# HUMAN RESOURCES KNOWLEDGE SHARING PORTAL FOR TRAINING & PEOPLE CAPABILITY UNIT

by

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13248

Project dissertation submitted in partial fulfillment of the requirements for the Bachelor of Technology (Hons.) Business Information System

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January 2013

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# **ABSTRACT**

The importance of knowledge sharing has been long recognized by different functions of Human Resources department in facilitating the knowledge transfer needed to reduce knowledge gap among staffs. An effective medium to share knowledge, be they in tacit or explicit forms is believed will help to help staffs to communicate and collaborate in getting the knowledge they need to perform their jobs well as these workers need to have access to vast amount of knowledge resided in documents and brains which they do not possess. This paper discussed the need of implementing a Human Resources Knowledge Sharing Portal for Training & People Capability unit, to address the problem mentioned. The portal is aimed to act as an effective sharing medium for the unit's staffs to share work-related documents and knowledge which will be very useful to boost the unit's productivity. This portal will also act as the stepping stone in cultivating the knowledge sharing culture within the organization for the organization's betterment in the future.

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# ABBREVIATIONS AND NOMENCLATURES

HR Human Resources

IT Information technology

E&P Exploration & production

PSD Public Services Department

RAD Rapid Application Development

CMS Content Management System

WWW World Wide Web

FYP Final Year Project

RM Ringgit Malaysia \*Malaysian currency

N/A Not Available

RDMS Relational Database Management System

ER Entity-relationship

# CHAPTER 1

# INTRODUCTION

#### 1.1 BACKGROUND OF STUDY

Knowledge sharing is one of the four knowledge management processes through which knowledge on a subject matter, either in its tacit or explicit form is communicated to other individuals. For a knowledge sharing process to be regarded as successful, such transfer must results in effective transfer, where the recipients of the knowledge understand the knowledge well enough to act on it. Knowledge sharing process is becoming more and more prominent nowadays within organizations as organizations are currently looking forward to improve the flow of knowledge among its employees, enabling knowledge to be properly disseminated among employees to boost productivity and help to enhance employees' efficiency and effectiveness in accomplishing assigned tasks and responsibilities.

There are many ways to share knowledge, and one of them is by capitalizing on current technological advancement, such as web development to do so. Portal is one of the effective platforms where knowledge can be easily shared among employees as they can simply upload important documents for their counterparts to access and engage in interactive discussions through the portal forum, for example. Portal is essential to any modern organization who plans to take knowledge management seriously in years to come as it will help to nurture and support the growing of knowledge sharing culture in an organization by capitalizing on resources which most of the companies have nowadays; information technology (IT) infrastructure.

Human Resources (HR) department, or formerly known as personnel department is one important function within an organization which manages the organization's most valuable assets; which are its people. In brief, HR department deals with a wide array of staffs or employees issues such as compensation, recruitment and selection, employee relations, performance appraisal as well as employees training and development. It is a common practice for an organization to have a few units within its HR department which cater to different functions of HR.

Training and development, as well as performance appraisal are the tools used by organization, through its HR department to further develop its employee's capability. The HR unit which serves these two functions is often called Training & People Capability by many organizations, although there are some other names being used as well such as Staffs Development and Training Unit but nonetheless, they all perform similar functions. In dealing with employee's capability, HR Training & People Capability staffs must possess a vast amount of knowledge on employees' training, development as well as on career progression and performance appraisal since they are knitted closely together. There is a pressing need for a mean to facilitate the transfer of knowledge of some of the unit's senior, experienced staffs to those who just recently joined and other junior, inexperienced staffs to ensure optimal performance of the unit in serving matters concerning employee's capability development.

#### 1.2 PROBLEM STATEMENT

#### 1.2.1 PROBLEM IDENTIFICATION

It is identified that the staffs of HR Training & People Capability unit within organization is suffering from a situation which can be commonly found in most organizations, which is knowledge gap (Haider, 2003). The gap prohibits the staffs to perform to the fullest as a team, with some staffs be able to perform their works in flying colors and some do not. This later on, translates into a mixed perception of organization's employees on the unit's competency as a business function.

In this project research study, a few problems which constitute to the existence of knowledge gap have been addressed as follows:

 The absence of an effective knowledge sharing platform within the unit which inhibit effective communication among unit staffs. Knowledge sharing activities do occur within the unit but through informal discussions and consultations. The knowledge shared does not being made into explicit form which sometimes causes knowledge to be lost.

- Staffs tend to store important document and files in their own personal
  drives and cause difficulties to others to access the documents and files
  should they need to use it to perform some tasks especially to those with
  minimal experience in dealing with certain domain area.
- With no medium is in place to facilitate knowledge sharing process, the culture of knowledge sharing itself cannot be nurtured among the unit staffs which widen the knowledge gap in the unit.

With this project in place, it will help to alleviate the problems addressed above as the portal will function as a one-stop center where the unit staffs can exchange their knowledge among themselves, perform situation-based problem solving and find the information and materials which they need to accomplish their respective assignments. This will help to boost productivity of the unit as well as its staffs' efficiency and effectiveness in doing their work.

