

CERTIFICATION OF APPROVAL

The Development of a Knowledge Repository System for Small and Medium
Enterprise (SME) Accounting Firm in Malaysia

by

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CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

(YAP WEE KANG)

ABSTRACT

This project is to assist the Small Medium Enterprise (SME) in accounting firm, Malaysia to support and managing the organization's knowledge assets. The main objective is to develop a knowledge repository system (KRS) to improve the organization's performance, productivity and potential in facing the challenges in the global business world. The purpose of this knowledge repository system is to capture and share the knowledge assets in the organization. The knowledge repository system is a system designed to store and disseminates knowledge to employee in the organization. Knowledge repository system also allow employee to learn and assimilate the knowledge that require in accounting sector. Thus it helps employees intern of time saving, create a new idea and experience during their work or task. In this project the modified Knowledge Management System Life Cycle (KMSLC) was used.

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

In Malaysia, there are large numbers of accounting services firm in every state to provide professional accounting service to their clients. The major services provided by these firms in Malaysia are accounting, taxation, audit and secretarial services. As professional provider firm, knowledge is the important key of success to the firm.

According to Boomer (2011), the most important asset that accounting have is knowledge. Each of the accounting firm has their own unique of skills and experience that assist to compete with their competitors. Awad and Ghaziri (2004) state that, the knowledge consist of two types which are the explicit and tacit knowledge. Example of the explicit knowledge in accounting firm are the rules of the MASB (Malaysian Accounting Standards Board), tax code, firm's policy and the procedures of accounting, taxation and secretarial. According to Gartner (2009), tacit knowledge is the knowledge that required solving the problem and it was learned through teaching, conversation and observation. Thus knowledge was really useful for the new employee who are lacking of the knowledge of management accounting.

One of the most important tacit knowledge in accounting firm is experience-based knowledge. Experience-based knowledge is the source of evidence from the expert to guide to make a decision making. Experience-based knowledge in accounting firm can help employee to know-how to apply the accounting

principle in some specific problem that faced by clients. Thus tacit knowledge is important to the organization in order to make a good achievement and fulfil the client's need. However, it is difficult to capture and locate the knowledge position. According to Baldwin H. (2008), the knowledge workers spend 15-30% of working hour to looking information that they need in their job. However most of the times they fail to locate thus information that they need. Thus it will fail to achieve the organization in a full potential productivity.

According to the CCH (2011), from the survey in year 2011 there were more than 68% of the tax firm and audits firm that agrees the important of knowledge management in support the accounting, tax and audit process. However, in Malaysia there was less number of accounting firm implement the formal KM. Thus, to improve the productivity and performance, the knowledge management should be apply and practice in accounting firm in Malaysia.

Of the various KM applications, knowledge repository system is one of the KM system that effort to capture, accumulate and share the knowledge with entire organization members (Hansen, Hohria et al., 1999). Knowledge repository system can help the employee organizing, documenting and preserving the knowledge from the leader or expert. Other than that, it also cans quickly searching the information and retrieves the needed information. Thus it can reduce the time of searching the information that can affect the workloads. Beside saves the time of the searching information, knowledge repository system also help the expert and leader such experience manager or supervisor to entertain the employee. With this it helps to reduce leader's workload. All the question and information can be find in KR system that answered by the expert and the information will preserve to the entire members in the organization who ever need it.

1.2 Problem Statement

Knowledge is one of the main important key to the accounting firm in order to provide the professional services to their clients (Nonaka and Takeuchi, 1995). However in Malaysia, most of the accounting firms not have a proper knowledge repository system to store and share the knowledge that they require in their business (CCH, 2011). Most of the accounting firms were still using the old method to locate their knowledge such as when the employees have a question or problem he or she will find the answer through the internet or their professional leader. Thus, it wasting the time and affect the leader's workload.

Other than that, the retirement and employees' turnover directly affect the organization's performance. Most of the knowledge resides in the professional's leader or experienced employees. Whenever these experienced employees leaving the organization and without record thus valuable knowledge from them, the knowledge will also leave the organization as well. Thus valuable knowledge is extremely important to the employees and the new leader as a reference to deal the problem that may face in future.

Majority of the knowledge in accounting firms is people-based. Thus it become difficult when the employee facing the problem or has a question about his work, he or she do not know who to ask and who know the answer and well as it will interrupt other people when searching the answer. Furthermore, expert will explain and give an answer direct to that employee by face to face personal conversation or by email reply. It did not share the information to the entire organization, when the other employee face same problem he or she will repeat a same procedure to find the answer. This will cause wasting the time and interrupt the other employee in doing their work.

Furthermore, one of the problem always faced by employee in accounting firm are locating the knowledge. Whenever employees facing the problem and did not know who are the expert on this problem solving, thus he or she may going to interrupt the other employees or leaders until find out the solution.

1.3 Objective

- To identify the type of Knowledge that require by accounting firm.
- This research is to develop and design a knowledge repository system (KRS) for SME accounting firm in Malaysia

1.4 Scope of Study

This research project covers only the knowledge repository system that fit to small and medium accounting firm in Malaysia. The project focuses on the development of a knowledge repository system in accounting firm for internal use only. The knowledge of accounting is auditing, financial statement analysis, tax regulation and accounting technologies such as UBS accounting system.

CHAPTER 2

LITERATURE REVIEW

2.1 Fundamental of Knowledge

Awad & Ghaziri (2004) defines the knowledge as understanding gained through experience or study. The knowledge is about the person know how to solve or do a specialized task. They found that knowledge is specificity; it cannot be in transfer from one problem to another problem. Therefore, it must have an expert that who know-how to solve or fix the particular problem or task. Moreover, these knowledge well known as the tacit knowledge where it require a long period to obtain it. Awad & Ghaziri (2004) also found that the knowledge is related to the integrity, value and belief. Awad & Ghaziri (2004) state that most of the people are using their own value to organize and synthesize their knowledge. Nonaka & Takeuchi were mention that “knowledge, unlike information, is about beliefs and commitment” (Nonaka and Takeuchi 1995).

Nonaka & Takeuchi (1995) were state that there have two type of the knowledge which is “tacit” and “explicit” knowledge. The explicit knowledge is the knowledge that stored and publicly available – such as the template or designs stored in CAD files at AutoCAD System. Meanwhile, the tacit knowledge are exist on people mind – such as the decision making or judgement that makes by engineer to choose one design over another. They express that the process of creating knowledge as a spiral. It starts with the people who sharing their internal knowledge by socializing with the other person or by captures it in digital or analogue form. The people who receive or

capture the knowledge will internalized the knowledge and create a new knowledge inside them. Thus the process will start over again where the people share their new knowledge to the others.

Nonaka & Takeuchi (1995) stated “the tacit knowledge is well personal and difficult to formalise, making it hard to communicate or share with the other. Subjective insights, intuitions and hunches fall into this category of knowledge”. (Nonaka & Takeuchi, 1995, p.8). The major problem of communication is cause of the environment and organisation structures where the workers are did not have change to share their idea and knowledge with the other especially in the traditional company approach and the organisation hierarchy. Furthermore, in the organization hierarchy most of the communication often reflects one-way process cause the knowledge difficult to share and capture by the other.

Lehaney, Clarke, Coakes & Jack (2004) emphasized that the explicit knowledge is a physical entity knowledge that can be easier to identify, measured and distributed. Furthermore the explicit knowledge are easily to processed by computer, transform into electronically and also stored into the database system. The explicit knowledge is tends to be on documentation knowledge, quantifiable information, policies and procedures.

According to Lehaney, Clarke, Coakes & Jack (2004), the process of transferring the tacit knowledge to explicit knowledge is an idealistic concept where it purpose of sharing the knowledge and provide a high values to organization. The tacit knowledge are important to the organization where it consist the systemisation of people’s thought process and wisdom which is more valuable information to the organization. Thus the tacit knowledge is one of the key to improve the organization’s work-place performance.

Lehaney, Clarke, Coakes & Jack (2004) mention that the knowledge becomes important when evolves out of beliefs and philosophy in the various context of culture in the organization. It is important to differentiate the information and knowledge. Those certain of the tacit knowledge cannot be reproduced in anyway. Furthermore, it also avoids the codify knowledge into the information.

2.2 Knowledge Management

The fundamental assumption of knowledge management is that the organizations manage organizational and individual knowledge better will deal more successfully with the challenges of the new business environment (Handzic, 2006). Thus knowledge management becomes a key of success for improved the organization's efficiency and innovation.

