KNOWLEDGE CENTER MODEL BY INCORPORATING KNOWLEDGE CENTER FEATURES IN SHAREPOINT FOR MALAYSIAN NUCLEAR AGENCY

ILY AMIRAH BINTI HASSANNUDDIN

A dissertation submitted in partial fulfillment of the
requirements for the award of the degree of
Master of Science (Information Technology - Management)

Faculty of Computing
Universiti Teknologi Malaysia

SEPTEMBER 2014

This dissertation is dedicated to my family for their endless support and encouragement.

ACKNOWLEDGEMENT

First and above all, I praise Allah, the almighty for providing me this opportunity and granting me the capability to proceed successfully. This thesis appears in its current form due to the assistance and guidance of several people. Therefore I would like to offer my sincere thanks to all of them.

Dr. Halina Binti Mohamed Dahlan, my supervisor for the whole thesis from the beginning to an end, my cordial thanks for accepting me as a Master student, your warm encouragement, thoughtful guidance, critical comments, and correction of the thesis.

I want to express my deep thanks to my second supervisor **Mr. Mohamad Safuan Bin Sulaiman** for the trust, the insightful discussion, offering valuable advice, for your support during the whole period of the study, and especially for your patience and guidance during the data collection until result achievements.

Besides, I would like to thank to my friends who are always with me in helping to complete this thesis. Finally I am grateful to the authority of Universiti Teknologi Malaysia (UTM) for providing me with a good environment and facilities such as computer laboratory to complete this project with software which I need during process.

ABSTRACT

This study is to identify and define more clearly what it is the Knowledge Center. An organization of the Malaysian Nuclear Agency has been selected to be the domain of the study. As a knowledge center that includes knowledge management, so this study chose to use SharePoint Malaysian Nuclear Agency as a platform to implement the findings of this knowledge center. Studies of the problems of the current system are identified through interviews with users of the current system in which the problem is not widespread consumerism and misleading. Reviews from previous studies have been done to choose the appropriate knowledge center for SharePoint Malaysian Nuclear Agency. Methodology by Stijn Hoorens, Lidia Villalba van Dijk, and Christian van Stolk was chosen because it contains the exploration phase of the current issues, the specification of the characteristics of the selected knowledge center, analysis and synthesis of the features found and evaluating these features. The specified KC features and KC components were mapped with the SharePoint menu. The main evaluation results where SharePoint Nuclear Malaysia to meet the essential features that are in KC and further assessment is done to identify the characteristics of a deeper KC should have improved in SharePoint.

ABSTRAK

Kajian ini adalah untuk mengenali dan mendefinisikan dengan lebih jelas apa itu pusat pengetahuan. Sebuah organisasi iaitu Agensi Nuklear Malaysia telah dipilih untuk menjadi domain bagi kajian ini. Sebagai pusat pengetahuan iaitu merangkumi pengurusan pengetahuan, jadi kajian ini memilih untuk menggunakan SharePoint Agensi Nuklear Malaysia sebagai satu platform untuk mengimplimentasikan hasil kajian pusat pengetahuan ini. Kajian mengenai masalah sistem semasa dikenalpasti melalui temuduga bersama pengguna sistem semasa di mana masalah kepenggunaan yang tidak meluas dan mengelirukan. Ulasan daripada kajian sebelum ini telah dilakukan bagi memilih model pusat pengetahuan yang sesuai bagi SharePoint Agensi Nuklear Malaysia. Metodologi oleh Stijn Hoorens, Lidia Villalba van Dijk, dan Christian van Stolk dipilih kerana ia mengandungi fasa eksplorasi isu semasa, spesifikasi bagi ciri-ciri pusat pengetahuan yang terpilih, analisis dan sintesis ciri-ciri yang ditemui dan menilai ciri-ciri tersebut. Ciri-ciri KC dinyatakan dan bahagian-bahagian KC telah dipetakan dengan menu SharePoint. Penilaian utama menghasilkan keputusan di mana SharePoint di Nuklear Malaysia memenuhi ciri-ciri penting yang ada di dalam KC dan penilaian selanjutnya dilakukan bagi mengenalpasti ciri-ciri KC yang lebih mendalam yang perlu ada ditambahbaik di dalam SharePoint.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

PROJECT OVERVIEW

1.1 Introduction

The application and usage of Information and Communication Technology (ICT) remain as one of the most powerful engines for the growth of organization. ICT also continue to be one of the best hopes for emergent countries in order to pick up the pace the development process. It is an emerging need for all sectors of society to find way to optimize the opportunities in this ICT presents. One of the ICT tools is Knowledge Management (KM). Basically, knowledge management helps an organization to achieve understanding and insight from its own experience. Particular knowledge management activities help to focus the organization on acquiring, storing and utilizing knowledge for such things as problem solving, dynamic learning, strategic planning and decision making. Knowledge and information produced by individuals should be shared and delivered rapidly and information technology must propose the solutions that are able to carry out the requirement of the organization.