#### 1.2.2 SIGNIFICANCE OF THE PROJECT

The portal will prove to be useful to the users, who are the Training & People Capability unit's staffs from the HR department. It is significant in a way for the department to go for a different, yet effective approach in closing the knowledge gap exists within the unit. As technology is one of the main pillars of knowledge management, the portal, a form of technology itself, will act as an important enabler for knowledge sharing to take place within the unit.

Unit staffs' will be made able to share work-related documents for others viewing and other resources such as their own insights regarding certain HR issues and the best practices to be done should complications arise with the unit's other staffs. This will help to propel the unit to be better in term of productivity. Apart from work-based information, staffs can also share their success and failure stories which they have encountered throughout their years of service, which may include the secret recipe to success or precautionary measures to prevent any failure to take

place which will help all staffs to be aware of what is best to be done and what is best not to do in their day-to-day work practices.

#### 1.3 OBJECTIVES OF STUDY

The main objective of this research is:

• To develop an online portal which is capable of facilitating knowledge sharing activities among HR Training & People Capability unit's staffs

In view to the main objective, the study aims to satisfy these following objectives as well:

- A portal which will help unit's staffs to share their work-related resources with their other colleagues.
- A portal which acts as a sharing medium where staffs are able to post their knowledge on certain domain area for others information which will help them with their future decision making situations.
- A portal which will help to cultivate and nurture the culture of knowledge sharing among unit's staffs.

The objectives set will be evaluated and measured from time to time to ensure that this study is conducted in an effective manner.

#### 1.4 SCOPE OF STUDY

The scope of the study is narrowed down to on how the portal can be used as a knowledge sharing medium, discovering all the possibilities and potential that can be unleashed from an online portal in facilitating knowledge sharing activities in the unit.

On the knowledge sharing activities, the scope is on how the portal can help to facilitate the sharing of work-related documents and other resources among unit's staffs and their knowledge on certain domain or problem area.

#### 1.5 RELEVANCY OF THE PROJECT

The proposed system is indeed relevant to the unit in particular and will benefit the department and organization as a whole. Knowledge itself is one valuable resource of an organization. By finding better ways on how to manage knowledge will prove to be beneficial to the organization, especially in the sense of productivity. By using portal as a medium to share knowledge, the unit will be able to perform effective knowledge sharing activities as the portal helps to consolidate knowledge available within the unit, be they in explicit or tacit form. Documented knowledge can be shared across the unit with the portal allowing staffs to upload and download files, presentations and other materials while the existence of forum space intended to be provided in the portal will facilitate discussions among unit's staffs and in a way, formalize as well as record the knowledge shared for further reference. What the staffs need to do is to only search whatever knowledge or resources they think they need, all available for access from the portal.

#### 1.6 FEASIBILITY OF THE PROJECT WITHIN SCOPE AND TIME FRAME

In term of feasibility, the project is considered feasible and practical to be carried out within the scope and time frame given. First, on the project scope, the study is only narrowed to one process of knowledge management which is knowledge sharing. A narrowed scope only concerns about a limited numbers of functions and domains which will help with data collection process. The project will not require a massive amount of data to work on, in deducing meaningful conclusion of the study. Although the time frame for the whole project can be considered as short, it is with utmost optimism that the project can still be carried out within the specified duration.

# 1.6.1 Technical Feasibility

For the development of the portal, it is also feasible to develop the portal in accordance to the scope and time frame stipulated earlier after considering the risks associated with the portal development.

Technology Area – Medium Risk

In developing an online portal, a multitude set of programming skills would be required to build and make the portal go live. The author's years of exposure to programming courses will likely be instrumental in developing the portal and making sure it will function properly as intended. But relying solely on the author's programming skills will not be enough. The existence of open source development tools such as Joomla will further mitigate the risk in this technology area.

# Familiarity with Functional Area – Medium Risk

As knowledge management itself is a new, emerging discipline, it is no doubt that the author will definitely be faced with some problems in getting familiar with the functional area involved. But however, with intensive critical analysis done from various related publications as well as assistance provided by knowledge management lecturers available in author's campus will definitely help the author to further understand on the project's functional area and thus minimizes the risk.

#### Project Size – Medium Risk

It is important for the author to keep the project's size small as it helps to make the works of the project manageable. Having a solid, clear plan on what tasks need to be done within what time will also help to mitigate the risk involved.

#### 1.6.2 Operational Feasibility

The portal is deemed feasible for operation since the development of the portal is done by leveraging on the existing information technology (IT) infrastructure available within most companies, for example the intranet. Since most companies are fully equipped with personal computers, readily available in their very own workspace, there will be fewer difficulties for staffs to start using the portal as the portal will be operated from their very own personal computers due to its webbased nature which makes it accessible to be operated from anywhere, as long as there is computer and staffs login details.

To cater to the staffs' adaptability towards the system, internal training and user guide manual will be issued and distributed to the staffs. Both manuals and training will emphasize on the step-to-step guides on how can the staffs properly operate the portal, from signing in, to uploading contents, participate in discussion as well as moderate their comments and post. The training for example will include real-time, real navigation throughout the portal, exposing the staffs to all the keys, buttons and functions available inside the portal which will be beneficial for their use while doing their works in future days to come.

