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DOMINANT SUCCESS FACTORS FOR KNOWLEDGE MANAGEMENT IN ACADEMIC INSTITUTION

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ABSTRACT

The purpose of this study is to identify Knowledge Management (KM) dominant success factors in an academic institute. In today's competitive business environment, KM is increasingly recognized as a significant factor in gaining a competitive advantage. To obtain such competitive advantage, companies must know how to manage organizational knowledge effectively and optimize the knowledge processes within an organization. KM success factors have been investigated in many studies, but there has been no sufficient examination of the dominant success factors of KM in academic institution. There is a need to find dominant factors that can be used to make an accurate assessment of the KM success or effectiveness. A model for KM in academic institution that based on Structural Equation Model is constructed at the end of the study. The proposed model contributes to a better identification of KM dominant success factors; and enables managers of academic institution to have a better understanding of how to improve the management of knowledge in their institution.

Keywords: *Knowledge Management, Dominant Success Factors, Academic Institution, Structural Equation Model*

1. INTRODUCTION

In today's competitive environment, knowledge management (KM) has increasingly become a significant factor in gaining competitive advantage [Chang, 2009]. To gain competitive advantage, companies must know how to manage organizational knowledge by expanding, disseminating, and exploiting it effectively. More than 25% of Fortune 500 companies employ Chief Knowledge Officers and other 43% are planning to do so within a few years (Bose, 2004). Approximately, 81% of the largest U.S. and European companies use some forms of KM [2]. However, it has been difficult for organizations to implement and maintain effective KM programs. The estimate of KM failure ranges from 50% to 70% [26].

There is a great interest in explaining this phenomenon so that organizations can realize the potential of KM. Practitioners are interested in justifying their investment in KM activities and both academics and practitioners also want to understand how to build effective KM systems [15]. This study provides an insight about the KM dominant success factors in academic institution. The obtained insight from this study can enhance understanding of KM critical success factors for better KM efforts. The basic objective of this study is to identify KM dominant success factors and proposed a KM model based on these factors. An extensive literature review is done as a method to find the relevant factors that exists in the past. The next section will explains the theoretical background which provides direction to the study. Section three will discuss an earlier studies done in KM and listed all the KM success factors found in the literature. Section four states the proposed model of KM and section five end the paper with conclusion and future works.

2. THEORETICAL BACKGROUND

Among the subjects of organizational management, a recent focus on KM has emerged [13]. The emergence of KM is attributed to the need for managers to unlock the potential of the organizational members by increasing their ability and willingness to participate in knowledge acquisition, storage, presentation, and application [8]. In the age of high-speed information exchange,

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it is essential for managers to understand the dominant factors related to KM within their industry and, particularly, in their organization. The success of a public organization depends increasingly on how it can collect, deposit and retrieve the knowledge sharing among employees of all organization levels effectively. There is a significant public management challenge for managing knowledge and its depository. Study believes that all organizations use KM tools, but only some of them are able to determine their effectiveness [7]. While studying KM in business has become the norm, there is a strong need to perform similar research in an educational institution [1].

Although positive experiences have already been made with KM and it is being practiced by 80% of the biggest companies worldwide, there has been no sufficient examination on the dominant success factors of KM [18]. Study defined KM success as capturing the right knowledge, getting the right knowledge to the right user, and using this knowledge to improve organizational and/ or individual performance [15]. Although KM success factors have been investigated in many studies, [5], [10], [12], [17], [18], [23]; the dominant factors of KM success are not sufficiently known, and there is a need to find dominant factors which can be used to make an accurate assessment of the KM success or effectiveness in academic institution. The managers would have a better understanding about how to improve KM, if they know what are the dominant factors and their relations.