Hibbard J. (1997) defines knowledge management as a process capture the firm's knowledge wherever in resides- in database, paperwork (explicit knowledge), or in people's mind (tacit knowledge) and distributing it to wherever it can help to produce the bigger payoff. Lehaney, Clarke, Coales & Jack (2004) state that the obligation of knowledge Management is to exploit the intellectual capital capital to gain a competitive advantage and customer commitment trough the efficiency, innovation and more effective decision-making to achieve the organizations' goal. Thus knowledge management allow the organization to enable and support explicitly on the creation, generation, codification and transfer of information and ideas to influence the value for the organization.

According to Barth S. (2000) knowledge management is a technique that used by organization to identify, represent and share the knowledge, intellectual capital and for reuse leverage and transfer of knowledge and learning in the organization. Thus it enhances the organizational performance, competitive advantages and innovation as well as the customer experience. Moreover, the organization capture the knowledge from senior colleagues can help the younger employees to make an immediate use of

it and improve upon it to make the organization's business run more efficiently (Awad & Ghaziri, 2004).

Barnes S. (2002) state that the knowledge management is the systematic and organizationally specified process for capturing, organizing and communicating knowledge of employees and share to the other employees. Thus it helps the other employees to be more effective and productive in their work and enhance a new experience and knowledge.

Dalkir K. (2005) was mention that the current major business was interested in and application of knowledge management lie in four main areas which are the globalization of business, learner organization, "corporate amnesia" and technological advances. Thus it help the organization be able compete and survive in the global business world. Moreover, the organization capture the knowledge of senior colleagues can help the younger employees to make an immediate use of it and improve upon it to make the organization's business run more efficiently (Awad & Ghaziri, 2004).

Rasoulinezhad E. (2011) emphasized that the knowledge innovation from the members of an organization become a key of success in the current competitive environment. The knowledge management became an important part to face the new era of the competitive business environment. Thus the traditional organizational management will no longer to be an appropriate strategy to compete in the global competition. Pranay D. (2002) found that the global organizations are aware that the knowledge management will play an important role in their organization's future such as enhancing their internal productivity, increasing the customer satisfaction, increase the knowledge based marketing and develop a competitive advantage. Thus the organizations are important to indentify the changes that will impact the productivity and identify the benefit of the investment that will gain in these changes.

Rus I. & Lindavall M. (2002) state that the organization should apply the knowledge management to provide the solution for their business issue such as to decreasing time and cost on the development of product and increasing the quality of their product. Thus apply the knowledge management in the organization will able to avoid the worker do a mistake and rework again in the project. They also found that knowledge management can become a tool to help the organization to share the individual knowledge and leverage at project and organization level to making a better decision. Most of the time the workers or team members make decisions based on their personal knowledge and experience or knowledge that gets from the informal communication. However, this process is inefficient for the large organization because of the large volumes of the information.

Annely K. (2005) found that the data relevancy become one of the challenges of implement the knowledge management in organization. The important the organizations need to identify the knowledge that are important and bring the benefit to them. She state that, the knowledge that lack of the relevance and no benefit will cause the risk and cost to the organization. Thus the knowledge of the value and quality are important to organization to identify before it implement into the system.

Syed-Ikhsan & Rowland F (2004) considered that the organization sharing culture play important role in knowledge sharing. They found that, the organization member's knowledge sharing culture will have a positive effect to the performance of knowledge transfer as well as to the creation of knowledge assets in order to implement the excellent knowledge management in the organization. Culture is one of the key to determine the effect of technology and management techniques on the success of knowledge management. However, most of the time the employee would not share all their important experience with the other because of fear that they will redundant and dispose by organization once their knowledge has been captured. As well as the bad experience and lessons learned on the failure that they feel embracing to share with the other (Rus I. and Lindvall M., 2002). Thus the management level should encourage and motivate in term of the reward sharing, recognizing their contribution to push the employees share their knowledge across the organization.

2.3 Knowledge Management System

According to Alavi and Leidner (1999) state that, the knowledge management system (KMS) is a professional and managerial system that manages the organization's activity by focus on create, gather, organize and disseminate the organization's knowledge. Peter (1992) mentions that the knowledge management system (KMS) use to codify, capture and disseminate the knowledge can help the organization and manager to reduce the level of know-how requirement in operate the particular project. Thus the knowledge management system (KMS) is one of the important systems to manage and organize the knowledge proficiently that able to help the organization to improve their performance and achieve the goals.

2.4 Knowledge Repository and System

According to Hansen, Hohria et al. (1999), the organization may use 2 type of method to transfer the knowledge such as personalization and codification. By use the personalization method, knowledge will shared through people to people contact. Meanwhile, the codification method, the knowledge is codified and stored in repositories where it allows be accessing and easily using by anyone in the organization. (Hansen, Hohria et al., 1999).

Kankanhalli, Tan et al. 2001, claim the knowledge repository system (KRS) is an electronic store of the content that related to all subjects about which the organization maintains knowledge. Thus the system has well-known for codifying and storing the knowledge and reuse back the knowledge in future. (Hansen, Hohria et al., 1999). (Sabherwal abd Becerra-Fernandez, 2003). Bock, Qian and Sabherwal (2008), define knowledge repository system (KRS) as a kind of the knowledge management system that allows individuals to contribute their knowledge and reuse the prior knowledge in other time.

From the Ruggles (1998) result surveys found that 57% of the organization to be developing or planning to knowledge repository system (KRS). Meanwhile, Davenport and Prusak (1998) found that 80% of the KM projects to involve some formation of the knowledge repository system (KRS).

However, from the Bock, Qian and Sabherwal (2008) research, they found that the intangible nature of the knowledge has difficult to describe and measure the KRS. Furthermore, the success of the KRS depend on it use for the task including the knowledge contribution and reuse. (Mason, 1978).

2.5 Fundamental of Accounting

According to Riley J. (2004) claimed that there are no official accepted definition of accounting in general. The fundamental of accounting function is to perceived needs (Riley J., 2004), where the needs are differed from difference countries, environments and businesses. Thus the accounting is developing in difference actions based to the appropriate environment. Since the accounting is develop in difference ways, thus the definition will also vary cause of the difference type of environment. (Riley J., 2004).

The American Accounting Association defines accounting as follow:

“The process of determine, communicating and measuring economic information that use in making the economic decisions.” (American Accounting Association, 1966).

The accounting is process of get through the financial information about the business organization to stakeholder such as shareholder, director and manager. (Elliot, Barry et al. 2004). The communication of accounting is the form of financial statements

that show in money terms of the resources that under the control of management. (Riley J. 2004). According to Elliot, Barry et al. (2004), accounting that concentrates on reporting to the internal organization's members is called management accounting.

The Chartered Institute of Management Accountant (CIMA) defines the management accounting as follow:

“Management accounting is the process of identification, measurement, analysis, interpretation, preparation and communication of information used by management to plan, control and evaluate within an entity as well as to ensure appropriate use of and accountability for its resources.” (CIMA, 2004).

The management accounting is concerned with the provisions and use of accounting information to the shareholder by provide them with the basic information to make an business decisions that allow them to be better accoutre their management in organization. (Anton, Clinton et al. 2006).

Elliot, Barry et al. (2004) define the accounting that provides the information to the outsider (external organization) such as potential stockholders and creditors is called financial accounting. According to the Eisen, Peter J. (2010), the main objective of financial accounting is to prepare the financial reports that contain information about the organization's performance to the external such as investor, supplier and creditors.

2.6 Small and Medium Enterprise (SME)

According to SMEcrops Malaysia, the Small and Medium Enterprise (SME) in Malaysia consist 3 categories which are micro, small and medium enterprise. The grouping are decided based on the numbers of full time employees or the total sales turn over in a year. In Malaysia's SMEs there were consists a various sector and the subsectors such as manufacturing, agro-based, services, agriculture and information and communication technology (ICT) which it help the government to formulate the effectiveness of development policies, support programmes as well as provision of technical and financial assistance.

	Micro enterprise	Small enterprise	Medium enterprise
Manufacturing, Manufacturing Related Services and Agro-based industries	Sales turnover < RM250,000 OR Full time employees <5 persons	Sales turnover RM250,000 to RM10 million OR Full time employees 5 to 50 persons	Sales turnover RM10 million to RM25 million OR Full time employees 51 to 150 persons
Services, Primary Agriculture and Information & Communication Technology (ICT)	Sales turnover < RM200,000 OR Full time employees <5 persons	Sales turnover RM200,000 to RM1 million OR Full time employees 5 to 19 persons	Sales turnover RM1 million to RM5 million OR Full time employees 20 to 50 persons

Figure 2.1: Small Medium and Enterprise Categories

CHAPTER 3

METHODOLOGY

3.1. Research Methodology

The Knowledge Management System Life Cycle (KMSLC) was used as method on this research. The KMSLC is the method that indentifying the immediate, intermediate and the long-term needs for the prospective system. This method is able to identify the problem and the solution on the SMEs with it will direct dealing with expert in the company. The modified process of Knowledge Management System Life Cycle (KMSLC) was taken from Award and Ghaziri (2004) chart show in Figure 3.1.