Please refer Figure 25 for training session layout

# 1.6.3 Economic Feasibility

The portal will be feasible economically due to below reasons:

- Low development cost
- Low maintenance cost

With the portal in place, it is expected that the specified unit will be able to improve its efficiency in doing all of their tasks which in turn reduce the number of manpower needed to accomplish certain tasks. Therefore, it eliminates the need for the organization to employ more staffs to be placed within the unit in order to get the jobs done. Moreover, the portal will bring other potential cost-saving in terms of the need to organize workshop to train staffs on how to properly share knowledge manually as well as save the material cost such as paper and ink, should the knowledge sharing activities are to be done using printed materials.

The cost-benefit analysis below will help to better visualize potential gains and cost incurred in this portal development.

Table 1: Cost-Benefit Analysis (figures in RM, estimated figures only)

Cost	
Office information technology (IT) infrastructure	N/A
setup	
Server cost	4 500
Server maintenance	700
Flexible worker support & management	500
Training	1 500
IT remote support	1 000
Administration Fees	5 000
Total Cost Per Annum	13 200
Benefits	
Improved efficiency on tasks and jobs	3 000
Improved productivity	5 000
Improved organizational performance	10 000
Saving – potential hiring of employees	25 000
Total Benefit Per Annum	43 000
Total Net Benefit Per Annum	29 800

# **CHAPTER 2**

#### LITERATURE REVIEW

#### 2.1 KNOWLEDE SHARING: DEFINITION AND CONCEPTS

Knowledge sharing by definition is a process of knowledge management where knowledge, be it in tacit or explicit form, is communicated to other individuals. In view to information system, knowledge sharing can be further described as a set of activities of transferring or disseminating knowledge from a knowledge base(s) through certain medium among entities, which refers to either individual, network, organization or even network of organizations as suggested by Lertpittayapoom, Paul and Mykytyn (2007). Knowledge sharing is said to be effective when the recipient is able to utilize the knowledge transferred in completing the task pursued.

Dong, Hussain and Chang (2008) on the other hand believes that knowledge sharing is not just about a simple communication process, which has to results in effective knowledge transfer, but rather as an extended learning process, which with the help of technology, will get the people to be familiarize on how to effectively share knowledge which will help the recipients of the knowledge to have a just-in-time access to the latest information available. They also defined 5 important steps which make up knowledge sharing which are; search knowledge, refer knowledge, modify knowledge, apply knowledge and collect knowledge. Such steps are imminent for any party to perform any effective knowledge sharing initiative as the right procedures taken will ensure an effective transfer to happen and knowledge to be successfully shared between parties involved.

# 2.2 KNOWLEDGE SHARING IN ORGANIZATIONS

With knowledge starting to be recognized as one of the important resources which will help to drive organizations' growth, more and more attention has been given to manage knowledge, and of course, to encourage the people within the organization to embark on knowledge sharing initiatives for the organization's betterment. Unnik (2004) discussed how Shell Exploration & Production (Shell E&P) acknowledged the importance of the

know-how and experience of its staffs in ensuring its long-lasting competitiveness in the oil and gas exploration and production industry. Shell E&P believed that such knowledge must be stored and further exploited for the company's longevity for future years to come; therefore it engaged information system, as a mean to store the tacit knowledge, by converting them into explicit forms such as Word documents and PowerPoint presentation slides. The explicit knowledge is then stored in what they called "Global Networks" with Shell E&P staffs worldwide having the access to retrieve the information which they think they required to facilitate their works. Such knowledge sharing initiative was lauded well by the staffs, but faces some criticism as well. The explicit knowledge was condemned for not representing the real know-how embedded in Shell E&P staffs brains, only a fraction of the whole real thing.

Ibrahim and Abdullah (2006) in their paper reviewed Malaysia's Public Services Department (PSD) e-government knowledge sharing initiatives which they believed is essential for the department to offer better quality services to the citizens. PSD performed a number of knowledge sharing activities for example, conducting formal knowledge sharing session monthly and publishing newsletter fortnightly to disseminate information on e-government and ICT-related issues known as KERIS among its staffs. Some key issues in regard with knowledge sharing in e-government initiatives are outlined as below:

- i. What knowledge to share? Organization must specify what types of knowledge that it intends to share and make available across the organization.
- ii. With whom to share knowledge It is important to identify who will be the beneficiaries of the shared knowledge. Knowledge sharing with internal audience helps to improve work quality while engaging external audience to share knowledge with them might raise certain complex issues such as confidentiality, copyright and protection of proprietary asset.
- *How will knowledge be shared?* Organization must as well figure out through what medium knowledge can be effectively shared with face-to-face contact considered as a must.

- iv. Why will knowledge be shared? Staffs need motivations to get on with knowledge sharing initiatives. According to Yang (2007), people are likely to share their knowledge with others in an organization if they can gain additional payoff in doing so. Organization may opt to give either extrinsic or natural rewards to encourage staffs to share knowledge, as rewards serve as one of the ultimate motivation which can induce people to contribute.
- v. Will knowledge be shared? The organization must take necessary steps to ensure knowledge is being shared from the top management team to encourage staffs to follow suit.

