female	6	15.4
	Total	39	100.0
Education	postgraduate studies	39	100.0
Job	Postgraduate student	39	100.0

5.2 Hypotheses Testing

The hypotheses of this paper are tested by using regression analysis. Table 2 presents the coefficient.

Table 2: Coefficients [a]

Model		*Standardized Coefficients Beta*	*t*	*Sig.*
1	(Constant)		3.47	0.001
	Knowledge Acquisition	0.181	0.957	0.005
	Knowledge Application	0.269	1.616	0.006
	Technology Infrastructure	-0.261	1.485	0.007
	Organizational culture	0.209	1.295	0.004
	Organizational Structure	0.357	2.124	0.041

a. Dependent Variable: Organizational Performance

The paper has developed five casual hypotheses. For the first hypothesis, a knowledge acquisition is proposed to be influence the organizational performance of the university. The coefficient shows that there is positive influence at beta of 0.181 and p-value less 0.05 (Beta= 0.181, P-value= 0.005). Thus, H1 is supported. This findings is consistent with [20] who pointed out that if knowledge acquisition done properly, it will have influence on the organizational performance. Further, the finding is also in agreement with the findings of [17] who found positive link between the two variables.

For the second hypothesis, the influence of knowledge application is positive and significant (Beta= 0.269, P-value= 0.006). The p-value is less than 0.05 and thus, H2 is supported. This finding is in agreement with the findings of the literature. Researchers who tested the influence of knowledge application on the organizational performance found positive link between the two variables [20], [23], [24].

For the third hypothesis, the influence of technology infrastructure is indirect as it is proposed (Beta= -0.261, P-value= 0.007). The p-value of the relationship is less than 0.05 and thus, H3 is supported. This finding is consistent with [25] who found that IT could not enhance the performance but it could be associated and combined with other human and business assets to increase the performance. Similarly, the finding of [20] is consistent with the finding of our study.

For the fourth hypothesis, the influence of organizational culture is positive and significant (Beta= 0.209, P-value= 0.004). The p-value is less than 0.05 and thus, H4 is supported. This finding is consistent with [28], [29], and [1] who found empirically that a supportive culture can have positive influence on the organizational performance.

For the fifth hypothesis, organizational structure is found to the highest contributors of the organizational performance. The influence is positive and significant (Beta= 0.357, P-value= 0.005). The p-value is less than 0.05 and thus, H5 is supported. This finding is consistent with researchers who investigated the influence of organizational structure on organizational performance. For example [9], [34], [35] have found positive link between the organizational structure and the organizational performance.

6. Conclusion, Recommendation, and Direction for Future Work

This paper has investigated the KMC and its influence on the organizational performance of private university in Malaysia. A literature review has been conducted to identify the element of KMC and based on the literature; the model of this study was developed. A total of 39 respondent have participated in this study. The number of respondent is due the time limitation and willingness of respondents to answer the survey. The casual effect of the relationship was tested by using regression analysis. The finding confirms our proposed effect. All the tested hypotheses are supported. The highest contributor to the variance in the organizational performance is the structure of the organization.

It is recommended that the university focus more on the technology and IT system that are being used to acquire the knowledge of its employees. Social media could be deployed to link academic staff and graduate students to increase their interaction and participation in knowledge acquisition. Further, in term of knowledge application, the university has to make the existing knowledge available and accessible by the employees so that they can use the existing knowledge to produce new ideas.

In term of technology infrastructure, IT facilities are recommended to have special attention from the management of the university. This is because these facilities encourage the knowledge sharing and provide the employees with the knowledge they required. In term of culture, the management has to support positive and encouragement culture where employees and students are encouraged to innovate, investigate, and conduct experiment to generate new knowledge. Lastly, the structure of the university is recommended to be flat structure and linkages between

colleges must be established to increase the interaction between colleges and produce integrated body of knowledge so that the university can avoid reinventing the wheel.

By reviewing the literature, the element of KMC is lacking the emphasis on knowledge sharing. It is recommended that a knowledge sharing element to be added to the KMC. Further work is encouraged to conduct a study by incorporating knowledge sharing. Further, since the KMC and the knowledge application is a new field of study, much is unknown about the element that can lead to superior performance. It is recommended that a qualitative study to be conducted. Instrument of the study can be focus group or interview with ten experts or academic staff to identify the element of KMC that can lead to superior performance.

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