A MODEL OF FACTORS INFLUENCING KNOWLEDGE MANAGEMENT SYSTEM ADOPTION AMONG ACADEMICIANS IN NIGERIA UNIVERSITIES

BY

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ABSTRACT

Higher Education Institution (HEI)/Universities are we known as the knowledge hub where knowledge is acquired and shared among all. In order for the Nigerian universities to fully realize its knowledge management related objectives, there will be a requirement of a knowledge management system to support it. The universities also face various challenges regarding this system, including whether or not to adopt it, whether users would accept to work with it. Therefore, adoption of knowledge management systems occurs in both organizational level, and individual level. The objective of this study is to investigate the factors affecting the adoption of Knowledge management system in Nigeria Universities. This study investigates the factors influencing Knowledge management system adoption from the academicians' perspective. This study identified factors of 1) Organization (Structure, Government support, Culture, and organizational infrastructure), 2) Individual (Knowledge, Personal innovativeness, experience, and attitude), 3) Management Support (training, management initiatives and management) and 4) technology (trialiability, compatibility, visibility and complexity) and their influence on KMS system usage. An explanatory quantitative method design using survey as the data collection methodology was used as the research design for the study. A survey using questionnaire provided quantitative descriptions of the sample within the chosen population through a data collection. Analysis for this problem required a causal, non-contrived field study employing multiple regression analysis. Data was collected using a 28 item survey distributed to academicians from a variety of universities in Nigeria. The study in particular found that individual and management support factors play a role on the adoption of KMS in Nigeria more than organizational and technological factors and the study shows influences of adoption among academicians within the institutions of higher learning. The finding of the study paves a way for other research that will involve the participation of developed countries as well. This allow the intended future implementation of KMS technology to identify the factors most especially management support and Individual factor as tools in measuring the importance of KMS and Researchers will benefit from the KMS adoption model and also the findings attached to the research.

خلاصة البحث

سعى هذا البحث إلى تحديد مدى توافر التقنيات الرقمية في المدارس الابتدائية العامة و استخدامها في تدريس مادة العلوم من وجهة نظر معلمي العلوم في مدينة حائل، المملكة العربية السعودية. ركز هذا البحث أيضا على قابلية تطبيق نموذج قبول التكنولوجيا. ووضعت عينة طبيقية عشوائية من 330 من معلمي ومعلمات العلوم (145 ذكور و 185 إناث). تم تطوير أداتين لجمع البيانات؛ كان أول أداة قائمة مرجعية ذاتيه متقدمة لمعرفة البيانات المتعلقة بتوافر التقنيات والتسهيلات الرقمية في المدارس الابتدائية في مدينة حائل، المملكة العربية السعودية، و كانت الاداة الثانية عباره عن استبيان اقتبس من ثلاث دراسات. لوحظ في النتائج أن هناك نقص حاد في توافر مرافق التكنولوجيا الرقمية في جميع المدارس الابتدائية للبنين والبنات التي شملتها الدراسة. استخدام المعلمين للتقنيات الرقمية في التعليم والتعلم يتأثر بعدة عوامل، وهي الدعم الإداري وقلق الكمبيوتر والتمتع. تفاوت توفر وسائل التقنيات الرقمية داخل نطاق المدارس الابتدائية في مدينة حائل. ضمن وسائل التقنيات الرقمية الاثني عشرة المتناولة في هذا البحث لم تتوافر سوى أربعة منها في جميع المدارس. ويؤكد هذا البحث على أن الدعم الإداري والاستمتاع التي يشهدها المعلمون والمعلمات لديهما علاقة طردية مع متغير مدى الفائدة المرجوة فيما يخص استخدام التقنيات الرقمية. بالإضافة إلى ذلك فإنه يؤكد على أن الرهبة او القلق من الحواسيب لدى معلمي ومعلمات مادة العلوم لها علاقة عكسية مع متغير مدى سهولة الاستخدام فيما يخص استخدام التقنيات الرقمية. وقد وجد البحث بأن النية في الاستخدام تؤثر على الاستخدام الفعلي للتقنيات الرقمية داخل المدارس الابتدائية. وجد أيضا أن مدى سهولة الاستخدام المدركة والاستمتاع يؤثران على نية معلمي ومعلمات مادة العلوم في استخدام التقنيات الرقمية في المدارس الابتدائية. بالرغم من ذلك فإنه يبدو بأن مدى الفائدة المرجوة لا يؤثر على نية معلمي ومعلمات مادة العلوم في الانتفاع من التقنيات الرقمية في المدارس الابتدائية. أظهرت هذه النتائج أن هيكلة نظرية قبول التكنولوجيا TAM تؤثر تاثير مباشرا على السياقات المتعلقه بكل من الدعم الاداري والقلق تجاه الكمبيوتر والتمتع والفائدة المدركه من الاستخدام وسهولة الاستخدام المدركه ونية الاستخدام والاستخدام الفعلي للتكنولوجيا الرقمية. كذلك النتائج تدل على نجاح التمديد المقترح للنموذج في تحقيق أهداف هذه الدراسة.