By addressing these cores, PSD is said to be able to come out with better knowledge sharing initiatives as these questions help to further refine on how such initiatives can be properly conducted. But even with proper planning and execution, knowledge sharing can only be effectively carried out should there is a strong sense of trust in the organization, as it is this trust which paves a way to knowledge sharing since when people share feeling of ownership of goals, they tend to share information on how can they work things out together in achieving that same, common goal (Burke, 2011).

Baker Hughes on the other hand, embarked on a different kind of knowledge sharing initiative, according to Hinze, Perry, Jacob and Wise (2012). The oil field giant developed a lessons-learned system, meant to equip its engineering groups across all disciplines with the ability to quickly apply lessons and recommended practices learned over countless of projects, situations and cases which the company had encountered throughout its years of operation. The system is focused narrowly on enhancing its engineer's situation-based problem solving skills which has earned Baker Hughes a tremendous reputation in the eyes of its clients. Such lessons-learned platform enables the staffs to commit, collaborate and share whatever knowledge they have in view to strengthen communication, collaboration and exchange of information which in turn propels innovation and help the company to gain a significant competitive advantage over its competitors in alarming situation-based problems.

# 2.3 USING INFORMATION SYSTEM TO FACILITATE KNOWLEDGE SHARING

Hendriks (1999) in his research article explored deeply on how information technology and information system, can enhance knowledge sharing by lowering temporal and spatial barriers between workers as well as improving access to information. Innovative ways on how can knowledge be shared using information system were also briefly described, for example, exploiting the existence of intranet to communicate documents and work-related materials among peers, online-based discussions as well as the development of online knowledge base which has been widely adopted by most successful organizations in the world to enhance their competitiveness and ensure lasting survival.

But information system roles in knowledge sharing are not just about putting your documents online for others to read. Akiyoshi (2008) states that information system has been instrumental in structuring human knowledge, those embedded in their brains, thus tacit knowledge in a more understandable form which can be read and easily understood by other. Such structuring ease the process to retrieve the knowledge shared which contributes to an effective transfer of knowledge, a mandatory condition for a knowledge sharing process to be deemed effective. Data mining tools can be used for this purpose and nowadays, used to not only mine for the knowledge shared but also to associate, cluster and categorize knowledge for others further reference.

Knowledge sharing and information system cross integration in Buckman Lab as indicated by Pan and Leidner (2003) is a manifestation on how information system is capable of bringing knowledge sharing activities in a company to a greater height, allowing the company to better manage its knowledge resources through the establishment of centralized knowledge base with rapport support from its staffs to constantly being committed in sharing knowledge among them. Buckman Lab has information system to be thanked for its ability to establish a strong knowledge sharing culture within the organization.

# 2.4 BARRIERS IN KNOWLEDGE SHARING

With all the information system infrastructure and facilities are at place, ready to be leveraged to further facilitate knowledge sharing, the process of knowledge sharing should be easier to be practiced and acted on by organization. But some has different thought and opinion in regard to this matter. Disterer (2001) has investigated various individual and social barriers that obstruct knowledge sharing and transfer among people during proceedings of the 34<sup>th</sup> Hawaii International Conference on System Science. These issues are generally observed on different organizational levels, individual and group level. From the findings, it is revealed that the individual barriers for knowledge transfer exist in different forms such as:

- Loss of power
- Revelation
- Uncertainty
- Lack of self-motivation

With some people perceive knowledge as an individual asset which should not by any chance, shared with others, this again contributes as a knowledge barrier at individual level. Other barrier would be individual feeling of uncertainty whether they are having general or specific knowledge which is valuable for others. Later, the individuals will have the lack of confidence to share the knowledge as they expect no benefits will be gained from the sharing. The social barrier on the other hand consists of:

- Language
- Conflict avoidance
- Bureaucracy
- Hierarchy and incoherent paradigms

The use of common language is definitely lacking in certain organizations and companies which hinder knowledge sharing initiatives as not everyone is speaking the same language. And there are as well cases where employees or people of the organizations strongly opposed knowledge sharing as they are reluctant and uneasy about the concept of receiving new knowledge which may lead to organizational change.

Individual and social barriers are not the only type of knowledge barriers which exist. Bures (2003) in the studies on barriers of knowledge sharing has identified cultural barrier as another big, dividing wall which inhibits knowledge sharing initiatives. The concept of cultural barrier in knowledge sharing is further explored by focusing on the conflict of motives and the impact of insufficient knowledge on knowledge sharing initiatives. The conflict of motives is divided into five (5) basic conceptual components which are:

- Appetence-appetence
- Aversion-aversion
- Appetence-aversion
- I do not want to but I have to
- I want to but I cannot

These whole conflicts affect knowledge sharing in a way; some of people in organizations have certain negative view on knowledge sharing, as they see it as an undesirable practice. The view is very much based on certain culture where individualism is upheld tightly and collectivism is then neglected. The conflict of motives, made up by culture serves as a significant cultural barrier in knowledge sharing practices at the organizational level.

# 2.5 CONTENT MANAGEMENT SYSTEM DEFINITION & CONCEPT

One of the information system tools which can be used to facilitate knowledge sharing initiatives is content management system (CMS). Baxter et al. (2002) in their research defined CMS as information delivery systems that organize the content separately into documents and borders and it includes a web based system. The content can be in a any form available, depending on what the organizations intend to manage and share such as textual, graphical as well as video. With web-based ready functionalities, the content can be then delivered to the users for their viewing and keeping. The content can be viewed through browsers, such as Internet Explorer, Mozilla Firefox, Google Chrome or even Safari since the embedded tagging features available in CMS allow such function to take place.