3. EARLIER STUDIES ON KM SUCCESS FACTORS

A very broad range of factors were reported in the literature which possibly influences the success of KM initiatives. Study in [16] summarized and synthesized the literature on KM or KMS's dominant success factors (CSF) as an ordered set of 12 KM CSFs. These CSFs were identified from 17 studies derived from more than 200 KM projects. However, the study do not define KM success or arrange these factors into a validated theoretical framework. The KM Success Model proposed in [23] is a causal model, where it has three basic dimensions as antecedents to KM success: system quality which deals with the technical infrastructure; knowledge or information quality which deals with KM strategy for identifying critical knowledge and how that knowledge is stored; and service quality which deals with management support and allocation of resources. The model also includes the dimensions of perceived benefit, user satisfaction, and net benefits. These dimensions deal with ensuring that the KM initiative meets the needs of the users and the organization [23]. The study in [12] organized the factors into three categories: managerial influences, resource influences, and environmental influences. Study in [22] stated that the knowledge orientation's level of an organisation is based on seven characteristics: strategy, organizational structure, technology, performance measurement, HRM, culture and level of knowledge explicitness. The study in [10] examined 39 studies, related to the success factors of KM. They argued that not only there was a different understanding about KM, but also the examined matter was diverse.

Likewise, there was neither a structuring of possible success factors undertaken nor was possible dependencies of success factors with each other examined or their potential success in KM. Study in [18] also came to a similar conclusion after checking over 60 studies based on the work done in [10]. In addition a total of 160 KM frameworks have been analyzed by [11]. The study identified four main framework dimensions which are Human being factors, organization factors, Technology and Management process. Human-oriented factors comprises of culture, people, leadership; Organisation which comprises of process and structure; Technology, which comprises of infrastructure and applications; Management process which comprises of strategy, goals and measurement. The study in [18] believes that although there is a broad range of success factors, we can still categorize it into 3 categories: Human being factors, organization factors and Technology. Table 1 shows a summary of previous works in KM success area. As shown in this table, KM success or effectiveness has been assessed using diverse criteria. Some of these factors are regarded as an antecedent and thus necessary for KM success, others can be regarded as a reflection of KM success. However there is no unique model for KM effectiveness or success measurement based on valid factors. The listed of KM success factors in Table 1 are analyzed and compared. Table 2 states the most common success factors proposed by the previous researchers that can be categorized into human being factors, organization factors and technology. These factors are chosen based on its suitability in measuring KM success in academic institution.

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Table 1. Summary of KM Success Factors and Models

Author(s)	KM success factors	Author(s)	KM success factors
[1]	The authors proposed KMAT model that composed of five fundamental elements: • strategy and leadership • culture • technology; • measurement • KM process. Four key success factors were proposed: • procedures of KM adopted • persons involved in KM • supporting organizational structure for KM • information technology utilized in KM.	[20]	Knowledge infrastructure: • technology • structure • culture Knowledge process: • Acquisition • Conversion • application • protection
[2]	The authors organized the factors into three categories • managerial influences: Leadership, Control, Coordination, Measurement • resource influences: Human, Knowledge, Financial, Material • environmental influences: Fashion, Markets,, Competitors, Time, Technology	[27	• Management leadership and support • Organizational culture • Information technology • KM strategy • Performance measurement • Organizational infrastructure • Processes and activities • Rewarding and motivation • Removal of Resources constraint • Training and education • Human resource management • Benchmarking
[4]	The authors determined the best way to judge good KM which was through a knowledge value chain. The model was developed by viewing and contrasting KM through an analytical (technical) perspective and an actor (user) perspective. These perspectives are conflicting and KM assessment occurs by determining how well the KMS meets each perspective at each step.	[11]	The author identified the following main framework dimensions. • Human-oriented factors: culture – people – leadership • Organisation: process and structure. • Technology: infrastructure and applications. • Management process: strategy, goals and measurement
[9]	• Leadership • Culture • Structure, roles, and responsibilities; • Information technology infrastructure • Measurement	[17]	• Leadership • Culture • Technology Measurement
[14]	The authors proposed a model that can measure success as an improvement in organizational effectiveness that based on used of and impacts from the KMS. The dimensions of the model are: • System Quality • Knowledge or Information • User Satisfaction • Perceived Benefit • Net Impact	[24]	• Culture • Learning • Support • Business Strategy • Top Management Support • Technology
[16]	The authors summarized and synthesized the literature on KM or KMS's critical success factors (CSF) into an ordered set of 12 KM	[29]	• Culture • Structure • Strategy