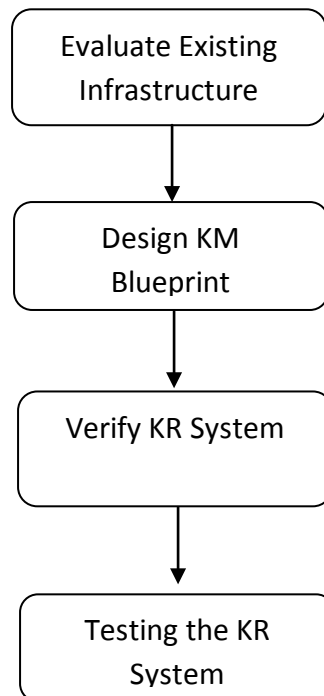


Figure 3.1: Knowledge Management System Life Cycle

3.2. Process Method

The procedure to analysis the knowledge in SMEs and design the Knowledge Repository System in Malaysian accounting firm are as below:

3.2.1 Questionnaire

Before developing the KR system, the questionnaire distributed to the accounting firm around Malaysia by using the online survey method to get the feedback. 50 sets of questionnaire distributing to accounting firm in Kuching Sarawak. The main goal of distributed the questionnaire to accounting firm is to evaluate the existing infrastructure in the organization and identify the type of knowledge repository system that needed in their organization and the understanding of KM in their organization.

3.2.2. Evaluate Exiting Infrastructure

In the first process of KMSLC is to identify the critical missing gaps and justify the formation of a new KM environment. There will be focus on 3 parts which are system justification – to indentify whether it is worth undergoing to change and investment on KRS in accounting firm. The second part is the scoping the evaluation which identify the limitation in term of time, cost, KM tools and the current company's technology such as internet, local area connection and other technology tools. The last part is the determining the feasibility in technical which evaluate the hardware and supportive software within in the framework of the company's IT infrastructure.

3.2.4 Design the KR Blueprint

In the third step of KMSLC is design the IT infrastructure and the knowledge repository architecture. At the same time the actual and deployment of Knowledge Repository system will also develop on this stage. The first step is to identify the system interoperability and scalability with the existing company's IT structure. Follow the next step is finalizing the scope of the Repository system. The third step is deciding the required system components. In the last step will develop the key layers of the KM architecture to meet the company's requirements. There were several key layers in develop the KM architecture such as the user interface, the security layer, collaborative agents and filtering, application layer, transport layer, physical layer and repositories.

3.2.5 Test the KM System

On this stage, the KM system will be tested. There were two procedures to test the Repository system which is verification procedure and validation procedure. The verification procedure were use to test the system whether is working properly or not. In the other hand, the validation procedure will test on the system to ensure it meet the user's requirement, user friendly and usable.

3.3. Tools Requirement

There were 2 type of open source software that will propose to develop the repository systems which are Eprint and DSpace. The objective of both of the open sources software is to fulfil the organization needs such as able to manage the large volume of data, user-friendly with the typical functionalities and low cost of the installation. The EPrints was developed by Electronics and Computer Science Department of the University of Southampton, UK. The DSpace, was the joint project that done by Massachusetts Institute of Technology (MIT) Libraries and the Hewlett-Packard Company in USA. Both of the systems were contain difference technologies. However there has a nearly identical in their functionality in term of the search function, document archiving, and integration of the OAI PMH.

Due to the time and expenses of the development, the research will use the open sources software to develop the Knowledge Repository System. Dspace software will use as a development tool in this project. Few minor software are require to support the operation of the system such an Apache Ant 1.8.4, Apache Maven 2.2.1, Apache Tomcat 7.0.32, Postgresql 9.0.10 and DSpace 1.8.2 will be install for develop Knowledge Repository System. As well as Xampp, an open source cross platform web server solution stack package which it use for testing the Knowledge Repository System without access to the Internet.

3.3 Gantt Chart and Milestone

No.	Detail/Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	Selection of Project Topic																												
2	Research and Review																												
3	Introduction																												
4	Submission of Extended Proposal							V																					
5	Design																												
6	Development and Review																												
7	Proposal Defence								V																				
8	Survey, development and Review																												
9	Submission of Interim Report										V																		
10	Progress Report																												
11	Development and Testing																												
12	Pre-EDX																						V						
13	Technical Report																							V					
14	1 St Desertation																								V				
15	Viva																									V			
16	Final Report																											V	

CHAPTER 4

RESULT AND DISCUSSION

4.1. Survey Result

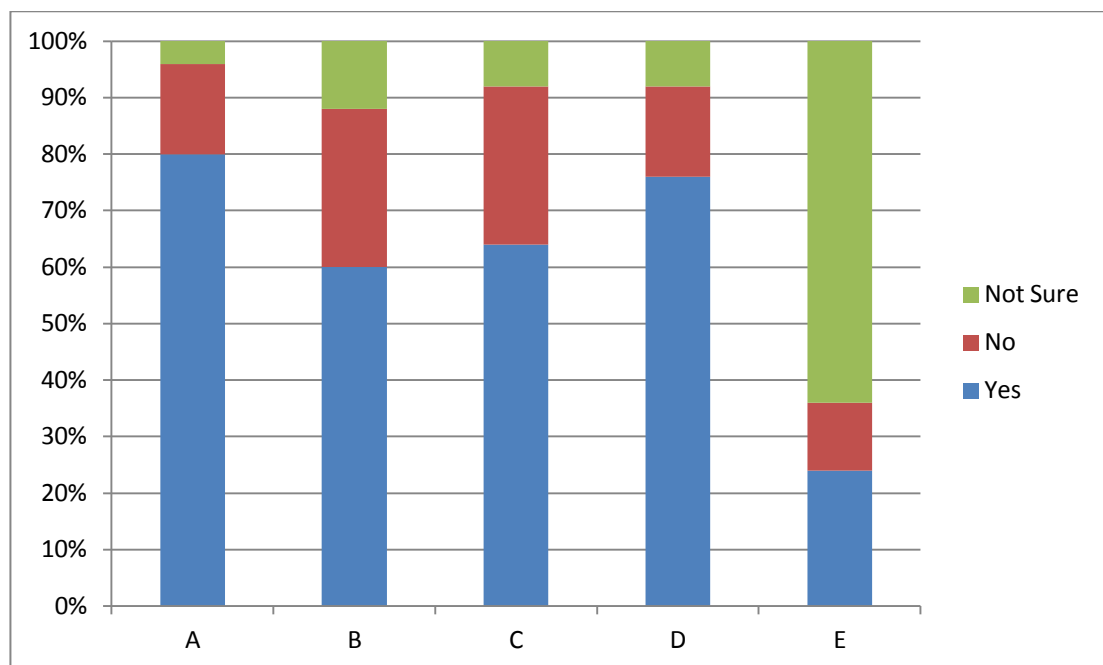


Figure 4.1: Understanding of Knowledge Management

- A. A process of creation, capture, storage and utilization of knowledge
- B. Is about the use of information and technologies.
- C. An important process to manage firm's information.
- D. The management of firm's knowledge, information and experience.
- E. The current business trend.

Tiwana (2000) emphasize the Information Technology (IT) is good tools for enabler the effectiveness of knowledge management if used it correctly. Drucker (1999) state that focusing on the technology and but the information it will bring not much the effectiveness of the knowledge management on the organization. Therefore, a good understanding of knowledge management is very important for SMEs in taking the appropriate action to develop their knowledge management strategy. From the figure 4.1 show the result from the question asked related to the SMEs in accounting and management firm (services sector) understanding of the knowledge management. There were 64% of the respondent did not consider that the knowledge management just the business trend. However, there were 76% of the respondents agree that knowledge management as the management of firm’s knowledge, information and experience, which KM is about generate a competitive advantage as stated by Tiwana (2000). There were more than 80% of respondents agree that the knowledge management is about a process of creation, capture store and utilization of knowledge in their organization. Majority of the respondents (60%) felt that the knowledge management is about the use of information and technologies.