Stewart et al. (2008) on the other hand has a more general view towards CMS where they define it as a tool used to create, edit, manage and publish contents, be it text, graphics, documents or even video. The process is done by applying a standardized set of rules, processes and workflows in a logical method. They argue that CMS is a tool which helps people from both technical and non-technical background to manage and oversee an array of contents with various formats, adhering to reliable and valid rules. With CMS, the organization can better manage the contents they want to share as it will not require a CMS domain expert to administer and monitor the running of the system which will definitely incur a huge cost to the organization. The staffs involved can be then trained to shoulder the tasks in administering the system.

#### 2.5 CMS FEATURES & BENEFITS

Michelinakis (2004) categorized CMS functional areas into eight (8) categories, as per below description:

# 1) Applications

CMS general functionality which makes and supports CMS as a solution to a domain or a problem, by integrating contents with existing data available in the organization and authenticate system to aid data consistency and management.

#### 2) Data Repository

The flexibility of content storage in CMS supports data repository

#### 3) Deployment

Business needs, scalability, fault tolerance and duplication supports the functions of deployment in CMS

# 4) Integration

Allows content to be stored in a manageable way where it is separated with the design template and can be delivered as web pages and in different type of document formats

# 5) Revision Control

The importance of asset control supports this function where it allows contents to be revised properly if there are any modifications

#### 6) User Interface

It is used to enhance control of processes such as web based applications for front end users and administrators

# 7) User Management

It includes the access or permission control of users, authentication process and user data management

#### 8) Workflow

This category allows contents to be maintained and developed by undergoing different sets of processes such as assessment and review

These features of CMS should be taken seriously by any developer who plans to embark on CMS development. But the features to be included in any CMS should take into consideration some of the parameters such as the size of a business, field operations as well as type of data, information and knowledge which it is about to manage.

Content management, when managed properly will be able to drive organization to be more effective and efficient in carrying out their business as managed content improves decision making quality and organization deliveries. Browning and Londes (2001) in their paper had mentioned that CMS is aimed to enhance integration and computerization of practices and best conducts which facilitates delivery of the content to the end users. CMS brings significant benefits to an organization and taking university context in their research, the benefits of CMS identified by them are as below:

- Allowing past information or to be re-created, re-constructed and stored
- Metadata are captured upon creation and amendment that provides a best information management practice.

- Creating the use of information by permitting the ready integration of data from various sources
- Allowing an proficient re-purposing of information in different formats for different purposes
- Permitting an entrusted maintenance of information and maintain the central control
- De-skilling of the task of putting information on the Web by reducing the conventional methods such as word-processor documents

# **CHAPTER 3**

# METHODOLOGY

#### 3.1 RESEARCH METHODOLOGY

The research methodology used in this study is critical analysis on published literatures, for example, journal papers, academic books and scholarly articles. The literatures used are those which are recently published, to prevent obsolete information from being used for this study thus ensuring a more accurate and valid analysis result. Such analysis helps the author to better comprehend and understand about the project domain, namely on the inner depth of the knowledge sharing itself. Not only that, the author is also exposed to a wider view of the whole knowledge sharing concept as well as other perspectives where knowledge sharing can be looked at, especially on how can it be effectively conducted within an organization and further exploited as one of organization's strategic tools in enhancing staffs' performance and productivity.

For the development of the portal, Rapid Application Development (RAD) approach is going to be adopted. RAD is picked due to its ability to deliver a functioning system within a short period of time. As the time frame for the whole project is quite short, RAD is seen as the best approach to be used in regards to the situation. RAD is a process which involves iterative development together with prototyping. It provides a greater flexibility to the developer as the functionalities can be added here and there throughout the development of the prototype. The prototype can be further refined to suit additional requirements which are deemed necessary to be included. Through RAD, the developer will be able to come out with a working prototype within a shorter period of time, which in this case, the working model of the portal can be developed within the time frame specified.

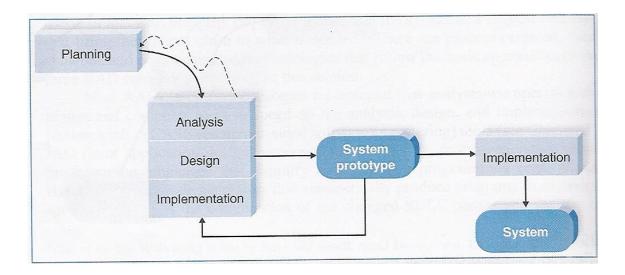


Figure 2: Prototype development based methodology using RAD concept (Dennis, Wixom & Roth, 2006)

#### 3.2 PROJECT ACTIVITIES

Listed below are the project activities involved throughout this study:

- i. Define research problems For this project, the problem identified is the absence of a knowledge sharing medium for staffs to share resources and their knowledge on certain domain area among themselves which inhibit effective communication within the unit and deter productivity.
- **ii.** *Review related concepts/theories* Recently published literatures are analyzed to better understand the research area or problem domain of the project.
- **iii. Data gathering** Data and information such as user requirements are gathered via various data collection methods.
- iv. System design The system specifications of the portal will be outlined to meet
   the requirements set from the data and information gathered.
- v. System development System specifications will then be converted into a working model.

vi. System testing – The system is to be tested so that it matches well with all the requirements specified earlier.