APPROVAL PAGE

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DECLARATION

I hereby declare that this thesis is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

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Dedicated To……

All the people who gave their support and prayed for me.

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First and foremost all praise be to Allah, Lord of all creations.

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CHAPTER 1

INTRODUCTION

1.0 BACKGROUND OF STUDY

Knowledge management (KM) and its processes are growing steadily in popularity among researchers in the early 1990s and further which is why some organizations have attempted initiatives based on KM with success depending on the level of the success. In most organizations, knowledge and information has been accumulated along the years for its growth and development, and to allow their potentials to be totally appreciated through the possibility of assets gained from using knowledge, requirement from KMS are use to conduct and ease the processes of KM such as knowledge generation, storage, utilization (Maier, 2007). Knowledge management is described as the management of knowledge processes which involves not only the acquisition of knowledge but also its representation, storage, learning, sharing and innovation in an organization or sector. It's specifically involved with knowledge gathering, storing, sharing, reuse and creation of knowledge which is used in developing knowledge assets in an organization, and also for the achievement of the organization's mission, goals and objectives (Nawaz and Gomes, 2014).

Generally, the creation of information system (IS) was to enhance operational management achievements by storing huge amount of data for it to arranged automatically in a specific format and this shows that IS is different from KMS which is created to effectively and efficiently support organizational KM activities. With an adequate adoption of KMS and the ability to continuously create, accumulate and share knowledge, management was able to fully utilize organizational knowledge resources. In order to ease efforts made by an organization

towards the effective and efficient management of tacit and explicit knowledge, KMS adoption is needed as it supports knowledge contributors/users with the insertion of practices used in KM in a information technology (IT) system that will act as a standard organization gained experiences (Onyeagbako et al., 2017). The adoption of KMS in organization is needed and most especially in Nigerian universities as these increases organizational effectiveness in the universities and this is possible because KMS discover and capture knowledge and also share the knowledge among certain population inside or outside of the organization.

Generally, knowledge can be classified as explicit or tacit knowledge which is described as the degree to which whether people can easily share knowledge among each other and it could be expressed by words or documents (Yaghi, 2011). One of the major reasons knowledge management system adoption and implementation is successful and effective is due to having a good knowledge sharing and storage apparatus which enables knowledge management to be achieved among knowledge seekers. In a situation whereby a knowledge worker with years of experience, skills and knowledge is required to share his knowledge with a new staff from the same or different department which will be carried out by sharing the knowledge by codifying it and sharing it electronically through a system (KMS); this type of worker can be called a knowledge contributor in the organization (Assegaff, 2015). The issues that have being of main concern for practitioners and researchers in KMS is that most organizations haven't created the proper approach towards KMS that will embolden knowledge management among their knowledge workers and also to encourage the sharing and seeking of knowledge among the workers.

The most important objective of knowledge management system is to support KM processes in an organization, which supports business and processes and shows the decision to

adopt KMS is very important. In order for a KMS to be adopted there must be awareness and readiness towards KMS which will bring about the adoption of knowledge management system. Technical and organizational factors are internal because it is controlled by organizations whereas environmental factors are external and it has effects on KMS adoption (Wang and Wang, 2016).

Past studies by (He & Wei, 2009; Kankanhalli *et al*., 2005; Wasko & Faraj, 2005; Assegaff, 2015) demonstrated the importance of encouraging individuals to share knowledge among themselves and few studies in particular showed that an individual would be encouraged to partake in knowledge sharing as there is a feeling of receiving some sort of reward which can be a form of financial or non-financial incentive (promotion or positional advancement in the organization) only when they are involved in knowledge sharing activities among their colleagues in an organization. A previous study that was conducted showed that that an individual who contributed knowledge in one way or the other would be encouraged to do so due to this factors: personal image, organizational reward, influences by management, efforts made by the contributor, the feeling of reciprocity, relishing the feeling of helping and social relationship (He & Wei, 2009; Assegaff, 2015). The results from a study conducted by Assegaff, 2015, revealed that management, effort and social relationship factors have a positive correlation with knowledge searchers/seekers intention in accepting KMS.