View about Knowledge Management Application	Higher percentage of the view, %
Respondents felt the knowledge management application is a strategic part of their business	32%
Respondent believe that the knowledge management application is important, relevant and latest to the firm.	56.0 %

Table 2: View of Knowledge Management Application

Table 2 gives the result from the question view of knowledge management system by the respondents. From the result show that, majority of the respondents are felt the knowledge management system is one of the strategic part of their business and they also agree that the KMS are important, relevant and latest to the firm. Moreover,

there were 56% of the respondent belief the KMS will help to increase the competitive advantage and performance of their firm.

The situation of firm faced and need	Percentage of the view ,%
Share the information and knowledge with the other colleagues in the firm direct face to face.	76.0%
Respondent felt that their firm are lack of knowledge management.	40.0%
Respondents feel that the system that most need in the organization in manage the organization knowledge is knowledge repository system.	64.0%
Respondents' firms have computerized tools used to manage the document and information.	56.0%

Table 3: The Current Situation of Firm Faced and Need

From table 3 show the respondents respond to the current situation that faced and type of knowledge management system that they needed. 76% of the respondents share the information and knowledge direct face to face with the colleagues, while 64% of them will using the email as a platform to share the information and knowledge and less than 48% of the respondents use the other tools such as pendrive, server and hardcopy to share the information and knowledge. Meanwhile, there were 64% of the respondents felt that they lack of document management in the firm and less than 36% of the respondent felt their firm are lack of information and less to sharing the knowledge with each other. 64% of the respondent felt that the knowledge management system the most need in their organization is knowledge repository system, which it can help them manage the firm's information and knowledge more systematic and effective. There were 56% of the respondents that their firm have computerized tool to manage the document and information such as UBS accounting system, AutoCount and Biztrak MSB Financialto manage the client account.

However they were no proper tools to manage the knowledge such as firm policy, procedures, and expert or supervisor’s experiences. It is very important have the system that able to manage the knowledge for easy for searching and faster retrieve the knowledge from the system to the person who need it in the organization.

Knowledge that require in Accounting firm	Percentages
Accounting and Financial Report Guideline	77%
Auditing Procedure	80%
Annual General Report	54%
Client Company Profile	46%
Microsoft Office Programs Guideline	67%
Taxation	75%
UBS Accounting Guideline (Accounting technologies)	73%

Table 4: Knowledge Require in Accounting Firm

From the Table 5 showed the type knowledge that require in accounting firm to operate their work. The results show that 80% of the respondents agree that the auditing procedure or guidelines are important to the accounting firm. Audit account is an inspection of the accounting procedure and record, thus it require the proper procedure or knowledge to running the audition work. Those procedure are very helpful to those the new employee that does not have any experiences. The second higher is the accounting and financial report guideline where 77% respondent felt the knowledge are important to the accounting firm. As well as there were 73% of the respondent felt the UBS Accounting system guideline are important. The main business of accounting firm is manage the clients’ account, thus it is important have an accounting and report guideline to guide the employee follow the proper step to handle the clients’ account. Guideline in operate the UBS accounting firm are important to the employee to solve the problem when operate the system. There are 75% of the respondent feel the knowledge of taxation are important to the accounting firm. The taxation is one of the business offers in the accounting firm to clients, where it manages the clients’ tax, arrangement taxation and summit tax to

government. Thus the procedure and role of the taxation are important to the accounting firm. From the survey it shows that the annual general report, client company profile and the Microsoft office program guideline are less important as compare with the other knowledge in the survey. Thus the four higher knowledge should be properly manage and share among the employee to increase the performance of the organization.

4.2. Knowledge Repository System: System Architecture

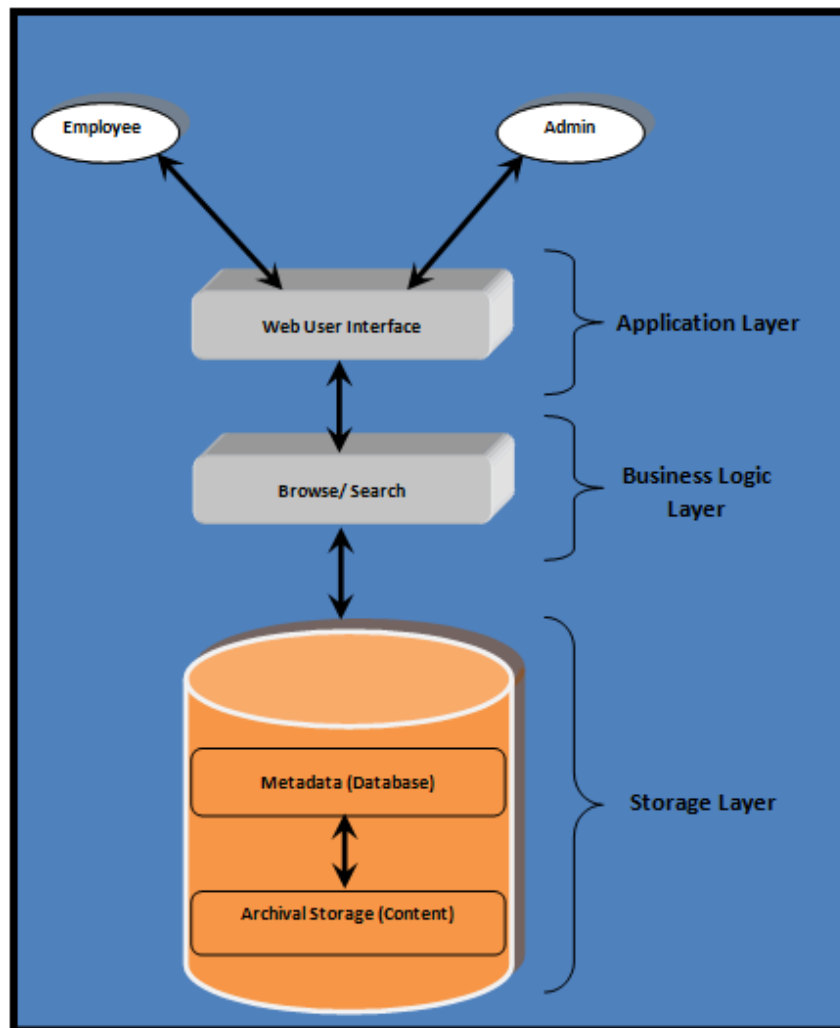


Figure 4.2: Knowledge Repository System Architecture

Form the survey that has been done, the Knowledge Management System that fix to the Malaysian SMEs in accounting firm are the knowledge repository system that can help them in managing the knowledge such auditing, financial statement analysis, tax regulation and accounting technologies such as UBS accounting system. This system is able to search and quickly retrieve the data in the short time, especially that information such as the of the taxation code and report guideline as a reference.

From Figure 4.2, the system architecture consists 3 layers which the application layer, business logic layer and storage layer. Each of the layers has their own functionality.

On the application layer is a web base user interface where the admin or the manager and employee allow to view and access. Meanwhile for the business logic layers allow the admin to login access for upload or editing the information into the system, as well as for the employee allow to search and browse the knowledge of information that they needs for their work. For the third layer is the storage layers where the system consist function such as the metadata storage is for description of the content, information about e-people and the authorization. Second part of the storage layers is the content of the information or knowledge that uploaded by admin. The function of storage layer will be “bank” storage of knowledge in this system, all the information uploaded by admin will be store in this layer. The user searches the information trough the interface searching engine to find the wanted knowledge. The knowledge processing will match the information that required by user with the knowledge that in the knowledge base, while find the similar or related or information knowledge in the knowledge based the information will be transfer to the interface and view to the user.