#### 3.3 METHODS OF DATA COLLECTION

For this project, data is collected using the following data collection methods:

- i. Interview The interview is to involve staffs from HR Training & People Capability unit or unit with equivalent responsibilities from different companies (minimum of one) to study the current practice of knowledge sharing available. The interviewees are asked to respond to a set of interview questions prepared beforehand the interview sessions.
- **ii.** Acceptance survey A set of close and open ended questions are forwarded to the related respondents which are the unit's staffs. The survey intended to study the users' acceptance of the knowledge sharing portal.
- **iii.** *Literature review* Related concepts and theories of knowledge sharing are extracted from analysis of literatures.

#### 3.4 SAMPLE DESIGN

# 3.4.1 DEFINING THE POPULATION

The acceptance survey is conducted among HR People & Capability staffs. These people are the targeted respondents for the survey and will be the main users of the portal.

# 3.4.2 SAMPLE SIZE

The estimated total numbers of staffs in a unit is around 5. Since the number is quite small, the study did not only concentrate on one company but include a few other companies as well to get adequate feedback.

#### 3.4.3 SAMPLING METHOD

In conducting the survey, a probabilistic sampling method is used. For this project, the sample population has already been identified since the study is specifically aimed to address the problem faced by a specific unit in HR department. The staffs of the unit have equal chance to be selected as respondents for the survey and no bias element will be involved, thus ensuring the integrity and quality of the survey results.

#### 3.5 DATA REPRESENTATION

After data is collected, it is further analyzed and interpreted to gather information that it carried, using both qualitative and quantitative methods.

**Qualitative Method** – This method evaluates the opinions and views gathered from the interviews conducted which explored on how the interviewees perceived the current knowledge sharing activities available and being practiced in their unit. This method also serves as the foundation on how the portal should be developed to suit and match the requirements needed by the unit in facilitating its knowledge sharing initiatives.

*Quantitative Method* – For this method, the survey responses collected will be evaluated in view to the hypotheses made, one made at the beginning of study, thus the null hypothesis and another is its alternate. For this study, the hypotheses are:

**H0**: HR People & Capability staffs do not use an effective medium to share work-related resources and knowledge among them.

**H1**: HR People & Capability staffs do use an effective medium to share work-related resources and knowledge among them.

This method used numerical evidences to further support and validates the data gathered from the surveys. The data will later be further analyzed and made into graphical presentation such as graphs and charts which will later on assist in deducing conclusion.

# 3.6 GANTT CHART

Please refer Figure 23 & 24 in Appendix section

#### **3.7 TOOLS**

Table 2: Development tools used for portal development

<b>Development Elements</b>	Software/ Platform
Development Tool	Joomla
Programming language	PHP
Database	MySQL
Web Server	Apache HTTP Server - WAMP

For the development of Human Resources – Knowledge Sharing Portal, it is decided that the development tools to be used are as follow:

# a) Joomla! - Development tool

Joomla! is an award-winning content management system which enable webbased portal and online applications to be developed. Joomla! is an open source solution which is freely available for anyone and often preferred as the development tool for web-based sites and portal.

#### b) WAMP – Web server

WAMP is a Windows-oriented web server solution pack which consists mainly of the Apache HTTP server and MySQL database. It serves as the test environment for portal which is currently being developed.

# c) MySQL – Database

MySQL database is a relational database management system, readily available in WAMP package.

These tools are chosen due to their open-source nature where the tools can be easily retrieved from the internet, free, and have a strong support community which can be useful to counter arising problems and concerns throughout the portal development.

#### 3.8 RESEARCH-RELATED DIAGRAMS

#### 3.8.1 CONTEXT DIAGRAM

The context diagram illustrates the whole context of the portal which will receive inputs from both portal administrator and users such as:

- Work-related materials
- Discussion inputs
- Memo
- Newsletter

The inputs will be then uploaded into the portal and the expected output would be the updated work-related knowledge, delivered to the users of the portal.

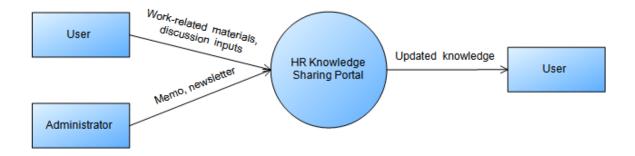


Figure 3: Context Diagram for the portal

# 3.8.2 USE CASE DIAGRAMS

From the research findings, the users of this portal have been successfully identified and their roles in the portal are further described using the use case diagram below:

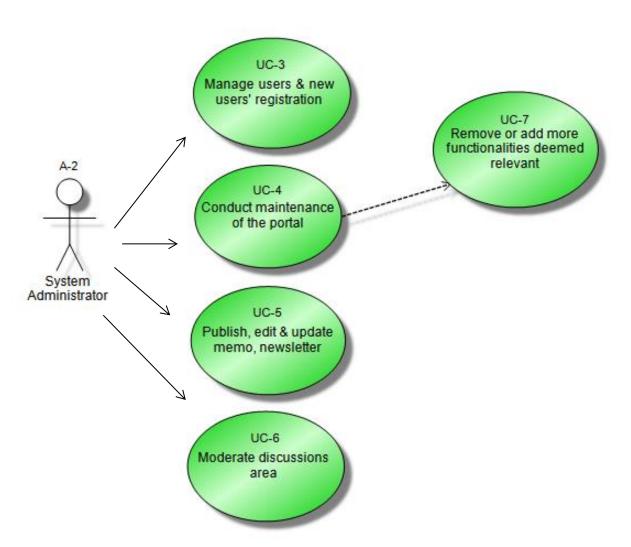


Figure 4: System Administrator Use Case Diagram

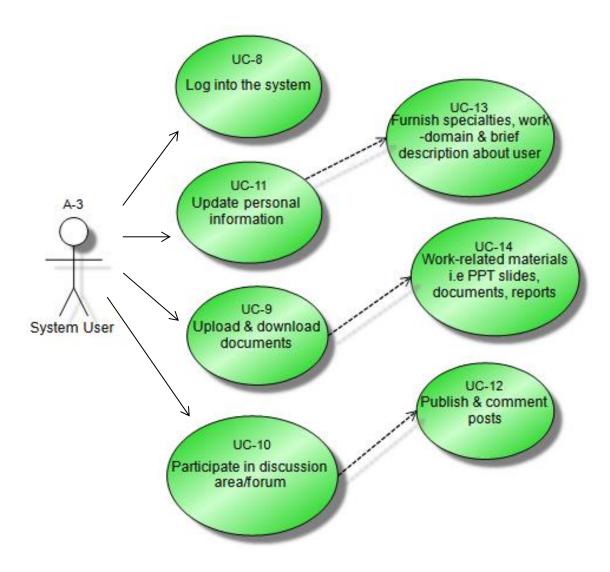


Figure 5: System Users Use Case Diagram

# 3.8.3 ENTITY-RELATIONSHIP (ER) DIAGRAM

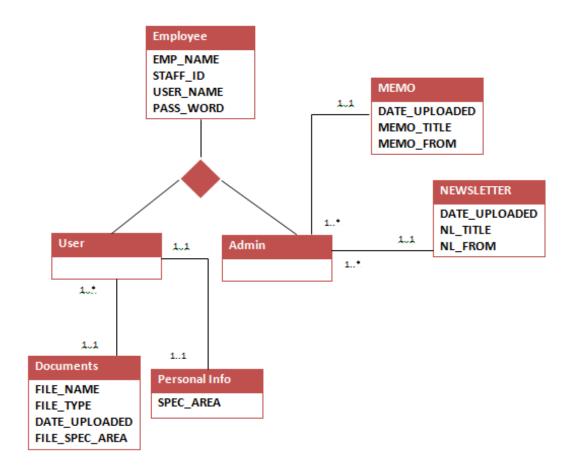


Figure 6: Entity-relationship (ER) Diagram

# 3.8.4 SYSTEM FLOWCHART

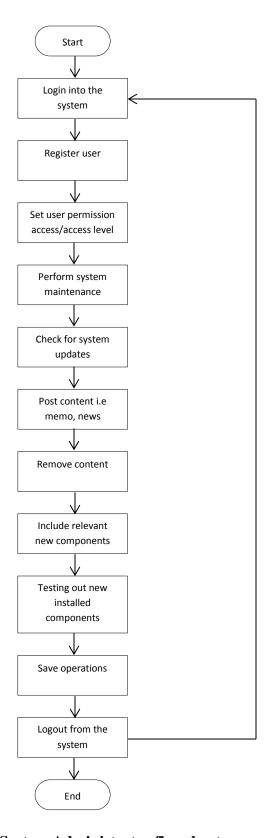


Figure 7: System Administrator flowchart

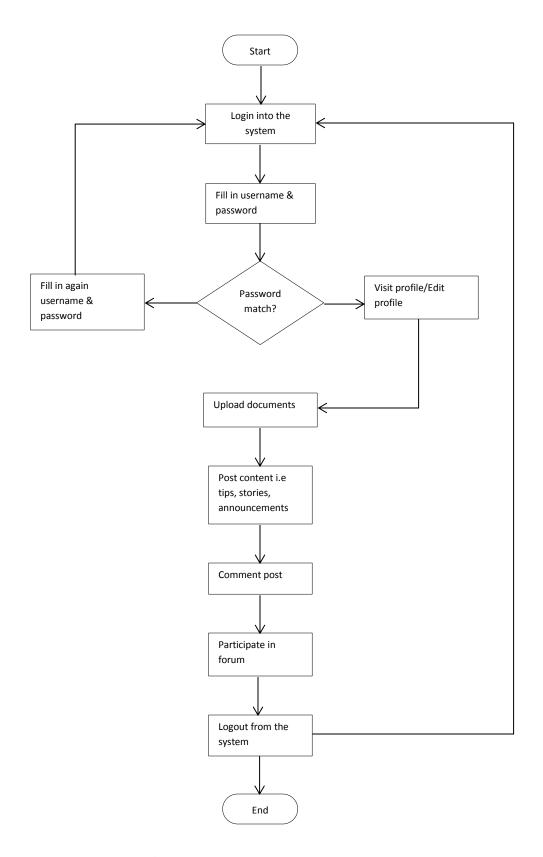


Figure 8: System User's Flowchart

# **CHAPTER 4**

# **RESULTS & DISCUSSION**

### 4.1 PRELIMINARY FINDINGS (FYP I)

Throughout the Final Year Project (FYP) 1 session, most of the time has been allocated for extensive research on domain area, especially in understanding the research area related to the project. The research is done by reviewing published journal papers and also reading some textbooks on the research domain.