One of the key elements of a knowledge management system in an organization is knowledge sharing. Generally, knowledge sharing is the fundamental requirement of a knowledge-based organization. When many challenges found in managing knowledge, the concept of knowledge sharing arose. One of the key

challenges in knowledge sharing is how to build up a culture of distributing knowledge surrounded by a society.

Knowledge center is one of the best ways to collect and share information. Knowledge center can be included by knowledge management, repository, decision support, search engine, forum and so on. Knowledge center as a support team comprising domain experts, resource persons, analyst along with technological professionals who constantly ensure dynamic updating of Knowledge Resources and Case Studies applicable to the profile of users visiting the repository. So knowledge center can be summarize as the collection of the knowledge sharing process that will helps user to contribute and share their knowledge and opinion easier.

The great advantages of knowledge center are that they help organization to develop rational and coordinate approaches to the capture, identification, storage and their intellectual assets retrieval. These intellectual assets go beyond standard publishing regimes, and may include audiovisual objects, presentations, datasets, learning resources and research works. A managed approach to these assets enhances opportunities for proficient use of obtainable research, and encourages cooperation within and between different disciplines and groups.

However, there are limited guidelines in building KC in an organization. Some organizations have their own KC but not fully influenced by the knowledge person and experts. In addition, the component of KC and its features are also not very clearly defined. Therefore, a study on KC is carried out to get the guideline and clear definition on the component and it features of KC to improve the knowledge management and intellectual assets in an organization. Thus, increase workplace productivity and reduce activities.

1.2 Problem Background

Knowledge Management (KM) is much of the time seen as an issue of catching, ordering, and recovering data, inspiring idea of information mining, content bunching, databases, and archives. In the meantime, learning is bound up with human insight, and the administration of information happens inside a complicatedly organized social setting. Besides, it is vital for those conspiring learning administration frameworks to think about the human and social variables at play in the preparation and utilization of information. Thusly, we concentrate on the organizational parts of Knowledge Management: how people and gatherings cooperate to make and arrange information. KM rose in the course of recent years as a noteworthy administration restrain with its group of notions, dialect, and practices. The research, counseling, and managerial consideration committed to KM demonstrate a quite noticeable event in the exertions of undertakings to make and maintain winning techniques and to assemble more productive and viable associations.

Joint effort around associations has gotten to be dynamically more essential part of vital administration and is assuming a real part in the exchange and administration of information assets. Though the majority of the literary works on learning administration has kept tabs on the creation, obtaining, exchange, and esteem creation connected with information inside an association, generally work has been carried out to distinguish the administration of information crosswise over associations. Actually, a discriminating segment for the triumph of the cutting edge venture is its capacity to exploit all accessible data. This test gets to be more troublesome with the tenaciously expanding volume of data, both inside and outer to an endeavor (Castellano, Pastore, Arcieri, Summo, & de Grecis, 2005).

It is further exacerbated in light of the fact that numerous endeavours are getting to be progressively "knowledge-centric," and hence a bigger number of representatives oblige access to a more stupendous assortment of data to be useful.

The hazardous development of the World Wide Web obviously exacerbates this issue. Ventures have been putting resources into innovation in an endeavour to deal with the data overabundance and to assemble learning that could be leveraged for an intense edge. In spite of the fact that it plainly still has a developing tone and aim, extensively considered, KM empowers, backings, and energizes the accompanying three interrelated subjects (Erickson & Kellogg, 2000):

i. The techniques of revealing or making new knowledge and refining the existing one (improving knowledge stock);

ii. The imparting of knowledge around people and over all organizational limits (overseeing knowledge stream);

iii. The proceeded improvement and utilization of knowledge as a feature of people's normal work, and as a component of choice making (putting knowledge to utilize).

The most critical parts of a knowledge management system is that it must be an knowledge community: a place inside which individuals uncover, utilize, and control knowledge, and can meet and cooperate with other people who are finishing in like manner (Erickson & Kellogg, 2003). Besides, an assortment of particular strategies can help a practical and viable approach to knowledge management, incorporating supporting new manifestations of aggregation cooperation, routines for improving innovativeness, and backing for expressive correspondence. The point when such methods are joined into knowledge communities, they bring about organizational chances to construct social assets, incorporating trust and participation around associates.