4.3. Prototype of Knowledge Repository System

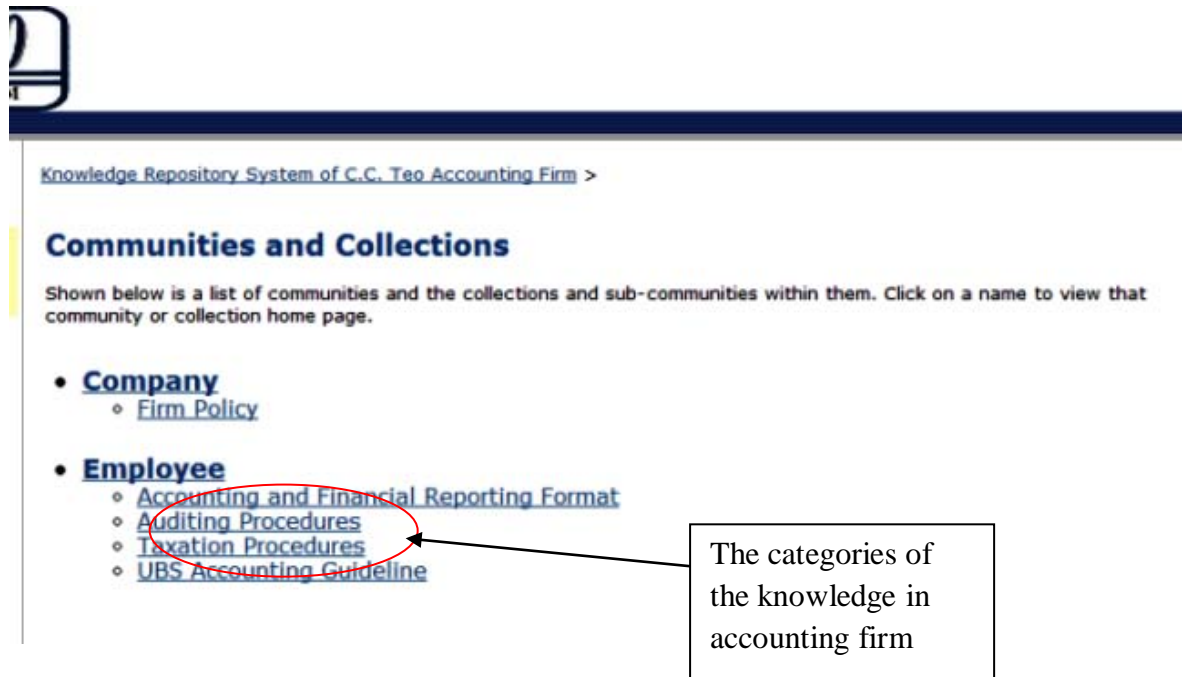


Figure 4.3: The Prototype View of Categories of Knowledge

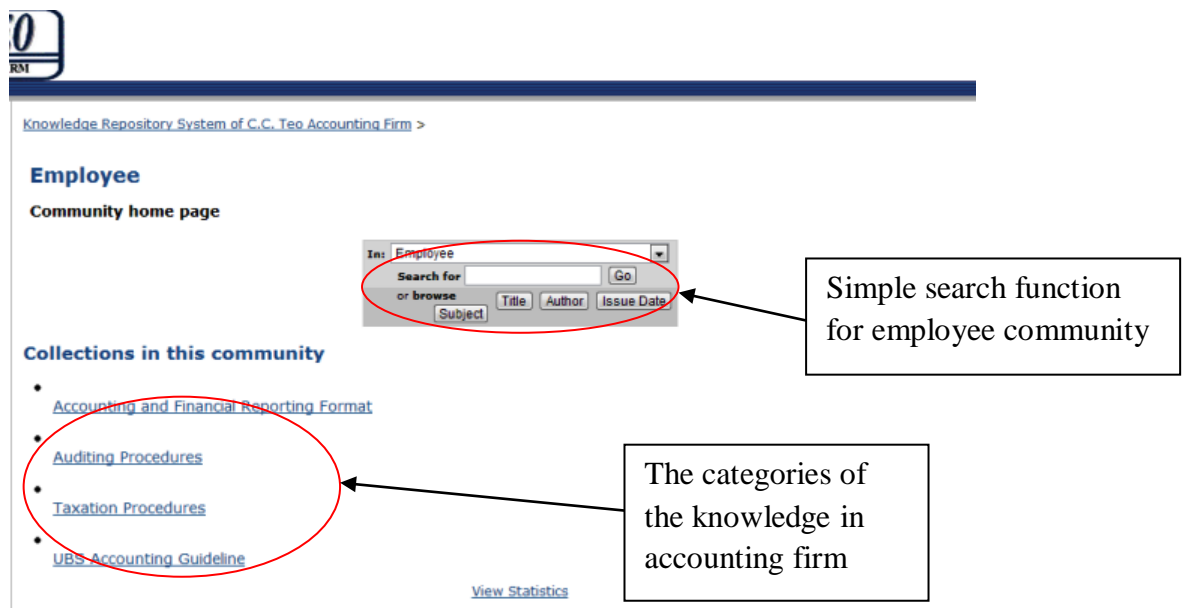


Figure 4.4: The Prototype View of Employee Community Page



Search: All of DSpace

Search type: Keyword Search for:

AND Keyword

AND Keyword

Search Clear

An advance search function where it can search detail of the correct knowledge that employee need. The advance search can search the knowledge by using few keywords at the same time such as title, author and description

Figure 4.5: The Prototype view of Advance Search



Search Results

Search: Accounting and Financial Reporting Format
for Accounting Go

Results 1-1 of 1.

Results/Page 10 | Sort items by Relevance In order Descending Authors/record All Update Export metadata

Item hits:

Issue Date	Title	Author(s)
17-Nov-2012	Sample of Accounting Report	Teo, CC

The example result of search. It show the date of upload, title and the author

Figure 4.6: The Prototype view of Search Results

Browsing by Title

Jump to: [0](#)-[9](#) [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)
or enter first few letters:

Sort by: In order: Results/Page Authors/Record:

Showing results 1 to 15 of 15

Issue Date	Title	Author(s)
27-Nov-2012	Accounting User Manual - General	UBS Corporation
27-Nov-2012	Accounting User Manual (Creditor)	UBS Corporation
27-Nov-2012	Accounting User Manual (Debtor)	UBS Corporation
27-Nov-2012	Accounting User Manual (Housekeeping)	UBS Corporation
27-Nov-2012	Accounting User Manual (Periodic)	UBS Corporation
27-Nov-2012	Accounting User Manual (Report)	UBS Corporation
27-Nov-2012	Accounting User Manual (Transaction)	UBS Corporation
27-Nov-2012	Agriculture Allowances 2011/2012 Guideline	LHDN
27-Nov-2012	Capital Allowances 2011/2012	LHDN
27-Nov-2012	Corporate Income Tax 2011/2012 Guideline	LHDN
27-Nov-2012	General Audit Procedures	CC TEO
27-Nov-2012	Personal Income Tax 2011/2012 Guideline	LHDN
17-Nov-2012	Sample of Accounting Report	Teo, CC
31-Oct-2012	TAXATION OF MALAYSIAN EMPLOYEES SECONDED OVERSEAS	LHDN
25-Oct-2012	Wages Deduction 2012	CC TEO

Showing results 1 to 15 of 15

Figure 4.7: The Prototype View of Browsing All Knowledge's Title

[Knowledge Repository System of C.C. Teo Accounting Firm](#) >

Browsing by Author

Jump to: [0](#)-[9](#) [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)
or enter first few letters:

Order: Results/Page

Showing results 1 to 4 of 4

- [CC TEO](#)
- [LHDN](#)
- [Teo, CC](#)
- [UBS Corporation](#)

Showing results 1 to 4 of 4

Figure 4.8: The Prototype View of Browsing by Author of the Knowledge

Please use this identifier to cite or link to this item: <http://hdl.handle.net/123456789/11>

Title: Accounting User Manual (Debtor)

Other Titles: Debtors File Maintenance
Distribute Last Year Aging
Debtor Listing
Print Lables
Print Debtors Statement
Print Debtor Transactions
Print Debtor Aging
Print Receipt

Authors: [UBS Corporation](#)

Keywords: Debtors

Issue Date: 27-Nov-2012

URI: <http://hdl.handle.net/123456789/11>

Appears in Collections: [UBS Accounting Guideline](#)

Files in This Item:

File	Description	Size	Format
Accounting User Manual (Debtor).pdf		111.91 kB	Adobe PDF View/Open

[Show full item record](#)

[View Statistics](#)

Figure 4.9: The Prototype View of the Knowledge Descriptions

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 CONCLUSION

The accounting firm's knowledge is important to increasing the firm's performance, productivity and time saving. Thus it is important to well keep and share the knowledge properly to the entire firm's members. The knowledge repository system has been developed to proper manage the knowledge and share to the employees at anytime whenever they need it.

The knowledge repository system has been developed using Dspace software with the minor software such as Apache Ant, Apache Maven, Apache Tomcat and Postgresql to operate the system.

The knowledge repository system design for store and share the knowledge with the employees who need the knowledge to solving their works. The content of the system are updateable, thus the knowledge that store in system will keep update from time to time by admin to make sure those knowledge are newer and useable in solving the work problems.