Since Knowledge is tangible, dynamic, have no boundaries, difficult to transfer, transact or imitate, it is therefore necessary and critical to have an effective Knowledge management system to succeed after KMS has adopted and being used in an organization (Chen et al, 2009). KMS has been adopted and used by many organizations having the intention of accomplishing and maximizing knowledge management practices in terms of its effectiveness and efficiency of

whereas organizations that are not ready to implement KMS are bound to have problems and issues with knowledge management initiatives (Li et al., 2016).

Based on the qualitative observations of KM projects done by Davenport et al. (1998) in big organizations, they suggested that KM/KMS was effective through four important major factors namely culture, infrastructure (organization), motivational aids and management support. Further studies done by Wang and Aspinwall 2005, focused on 11 critical success factors after KMS have been adopted and implemented on how important it is to KMS: First was leadership based management and support followed by culture based in the organization, information technology (architecture), purpose and strategy of having KMS, measurement, organizational infrastructure, processes and activities, motivational aids to encourage KMS usage, resources, training and education to enhance KMS skills, and human resource management. It is therefore seen that KMS adoption and the process of implementation involves technological issues, as well as culture, structure, process, and human factors which are based in the organization (Bertoni et al., 2008; Quaddus & Xu, 2005).

1.1 STATEMENT OF PROBLEM

According to Islam et al. (2012), they focused on the importance of adopting and using knowledge management systems among research scholars, it shows that the system must involve the establishment of a collaborative learning environment and practice a co-operative culture that can be used for knowledge acquisition and sharing; the creation of a reliable technological infrastructure used in acquiring, organizing, storing, manipulating, maintaining and disseminating knowledge which allows learners and/or users to access knowledge resources. However, limited literatures on KMS adoption which involves factors of success and failures by KMS project applications usage shows that there are limited studies on KMS adoption most

especially in education or universities most especially in developing countries(Xue and Quaddus, 2005,2007; Kuo and Lee, 2011). In a situation of KMS in Nigeria, there is awareness and readiness of the adopting and implementing KMS, this is because KMS is implemented and used in the public sector (agriculture, Ministries, Transportation) but little has been done in the strategic implementation of KMS in the educational sector which is also important in the management of knowledge (Ojo, 2016). Nowadays knowledge management systems are needed so as to allow the knowledge to be gathered, shared and stored in an appropriate and organized manner. This provides the reason why most academicians or their universities have limited knowledge about the usefulness of having knowledge management system in higher institutions most especially in Nigeria. Thus, the purpose of this study is to investigate the factors affecting knowledge management systems adoption among academicians in Nigeria universities.

1.2 RESEARCH QUESTIONS

1. How well do academicians in Nigerian universities understand Knowledge management system and its usefulness?
2. How do the factors influence KMS adoption in Nigerian universities?
3. What are their perceptions about the adoption of KMS in Nigeria universities?
4. What do they perceive as benefits from KMS adoption in Nigerian universities?

1.3 RESEARCH OBJECTIVES

1. To have an overall view and understanding of KMS amongst academicians in Nigeria universities;
2. To describe the factors affecting KMS in Nigeria universities;

3. To investigate the perception of KMS adoption as a tool to facilitate Knowledge management and sharing in Nigerian Universities;
4. To investigate the benefits of adopting knowledge management system among academicians.

1.4 RESEARCH METHOD

This research would be conducted using a quantitative method through survey among academicians from various universities in Nigeria. Most academicians are just beginning to identify the usefulness of using knowledge management systems in improving their work performance which will benefit my survey. Random set of questionnaires were distributed to collect data from respondents who are active in their academic program. The completed and accumulated data was analyzed by the use of the statistical package for the social sciences (SPSS) that will give or yield detailed statistical information of the survey. Data accumulated would be utilized for data analysis and the descriptive analysis, Factor analysis, Reliability and Multiple regression analysis will be utilized in the analysis of the collected data and the findings from the analysis would utilized in examining the study' s hypotheses.

1.5 SIGNIFICANCE OF THE STUDY

Knowledge management (KM) is being discussed by scholars, but little have being said and studied about the knowledge management system adoption among universities, most especially among Nigerian universities. This study would be attempted in Nigeria; a significant contribution would be made to some or all Nigerian universities, in which this study would be useful in embarking on KMS adoption and its applications. In addition, Exploring KMS adoption

would allow the combination of knowledge management and internet technology use so as to establish and provide a better quality of contributions from academicians for their institutions through the discovery of assets-based knowledge and the capture, maintenance, retrieval, dissemination, and reusing knowledge learned or gained through experience.