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	CSFs identified from 17 studies of more than 200 KM projects		
[28]	• management leadership and support • culture • IT • strategy and purpose • measurement; • organisational infrastructure • processes and activities • motivational aids • resources • training and education; and • HRM.	[5]	KM process dimension : • Organizational mission and values • IT application • Documentation KM • Process management and structure • Human resources asset KM performance dimension: • Knowledge capture and Transformation • Business performance Knowledge sharing and value addition
[15]	Proposed three basic dimensions as antecedents to KM success: • System quality • Knowledge or information quality • Service quality • perceived benefit • user satisfaction • Net benefits	[21]	• Culture • Leadership • employee participation • Information and Communications Technology (ICT) • organizational structure
[19]	• Establishment of a Reward Strategy • Structure Organization in KM Department • Evaluation of KM Process • Clear Definition of Objectives and Rules • Mutual Trust • Top Management Support • Ability to Generate • Innovative Ideas • Willingness to Share Knowledge • Friendly System to Exchange and Reuse Knowledge • Mechanism to Approve Activities	[23]	The author believed that KM success or effectiveness is measured by means of the dimensions: • Impact on business processes, • Strategy • Leadership • The efficiency and effectiveness of KM processes • The efficiency and effectiveness of the KM system • Organizational culture • Knowledge content
[6]	• KM focus • willingness • technical-based KM capability • social-based KM capability		

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Table 2. The Most Common Success Factors in KM

KM potential success factors		Other terms in literature	Description	Author(s)
Human being	Top management	Top management support, Management	Top management is the initiator, sponsor and promoter of KM. It provides enough financial resources and time.	[1], [12], [16], [10], [23], [11], [18]
Organization	Skill	Employees' skill, Personnel Qualification, knowledge and experience, individual competence, individual capabilities, training, Personnel development	The staff members must be sufficiently qualified through training and coaching to secure KM. This includes interaction with KM as well as with different KM techniques (e.g. debriefing)	[10], [18], [11], [5]
	Meta-communication of KM	External relationships	The goals of KM will be made transparent and the applied strategy communicated with the stake holders through open communication and internal marketing.	[10], [18], [11]
	Goal system of knowledge management	Concrete and measurable goals, KM goals and related business goals, Goals, mission	The goal of KM must be in accord with the company goals and must also be measurable as well as communicable.	[1], [10], [18], [23], [5], [11]
	Delegation or Participation	Roles, tasks, KM roles, task classification	Responsibility and competence must be clearly defined, e.g. knowledge manager or Subject-Matter-Specialist. The executive staff carries the responsibility for KM and the areas dealing with KM. Staff members are the experts but everyone should stay in their own area of competence. .	[10, [18], [11], [5]
	Staff member motivation	Motivation	Through stimulating systems, staff members should be motivated to participate, both through award systems e.g. to raise knowledge transfer and indirectly through KM itself e.g. problems have better and faster solutions.	[10], [18], [11]
	Social net or Relationship	Conversation, Communication, Internal networks	There has to be direct communication and contacts should be provided to find common solution to problems. Furthermore,	[10], [18], [23], [11]

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			networks have to be set up for regular Face to Face meetings e.g. to encourage knowledge exchange.	
	Culture	Corporate culture, values and norms, Knowledge sharing culture	The dominating corporate culture should never be in contradiction with KM. The staff members must be willing to share their knowledge. Furthermore, there must be trust between the co-workers to secure the acceptance of the available knowledge.	[1], [20], [10], [23], [18], [11], [29]
Technology	System quality	Tools and application, software , KM system, technological systems	A supporting system raises the success of KM. The system cannot be independent but must be integrated in the available IT-infrastructure. The usability of the systems must be guaranteed, which means that it must be easy to use and have the necessary functions.	[23], [10], [18], [5], [11]
	KMS-Content	Knowledge content, information, knowledge documentation	The guide lines for the content of the system must be clearly defined. There must be a standard definition and a clear system available for the setting up of the contributions. A verification process of the quality and actuality of the available knowledge must also exist.	[8], [10], [18], [23], [5], [11]