The knowledge repository system has been design for few sub communities that able to store and locate the knowledge based on the type and specification of the knowledge. For example the accounting guideline will store into the accounting and financial report procedures. Thus it helps the employees save a lot of time to locate the knowledge that they need in the system. Furthermore with the advance search

and quick search function it easily to find out the correct knowledge that the employee needed in the short time.

As a conclusion the knowledge repository system can be further utilized to improve the current system interface, procedure and management of the knowledge in future.

5.2 RECOMMENDATIONS

The continuation of this project will be more enrichment to the system by adding more sub-communities of knowledge that relevant to the accounting firm. This will be a good move to ensure the content of the knowledge repository system up to date and provide the sufficient knowledge to the accounting firm.

On the other hand, the current content knowledge repository system uploaded by administrative person only. It is recommence give an opportunities to employees upload the knowledge by them self based on their own expertise. Additionally, the current knowledge is focus on the explicit knowledge. It is recommence to identify the tacit knowledge in the accounting firm and store into the KRS system. Thus it will store and share more knowledge that can help the employees to learn more and increase their performance.

Lastly, the future enhancement for the knowledge repository system would be a plug-in the additional function by storing and digitalize the clients' documents. Thus the system can be a more efficiency and dual function system that effectively manage the organization's knowledge and document management.

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Appendixes

Appendixes A: Questionnaire

*Please put the mark [√] in the appropriate box wherever required.

The purpose of this questionnaire is use for indentify the organization concern about knowledge management and knowledge management system as well as to identify the knowledge management system than most needed in the accounting and management services.

1. Knowledge Management (KM) is a process of creation, capture, storage and utilization of knowledge.
Yes [] No [] Not Sure []
2. Knowledge Management (KM) is an about the use of information and communication technology.
Yes [] No [] Not Sure []
3. Knowledge Management (KM) is important process to manage your firm's information (e.g managing your organization work process).
Yes [] No [] Not Sure []
4. Knowledge Management (KM) is about the management of the information, knowledge and experience that available in the organization.
Yes [] No [] Not Sure []
5. Knowledge Management (KM) is the current business tend.
Yes [] No [] Not Sure []
6. What do you think of knowledge Management System?
 - A. Never heard of it
 - B. It just a management fad
 - C. It is strategic part of their business
 - D. Something that could be beneficial for organization
7. What is the current status of Knowledge management System in your firm?
 - A. Not in existence at all
 - B. Introduction stage
 - C. Nascent stage
 - D. Growth stage
8. What type of the system that your firm need most
 - A. Portal System
 - B. Knowledge repository System
 - C. E-library
 - D. Salary Management System

9. Does your firm have a structured system to manage your organization's document?
Yes [] No []
10. Are any computerized tools used to manage document and information?
Yes [] No []
11. How do you share the document or information with the other colleagues?
Using email []
All document store at server everyone can view []
Using pen drive []
Printout the hardcopy []
Direct face to face []
12. What are the problem of you company?
A. Lack of information
B. Lack of Document Management
C. Lack of sharing knowledge in the organization
D. Information Overload
13. What do you think of stored knowledge management System in the organization?
A. It's quite important, relevant and latest.
B. It's quite important, relevant but not updated regularly.
C. It's just trivial, a part of formalities and no use.
14. Which technologies have your organization implemented?
Internet []
Intranet []
E-Library []
Data Management System []
UBS Accounting System []
QuickBooks []
15. Which of the knowledge that you most require to be a guideline for your works?
Accounting and Financial Report Guideline []
Auditing Procedure []
Annual General Report []
Client Company Profile []
Microsoft Office Programs Guideline []
Taxation []
UBS Accounting Guideline []

Appendix B: Comparison of Eprint and DSpace Software

	Eprints	DSpace
Installation	<ul style="list-style-type: none"> • Easy to set up • An automates Installation script 	<ul style="list-style-type: none"> • Require more effort to install the software. • Require the experienced system engineer to operate.
Programming Language	<ul style="list-style-type: none"> • Perl 	<ul style="list-style-type: none"> • Java
Requirement Software	<ul style="list-style-type: none"> • MySQL • Apache • Mod_Perl 	<ul style="list-style-type: none"> • Java 1.3 • Tomcat 4.0 • Apache 1.3 • PostgreSQL 7.3 • ANT1.5
Operating System	<ul style="list-style-type: none"> • Solaris • Linux • UNIX • Windows 	<ul style="list-style-type: none"> • Solaris • Linux • Windows
Functions	<ul style="list-style-type: none"> • Can be store in more than one document format • Administrator can customize the metadata field for suite their organization • Support OAI protocol 	<ul style="list-style-type: none"> • Provide long-term physical storage and management of digital item • Support variety of digital formats and content types such as text, images, audio and video. • Allow contributor to limit access to items in DSpace • Support OAL protocol
Popularity	<ul style="list-style-type: none"> • Widespread all over the world • 72 worldwide archives running the EPrints software officially in August 2003 	<ul style="list-style-type: none"> • Not many archives in running DSpace software
Interoperability	<ul style="list-style-type: none"> • Free distributable • All sources code is open and freely modifiable • Customized the code to make 	<ul style="list-style-type: none"> • Free distributable • All sources code is open and freely modifiable • Customized the code to make

	adaption for the organization as simple as possible	adaption for the organization as simple as possible
Search Function	<ul style="list-style-type: none"> • Simple search • Advance Search 	<ul style="list-style-type: none"> • Simple search • Advance search

Appendixes C: The View of Admin Login Page

Log In to DSpace

[Help...](#)

[New user? Click here to register.](#)

Please enter your e-mail address and password into the form below.

E-mail Address:

Password:

[Have you forgotten your password?](#)

Appendixes D: The View of Submit File to the System (Step 1: Select the Categories of Knowledge)

Submit: Choose Collection

Select the collection you wish to submit an item to from the list below, then click "Next". [More Help...](#)

Collection

- Accounting and Financial Reporting Format
- Auditing Procedures**
- Firm Policy
- Taxation Procedures
- UBS Accounting Guideline

Go to
[DSpace Home](#)
[My DSpace](#)

Appendix E: The View of Submit File to the System (Step 2: The Filling Form for Information of Knowledge)

Submit: Describe this Item

Please fill in the requested information about this submission below. In most browsers, you can use the tab key to move the cursor to the next input box or button, to save you having to use the mouse each time. ([More Help...](#))

Enter the names of the authors of this item below.
Last name *First name(s) + "Jr"*
e.g. **Smith** e.g. **Donald Jr**

Authors

Enter the main title of the item.
Title

If the item has any alternative titles, please enter them below.
Other Titles

Enter the series and number assigned to this item by your community.
Series Name *Report or Paper No.*

Series/Report No.

If the item has any identification numbers or codes associated with it, please enter the types and the actual numbers or codes below.
Identifiers

Select the type(s) of content of the item. To select more than one value in the list, you may have to hold down the "CTRL" or "Shift" key.

Type

Appendix F: The View of Submit File to the System (Step 3: The Filling Form Description of Knowledge)

Submit: Describe this Item

Please fill further information about this submission below. ([More Help...](#))

Enter appropriate subject keywords or phrases below.

Subject Keywords

Enter the abstract of the item below.

Abstract

Enter the names of any sponsors and/or funding codes in the box below.

Sponsors

Enter any other description or comments in this box.

Description

Appendixes G: The View of Submit File to the System (Step 4: Select the File for Upload to the KR System)

Submit: Upload a File

Please enter the name of the file on your local hard drive corresponding to your item. If you click "Browse...", a new window will appear in which you can locate and select the file on your local hard drive. [More Help...](#)

Please also note that the DSpace system is able to preserve the content of certain types of files better than other types. [Information about file types and levels of support for each are available.](#)

Document File: No file chosen

Appendixes H: The View of Submit File to the System (Step 5: The Description of File That Have Been Uploaded To The KR System)

Submit: File Uploaded Successfully

Your file was successfully uploaded.

Here are the details of the file you have uploaded. Please check the details before going to the next step. [More Help...](#)

File	Size	File Format
Personal Income Tax 2011_2012.docx	40,421 bytes	Microsoft Word XML (known)

You can verify that the file has been uploaded correctly by:

- Clicking on the filename above. This will download the file in a new browser window, so that you can check the contents.
- The system can calculate a checksum you can verify. [Click here for more information.](#)

Appendixes I: The View of Completion Page of Submission File

Submit: Submission Complete!

Your submission will now go through the workflow process designated for the collection to which you are submitting. You will receive e-mail notification as soon as your submission has become a part of the collection, or if for some reason there is a problem with your submission. You can also check on the status of your submission by going to the My DSpace page.