This thought of a knowledge management environment as a "trusted place" is an intriguing and testing one for framework fashioners and for associations. A fascinating address is about how it is conceivable, actually, socially, and organizationally, to equalize the need for a sheltered and trusting place, inside which

so much information creation and social assets building happens, with the organizational basic to impart data all the more extensively. We accept that a more stupendous comprehension of how to plan a knowledge center to become an integral factor will help developer of technological systems to counsel such issues. Essentially, we accept that seeing better how to standardize knowledge through methods will offer associations more stupendous dominance and degree in making, offering, and reusing the knowledge that is discriminating to survival in the twenty-first century.

1.3 Problem Statement

At present, the mandate given to Malaysian Nuclear Agency's (Nuclear Malaysia) KM so far is the Information Management Division that led by Tn. Iberahim Ali as a director. Current knowledge management in Nuclear Malaysia is not centralized with the resulting knowledge is only concentrated in departments that are in the nuclear agency Malaysia respectively. However, they have their main KM that called, SharePoint but still not effective that make their employee was not fully used this system as their routine. So this research is to identify and evaluate the current features of SharePoint to improve their KM system. The main issue is "How to evaluate the features of SharePoint in Nuclear Malaysia complies with the knowledge center features?"

By concluding to the whole scenario, it can be presented by the following research question:

i. What are the problems in SharePoint?
ii. Does Nuclear Malaysia SharePoint comply with knowledge center features?

1.4 Research Objectives

The main objectives of this project are as follow:

i. To investigate the problems of SharePoint in Nuclear Malaysia.
ii. To identify the components and features of existing KC.
iii. To develop a model of knowledge center.
iv. To evaluate KC features of SharePoint in Nuclear Malaysia in order to comply with the proposed KC model.

1.5 Research Scope

In order to be able to achieve the objectives stated, the scope of the study is limited to the following:

i. To focus on SharePoint in Malaysian Nuclear Agency.
ii. The end product of this project will be a model of knowledge center and evaluation of SharePoint menu in Malaysian Nuclear Agency.

1.6 Significant of the Research

A proposed model of knowledge center can be a guideline in building knowledge center. An identification and evaluation of the SharePoint features comply with knowledge center features in the proposed model is to provide more interactive system so that can improve the usage of this system and usable for all people in the related field. This knowledge center also can expand the usage of the SharePoint in the Nuclear Malaysia.

Knowledge center also can be an extension of the research organization's responsibility as a generator of primary research, on the lookout for to protect and influence its constituents' intellectual assets in Nuclear Malaysia. It is one major constituent in the embryonic structure of intellectual communication.

1.7 Chapter Summary

As a conclusion, this chapter provides a brief overview of the project and also provides general information related. The major task of this research is to identify and evaluate the SharePoint's features which will has highest intention especially for the chosen organization; SharePoint in Malaysian Nuclear Agency and the approach that will be use is knowledge center features incorporate in SharePoint.

REFERENCES

Castellano, M., Pastore, N., Arcieri, F., Summo, V., & de Grecis, G. B. (2005, 03-06 Jan. 2005). *A Knowledge Center for a Social and Economic Growth of the Territory*. Paper presented at the System Sciences, 2005. HICSS '05. Proceedings of the 38th Annual Hawaii International Conference on.

Erickson, Thomas, & Kellogg, Wendy A. (2000). Social translucence: an approach to designing systems that support social processes. *ACM transactions on computer-human interaction (TOCHI), 7*(1), 59-83.

Erickson, Thomas, & Kellogg, Wendy A. (2003). Knowledge communities: Online environments for supporting knowledge management and its social context. *Sharing expertise: Beyond knowledge management*, 299-326.

Goh, Dion Hoe-Lian, Chua, Alton Yeow-Kuan, Luyt, Brendan, & Lee, Chei Sian. (2008). Knowledge access, creation and transfer in e-government portals. *Online Information Review*, *32*(3), 348-369.

Kaul H. K. *New Trends in Knowledge Organization: Global Role of Knowledge Centre*. Paper for AAMES/ACRL June 25, 2011

A. Kankanhalli, B.C.Y. Tan, and K.-K. Wei, *Contributing Knowledge to Electronic Knowledge Repositories: An Empirical Investigation*, MIS Quarterly (29:1), 2005, pp. 113-143.