4. THE PROPOSED KM MODEL FOR ACADEMIC INSTITUTION

As discussed, KM is the function of managing the knowledge in the organization. KM is able to acquire, store, share and apply the knowledge that can be used for decision making process. In order to manage the knowledge in academic institution effectively, the common success factors found in the literature which listed in Table 1 are being examined. The identified common factors in Table 2 can be used as a measurement of KM success in creating, sharing and reusing knowledge in academic institution. Based from [8], one of the factors in the determination of KM success is the ability. The organization must have an ability to acquire, store, share and apply the knowledge effectively. Identifying ability factors in KM is important so that the organization is capable to manage this process [8]. From Table 2, the factors that can be grouped under ability factors are system quality, KMS content, social nets, and personnel development. To measure the KM success, another factor that needs to focus is the willingness of the organization members to change [15]. Willingness to participate in KM activities indicates the level of motivation of individuals involved in KM process. Therefore KM success depends on how far the organization members, those who have the willingness and those who have the ability to perform KM, are ready to participate in the process. Lack of willingness and motivation for employees to invest their knowledge in KM systems, will lead to KM failures.

Based on Table 2, the factors that can be grouped under willingness factors are top management, goal system of KM, meta-communication of KM, social nets, participation, motivation and corporate culture. To construct KM Model of academic institution, Structural Equation

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Model (SEM) is used [1]. SEM is used because it has a feature to explain complex relationships where a variable is independent in one relationship, but dependent in another relationship. This is because SEM allows multiple relationships to be analyzed simultaneously, therefore it is capable to explain different patterns in the model and identify significance relationships among the variables [1]. Figure 1 shows a proposed KM model for academic institution that based on SEM. The proposed model grouped the common success factors of KM in academic institution into ability and willingness factors. The institution should have the ability to manage the knowledge and its process within the institution. The employees of the institution should have the willingness to participate in KM activities such as exchanging knowledge among them. These two factors will determine the success of KM in academic institution.

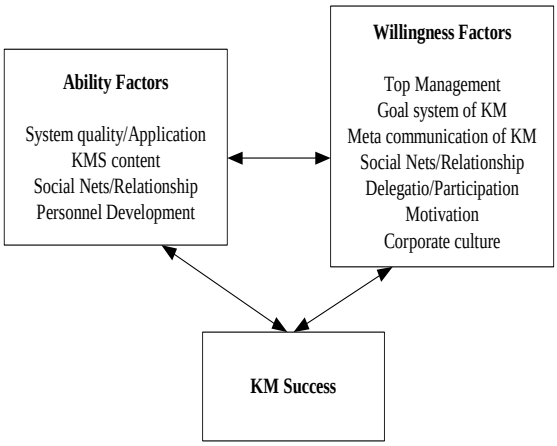

Figure 1.The proposed KM Model

5. CONCLUSION

In this study a KM model for academic institution is proposed. This model is constructed that based on identified KM common success factors that grouped under willingness and ability. Indentifying these factors is important for the managers to have a better understanding of how to improve the management of knowledge in their institution. Although KM success factors have been investigated in many studies the dominant factors of KM success are not sufficiently known, and there is a need to find dominant factors which can be used to make an accurate assessment of the KM success or effectiveness in academic institution. Hopefully the proposed KM model will contribute to the findings. However the proposed model does not consider the technology factors that may also contribute the success of KM in academic institution.

As an immediate study, we are going to validate the model in order to verify its accuracy. To test the model, an academic institution will be selected as a case study. It is our hoped that this study will able to give contributions to the managers in identifying the success factors of KM in academic institution. This will enable managers to have a better understanding of how to improve the management of knowledge in their institution.

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