[Go to My DSpace](#)

[Communities and Collections](#)

The Development of Knowledge Repository System for Small and Medium Enterprise (SME) Accounting Firm in Malaysia

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Abstract- This project is to assist the Small Medium Enterprise (SME) in accounting firm, Malaysia to support and managing the organization's knowledge assets. The objective is to identify the knowledge that require in accounting firms and develop a knowledge repository system (KRS) to improve the accounting firm's performance, productivity and potential in facing the challenges in the global business world. The project will focus on explicit knowledge of accounting and the small and medium (SME) accounting firms in Malaysia. Furthermore, the modified Knowledge Management System Life Cycle (KMSLC) has taken form Awad and Ghaziri (2004) as a process of methodology of the project.

I. Introduction

The major services provided by these firms in Malaysia are accounting, taxation, audit and secretarial services. As professional provider firm, knowledge is the important key of success to the firm. The most important asset that accounting have is knowledge [2]. Each of the accounting firm has their own unique of skills and experience that assist to compete with their competitors. The knowledge consists of two types which are the explicit and tacit knowledge [1]. Example of the explicit knowledge in accounting firm are the rules of the MASB (Malaysian Accounting Standards Board), tax code, firm's policy and the procedures of accounting, taxation and secretarial [4].

The knowledge workers spend 15-30% of working hour to looking information that they need in their job. However most of the times they fail to locate thus information that they need [3]. Thus it will fail to achieve the organization in a full potential productivity. CCH's survey in year 2011 there were more than 68% of the tax firm and audits firm that agrees the important of knowledge management in support the accounting, tax and audit process [4]. However, in Malaysia there was less number of accounting firm implement the formal KM. Thus, to improve the productivity and performance, the knowledge management should be apply and practice in accounting firm in Malaysia.

Knowledge repository system is one of the KM system that effort to capture, accumulate and share the knowledge with entire organization members [8]. The system can help the employee organizing, documenting and preserving the knowledge from the leader or expert. Other than that, it also cans quickly searching the information and retrieves the needed information. Thus it can reduce the time of searching the

information that can affect the workloads. Beside saves the time of the searching information, entertain the employee. All the question and information can be find in KR system that answered by the expert and the information will preserve to the entire members in the organization who ever need it.

Knowledge is one of the main important key to the accounting firm in order to provide the professional services to their clients [11]. However in Malaysia, most of the accounting firms not have a proper knowledge repository system to store and share the knowledge that they require in their business [4]. Most of the accounting firms were still using the old method to locate their knowledge such as when the employees have a question or problem he or she will find the answer through the internet or their professional leader [4].

The objectives for this project are:

- To identify the type of knowledge that require in accounting firms.
- To develop and design knowledge repository system (KRS) for SME accounting firm in Malaysia

The scope of study will cover:

- Small and medium enterprise (SME) accounting firm in Malaysia
- Focus on explicit knowledge that require in accounting firm such as tax code, accounting guideline, accounting policies and procedures of taxation.

II. Literature Review

A. Fundamental of Knowledge

The knowledge is understanding gained through experience or study [1]. The knowledge is about the person know how to solve or do a specialized task. They found that knowledge is specificity; it cannot be in transfer from one problem to another problem. Therefore, it must have an expert that who know-how to solve or fix the particular problem or task. Moreover, these knowledge well known as the tacit knowledge where it require a long period to obtain it. The knowledge is related to the integrity, value and belief [1]. Most of the people are using their own value to organize and synthesize their knowledge [1]. Nonaka & Takeuchi were mention that “*knowledge, unlike*

information, is about beliefs and commitment” [11].

There are two type of the knowledge which is “tacit” and “explicit” knowledge [11]. The explicit knowledge is the knowledge that stored and publicly available. Nonaka & Takeuchi (1995) stated “*the tacit knowledge is well personal and difficult to formalise, making it hard to communicate or share with the other. Subjective insights, intuitions and hunches fall into this category of knowledge*” [11].

B. Knowledge Management

The fundamental assumption of knowledge management is that the organizations manage organizational and individual knowledge better will deal more successfully with the challenges of the new business environment [7].

Knowledge management is a process capture the firm’s knowledge wherever in resides- in database, paperwork (explicit knowledge), or in people’s mind (tacit knowledge) and distributing it to wherever it can help to produce the result [9]. The obligation of knowledge Management is to exploit the intellectual capital to gain a competitive advantage

and customer commitment through the efficiency, innovation and more effective decision-making to achieve the organizations' goal [17]. Thus knowledge management allows the organization to enable and support explicitly on the creation, generation, codification and transfer of information and ideas to influence the value for the organization.

Dalkir K. (2005) was mentioned that the current major business was interested in and application of knowledge management lie in four main areas which are the globalization of business, learner organization, "corporate amnesia" and technological advances [5]. Thus it helps the organization be able to compete and survive in the global business world. Moreover, the organization capturing the knowledge of senior colleagues can help the younger employees to make an immediate use of it and improve upon it to make the organization's business run more efficiently [1].

C. Knowledge Repository System

Knowledge repository system (KRS) is an electronic store of the content that related to all subjects about which the organization maintains knowledge [10].

Thus the system has well-known for codifying and storing the knowledge and reuse back the knowledge in future [8], [15].

From the Ruggles (1998) result surveys found that 57% of the organization to be developing or planning to knowledge repository system (KRS) [14]. Meanwhile, Davenport and Prusak (1998) found that 80% of the KM projects to involve some formation of the knowledge repository system (KRS) [14].

However, from the Bock, Qian and Sabherwal (2008) research, they found that the intangible nature of the knowledge has difficult to describe and measure the KRS. Furthermore, the success of the KRS depends on its use for the task including the knowledge contribution and reuse [12].

D. Fundamental of Accounting

According to Riley J. (2004) claimed that there are no official accepted definition of accounting in general [13]. The fundamental of accounting function is to perceived needs, where the needs are differed from different countries, environments and businesses [13]. Thus the accounting is developing in different actions based to the

appropriate environment. Since the accounting is develop in difference ways, thus the definition will also vary cause of the difference type of environment [13].

The accounting is process of get through the financial information about the business organization to stakeholder such as shareholder, director and manager [6]. The communication of accounting is the form of financial statements that show in money terms of the resources that under the control of management [13]. According to Elliot, Barry et al. (2004), accounting that concentrates on reporting to the internal organization's members in called management accounting [6].

The modified process of Knowledge Management System Life Cycle (KMSLC) was taken from Award and Ghaziri (2004) chart show in Figure 1.

a. Questionnaire

Questionnaire distributed to the accounting firm around Malaysia by using the online survey method to get the feedback. 50 sets of questionnaire distributing to accounting firm in Kuching Sarawak. The main goal of distributed the questionnaire to accounting firm is to evaluate the existing infrastructure in the organization and identify the type of knowledge repository system that needed in their organization and the understanding of KM in their organization.

b. Evaluate Exiting Infrastructure

The first processes of KMSLC, which are identify the critical missing gaps and justify the formation of a new KM environment. There will be focus on 3 parts which are system justification – to indentify whether it is worth undergoing to change and investment on KRS in accounting firm. The second part is the scoping the evaluation which identify the limitation in term of time, cost, KM tools

III. Methodology

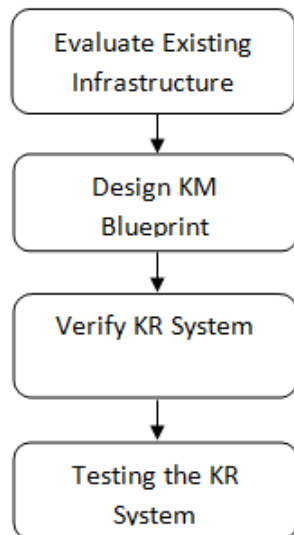


Figure 1: Knowledge Management System Life Cycle

and the current company's technology such as internet, local area connection and other technology tools. The last part is the determining the feasibility in technical which evaluate the hardware and supportive software within in the framework of the company's IT infrastructure.

c. Design the KR Blueprints

The third step of KMSLC is design the IT infrastructure and the knowledge repository architecture. At the same time the actual and deployment of Knowledge Repository system will also develop on this stage. The first step is to identify the system interoperability and scalability with the existing company's IT structure. Follow the next step is finalizing the scope of the Repository system. The third step is deciding the required system components. In the last step will develop the key layers of the KM architecture to meet the company's requirements. There were several key layers in develop the KM architecture such as the user interface, the security layer, collaborative agents and filtering, application layer, transport layer, physical layer and repositories.

d. Test the KM System

The last step in KMSLC, the KM system will be tested. There were two procedures to test the Repository system which is verification procedure and validation procedure. The verification procedure were use to test the system whether is working properly or not. In the other hand, the validation procedure will test on the system to ensure it meet the user's requirement, user friendly and usable.

e. Tool Requirement

Dspace software will use as a development tool in this project. Few minor software are require to support the operation of the system such an Apache Ant 1.8.4, Apache Maven 2.2.1, Apache Tomcat 7.0.32, Postgresql 9.0.10 and DSpace 1.8.2 will be install for develop Knowledge Repository System. As well as Xampp, an open source cross platform web server solution stack package which it use for testing the Knowledge Repository System without access to the Internet.