Knowledge Management System involves the use of internet technology in the creation and preparation of a university's knowledge bank, sharing that knowledge with the appropriate people and groups, and thereby achieving the university's mission and goals by facilitating the application of that knowledge (Lonn & Teasley, 2009). Knowledge Management System can be applied in assisting new academicians/lecturers to produce new ideas or new knowledge which can contribute to the learning and sharing process. Knowledge Management System can be used as leverage between academicians so as to improve the quality of information or knowledge shared for academic purpose. In addition, a supported educational system is enhanced by the use of Knowledge Management System as a storage for academic content and curriculum that can be used through the provision of necessary knowledge resources to the lecturers and also students. This can make knowledge management to be more interactive by the reduction of time and physical barrier in the retrieval of information that supports creating knowledge that will increase the curiosity for acquiring knowledge through easier access to knowledge.

1.6 LIMITATIONS OF RESEARCH

This study that proposed knowledge management system adoption and investigate the factors influencing KMS adoption and the interrelationship between the factors has quite a number of limitations. The survey was conducted in selected Nigeria universities due to insurgency in most of the states in the northern part of Nigeria. The respondents were limited to permanent lecturers

who are working within the university environment and visiting lecturers or temporary lecturers were exempted as they won't be completely familiar with the organizational culture of the university. The respondents were limited to academicians or lecturers who have experienced knowledge management system in any level. This is because they are more aware about the benefits of KMS adoption through attending conferences and workshops and some of the academicians are expert in the field of knowledge management and it processes.

1.7 CHAPTER SUMMARY

This chapter gives an outline of the whole study by starting with the introduction, background of the study, and then highlighting the problem of the study. It continues with the research question, objectives of the research, scope of the research and then methodology, incorporating the research framework. Limitation of the research was also discussed.

CHAPTER 2

LITERATURE REVIEW

2.0 INTRODUCTION

The review of this chapter begins with a brief discussion on Knowledge Management and IT, Knowledge Sharing and IT, Knowledge sharing impact in developed countries, Knowledge sharing impact in developing countries, Knowledge sharing impact in Africa, Knowledge sharing and IT in Nigeria and Knowledge sharing in Islam.

2.1 KNOWLEDGE MANAGEMENT AND IT

The arrival of the information technology (IT) era and the revolution of information completely transformed how information is being managed, processed, stored and utilized. Therefore, knowledge used presently shows interestingly that knowledge is to allow people, the customers, or students to feel happy, satisfied and contented on how knowledge is used and these transforms the way organizations/institutions behave and react (Ramlee, 2011). Knowledge management can be described as collecting, understanding, processing organization's data with the use of different technologies thereby creating an accessible, usable creative and valuable knowledge. It can also be described as the protection of existing knowledge within the organization/institution. Knowledge management is regarded as of high importance and that's why Knowledge, can be considered as the foundation of organization competition in the modern economy and its being use as an important resource in organizations (Wang & Aspinwall, 2005; Chen et al., 2009).

Davenport and Prusak (1998) described knowledge as a mixture of values, experience, contextual information, and expert insight that offers a model for measuring and integrating new experiences and information. It is said that knowledge can be divided into explicit knowledge and Tacit Knowledge. Explicit knowledge is described as processed knowledge through information systems, recording the knowledge, being archived and protected by an organization (Barth, 2000). Tacit knowledge was defined as knowledge that was gained through experience and work practices stored in mental processes can be only transferred observing the individual with knowledge and applying it (Choi and Lee, 2003).

A brief summary by Jasirnuddin et al. (2005) shows tacit knowledge and explicit knowledge and it is shown in table 2.1.

Table 2.1

Tacit and Explicit Knowledge

Features	**Tacit Knowledge (i.e. skills and experience of employees)**	**Explicit Knowledge (i.e. documents, codes, tools)**
Content	Non-codified	Codified
Articulation	Difficult	Easy
Location	Human Brains	Computers, artifacts
Communication	Difficult	Easy
Media	Face-to-face contact, storytelling	Information Technology and other archives
Storage	Difficult	Easy
Ownership	Organization and its member	Organization

Knowledge can be defined as when acquired information is processed in the mind of individuals then it will be converted to knowledge and knowledge becomes information once it is formulated and presented in the form of text, graphics, words, or other symbolic forms (Alavi & Leidner, 2001). Tacit knowledge was described as a process in which individuals withhold knowledge by storing it in their mind which makes it harder for others to use in an organization (Davenport et al, 1998; Von Krough, et al., 2000). Tacit knowledge is also described as to be