B. Bowman, *Building Knowledge Management Systems*, in: Information Systems Management, Summer, 2002, pp. 30-40.

B. Juntermanns, S. Smolnik, M. Hertlein, and G. Riempp, *Knowledge centers in professional services firms - an exploratory study*, in: K. Hinkelmann, K. and H. Wache (Eds.): WM2009: 5th Conference on Professional Knowledge Management, Solothurn, Switzerland, 25.03.2009, Gesellschaft für Informatik, Bonn, P-145, 2009, pp. 164-173.

Castellano, M. Pastore, N. Arcieri, F. Summo, V. de Grecis, G.B., *A Knowledge Center for a Social and Economic Growth of the Territory*,System Sciences, 2005. HICSS '05. Proceedings of the 38th Annual Hawaii International Conference on, vol., no., pp.26b,26b, 03-06 Jan. 2005

D. Snowden, *Complex acts of knowing: paradox and descriptive self-awareness*, in: Journal of Knowledge Management, Volume 6, Number 2, 2002, pp. 100-111.

E. Ofek, and M. Sarvary, *Leveraging the Customer Base: Creating Competitive Advantage Through Knowledge Management*, in: Management Science, 47, 11, 2001, pp. 1441-1456.

G. Riempp, Integrierte Wissensmanagement *Systeme – Architektur und praktische Anwendung*, Springer, Berlin, 2004.

G. von Krogh, *Care in Knowledge Creation*, California Management Review (40:3), 1998, pp. 133- 153.

I. Nonaka, *A Dynamic Theory of Organizational Knowledge Creation*, in: Organization Science: A Journal of the Institute of Management Sciences, 5, 1, 1994, pp. 14-38.

J.D. Karda, and D.A. Rondinelli, *Innovative Infrastructure for Agile Manufacturers*, Sloan Management Review (Winter), 1998, pp. 73-82.

K. Moore, and J. Birkinshaw, *Centers of Excellence in Global Service Firms Part One. Three Models for Managing Knowledge*, Knowledge Management Review, 1999, 2(3).

M. Alavi, and D.E. Leidner, *Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues*, MIS Quarterly (25:1), 2001, pp. 107-136.

M. Alavi, and D.E. Leidner, *Knowledge Management Systems: Issues, Challenges, and Benefits*, Communications of the AIS (1), 1999, pp. 1-37.

M. Alavi, *Managing Organizational Knowledge*, in: Framing the Domains of It Management: Projecting the Future through the Past, R.W. Zmud (ed.). Cincinnati, OH: Pinnaflex Education Resources, 2000, pp. 15-28.

M. Hertlein, S. Smolnik and G. Riempp, *Knowledge Centers in Globally Acting Development Organizations: Towards a Design Blueprint*, System Sciences (HICSS), 2010 43rd Hawaii International Conference on , vol., no., pp.1,10, 5-8 Jan. 2010

M. Sarvary, *Knowledge Management and Competition in the Consulting Industry*, in: California Management Review, 41, 2, 1999.

M.E. Jennex, and L. Olfman, *Assessing Knowledge Management Success*, International Journal of Knowledge Management (1:2), 2005, pp. 33-49.

M.H. Zack, *Managing Codified Knowledge*, Sloan Management Review (40:4), 1999, pp. 45-58.

Ministry Of Personnel,Public Grievances & Pensions 2012-2013, *Annual Report 2012-2013*, Ministry Of Personnel,Public Grievances & Pensions, Government of India, New Delhi

M.T. Hansen, N. Nohria, and T. Tierney, *What's Your Strategy For Managing Knowledge?*, Harvard Business Review, 1999, 77(2), pp. 106 - 116.

S. Kim, *The Roles of Knowledge Professionals for Knowledge Management*, INSPEL 34(2000)1, pp. 1-8.

S. Sensiper, *AMS Knowledge Centers*, Harvard Business School Case N9-697-068, 1997.

S. Hoorens, L. Villalba van Dijk, and Christian van Stolk , *Embedding digital repositories in the University of London*, RAND Corporation, 2008.

V. Grover, and T.H. Davenport, *General Perspectives on Knowledge Management: Fostering a Research Agenda*, Journal of Management Information Systems (18:1), 2001, pp. 5-21.

Y. Malhotra, *Why Knowledge Management Systems Fail? Enablers and Constraints of Knowledge Management in Human Enterprises*, in: C. W. Holsapple (Editor.): Handbook on Knowledge Management (Bd. 1), 2002.