IV. Result and Discussion

a. Survey result

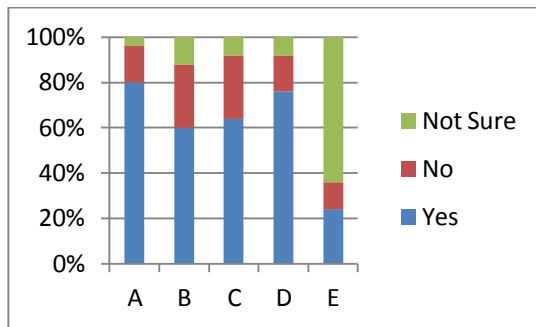


Figure 2: *Understanding of Knowledge Management*

- A. A process of creation, capture, storage and utilization of knowledge
- B. Is about the use of information and technologies.
- C. An important process to manage firm's information.
- D. The management of firm's knowledge, information and experience.
- E. The current business trend.

There were 64% of the respondent did not consider that the knowledge management just the business trend. However, there were 76% of the respondents agree that knowledge management as the management of firm's knowledge, information and experience, which KM is about generate a competitive advantage as stated by Tiwana (2000). There were more than 80% of respondents agree that the knowledge

management is about a process of creation, capture store and utilization of knowledge in their organization. Majority of the respondents (60%) felt that the knowledge management is about the use of information and technologies.

View about Knowledge Management Application	Higher percentage of the view, %
Respondents felt the knowledge management application is a strategic part of their business	32%
Respondent believe that the knowledge management application is important, relevant and latest to the firm.	56.0 %

Figure 3: *View of Knowledge Management Application*

From the result show that, majority of the respondents are felt the knowledge management system is one of the strategic part of their business and they also agree that the KMS are important, relevant and latest to the firm. Moreover, there were 56% of the respondent belief the KMS will help to increase the competitive advantage and performance of their firm.

The situation of firm faced and need	Percentage of the view ,%
Share the information and knowledge with the other colleagues in the firm direct face to face.	76.0%
Respondent felt that their firm are lack of knowledge management.	40.0%
Respondents feel that the system that most need in the organization in manage the organization knowledge is knowledge repository system.	64.0%
Respondents' firms have computerized tools used to manage the document and information.	56.0%

Figure 4: The Current Situation of Firm Faced and Need

The respondents respond to the current situation that faced and type of knowledge management system that they needed. 76% of the respondents share the information and knowledge direct face to face with the colleagues, while 64% of them will using the email as a platform to share the information and knowledge and less than 48% of the respondents use the other tools such as pendrive, server and hardcopy to share the information and knowledge. Meanwhile, there were 64% of the respondents felt that they lack of document management in the firm and less than 36% of the respondent felt their firm are lack of information and less to sharing the knowledge with each other. 64% of the respondent felt that the knowledge management system the most need in their organization is knowledge repository system, which it can help them manage the firm's information and knowledge more systematic and effective.

There were 56% of the respondents that their firm have computerized tool to manage the document and information such as UBS accounting system, AutoCount and Biztrak MSB Financialto manage the client account.

Knowledge that require in Accounting firm	Percentages
Accounting and Financial Report Guideline	77%
Auditing Procedure	80%
Annual General Report	54%
Client Company Profile	46%
Microsoft Office Programs Guideline	67%
Taxation	75%
UBS Accounting Guideline (Accounting technologies)	73%

Figure 5: Knowledge Require in Accounting Firm

The results show that 80% of the respondents agree that the auditing procedure or guidelines are important to the accounting firm. Audit account is an inspection of the accounting procedure and record, thus it require the proper procedure or knowledge to running the audition work. The second higher is the accounting and financial report guideline where 77% respondent felt the knowledge are important to the accounting firm. As well as there were 73% of the respondent felt the UBS Accounting system guideline are important. The main business of accounting firm is manage the clients'

account, thus it is important have an accounting and report guideline to guide the employee follow the proper step to handle the clients' account. Guideline in operate the UBS accounting firm are important to the employee to solve the problem when operate the system. There are 75% of the respondent feel the knowledge of taxation are important to the accounting firm. From the survey it shows that the annual general report, client company profile and the Microsoft office program guideline are less important. Thus the four higher knowledge should be properly manage and share among the employee to increase the performance of the organization.

From Figure 6, the system architecture consists 3 layers which the application layer, business logic layer and storage layer. Each of the layers has their own functionality.

On the application layer is a web base user interface where the admin or the manager and employee allow to view and access. Meanwhile for the business logic layers allow the admin to login access for upload or editing the information into the system, as well as for the employee allow to search and browse the knowledge of information that they needs for their work. For the third layer is the storage layers where the system consist function such as the metadata storage is for description of the content, information about e-people and the authorization. Second part of the storage layers is the content of the information or knowledge that uploaded by admin.

The function of storage layer will be “bank” storage of knowledge in this system, all the information uploaded by admin will be store in this layer. The user searches the information trough the interface searching engine to find the wanted knowledge. The knowledge processing will match the information

b. System Architecture

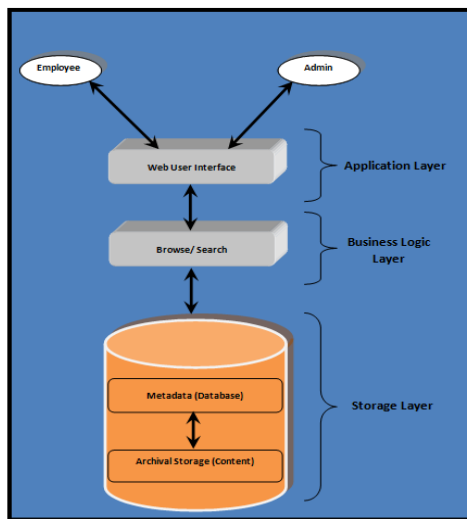


Figure 6: Knowledge Repository System Architecture

that required by user with the knowledge that in the knowledge base, while find the similar or related or information knowledge in the knowledge based the information will be transfer to the interface and view to the user.

c. Prototype View of System

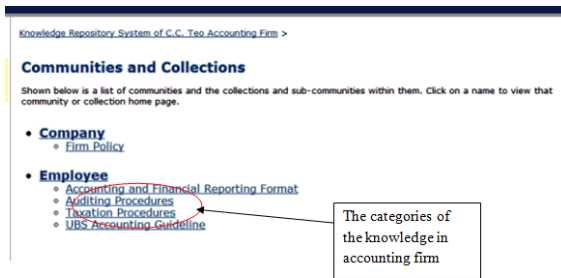


Figure 7: The Prototype View of Categories of Knowledge



Figure 8: The Prototype View of Search System



Figure 9: The Prototype View of Search Result



Figure 10: The Prototype View of the Knowledge Description

V. Conclusion and Recommendations

a. Conclusion

The knowledge repository system design for store and share the knowledge with the employees who need the knowledge to solving their works. The content of the system are updateable, thus the knowledge that store in system will keep update from time to time by admin to make sure those knowledge are newer and useable in solving the work problems. The knowledge repository system has been design for few sub communities that able to store and locate the knowledge based on the type and specification of the knowledge.

b. Recommendations

The continuation of this project will be more enrichment to the system by adding more sub-communities of knowledge that

relevant to the accounting firm. This will be a good move to ensure the content of the knowledge repository system up to date and provide the sufficient knowledge to the accounting firm.

On the other hand, it is recommence give an opportunities to employees upload the knowledge by them self based on their own expertise. In future focus it is recommence to identify the tacit knowledge in the accounting firm and store into the KRS system.

Lastly, the future enhancement for the knowledge repository system would be a plug-in the additional function by storing and digitalize the clients' documents. Thus the system can be a more efficiency and dual function system that effectively manage the organization's knowledge and document management.

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