Interview has been conducted with a few HR personnel from the unit in charge of people capability and training. From the session, it is safe to conclude that the respondents are indeed welcoming the idea of having a knowledge sharing portal to facilitate the transfer and sharing of knowledge among themselves. They believe that such act will further facilitate their day-to-day work as they will be able to gain better access to certain folders and reports which are needed to accomplish their works. Sometimes, the person who is having certain materials in his possession is by chance, not present in the office, therefore, the respondents lost access to the materials and cannot proceed with their work as the piece of information which is missing is essential and important for them to complete the tasks assigned.

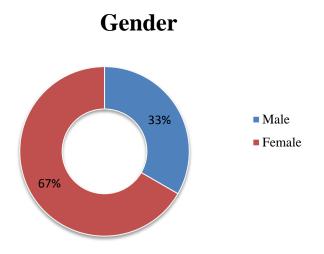
Not only that, the early respondents also explained in brief what might be the barrier which will inhibit the knowledge sharing initiative planned to be carried out through this portal. They are worried there will be mild participation from the staffs which might cause the initiative to fail. They provide suggestions on how the portal can attract people's attention to use it and that includes pleasant-looking and user-friendly user interface, and the portal must not be too complex to operate. That way, the staffs will find it easy to share knowledge and this will assure the portal's success if it's about to be implemented in their respective companies.

# 4.2 PRELIMINARY FIINDINGS (FYP II)

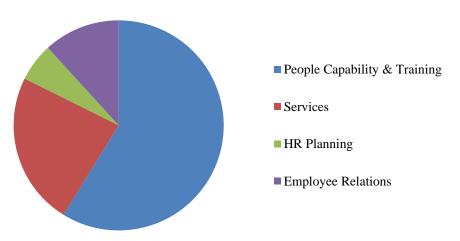
Moving on to the Final Year Project (FYP) II session, the focus is more geared towards coming out with the prototype or a working model of the proposed knowledge sharing portal thus responding to the main objective of the project which is "to develop an online portal which is capable of facilitating knowledge sharing activities among HR Training & People Capability unit's staffs". For that reason, surveying was carried out among 30 respondents who are Human Resources' staffs, serving in different HR functions in various organizations to gather their feedbacks on knowledge sharing practices as well as exploring what they might have in mind on what the knowledge sharing portal will be able to deliver. The survey results are compiled and the summary of responses tabulated in different forms of representation can be found below:

# 4.2.1 Survey results

#### a) General Details



## Attachment



#### b) Current Knowledge Sharing Practice

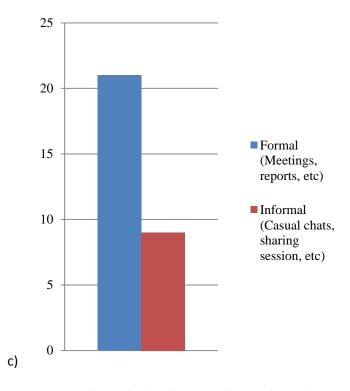


Figure 9: Current knowledge sharing channel used in organization

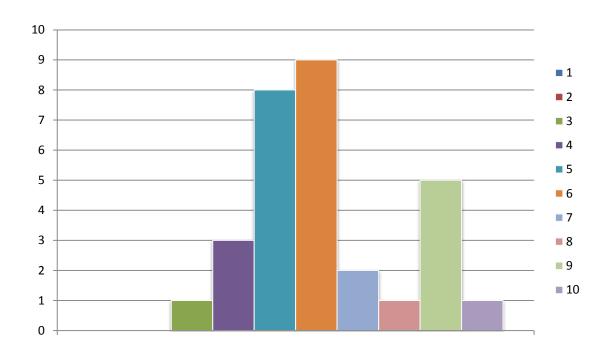


Figure 10: Satisfaction on current channel used (10-point rating scale system)

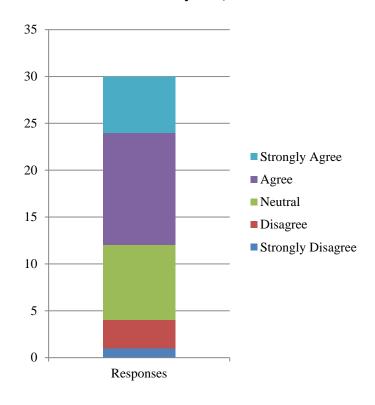


Figure 11: Staffs responses on do they find those initiatives really helpful in promoting knowledge sharing culture

#### c) Online Knowledge Portal As Knowledge Sharing Tool In Organization

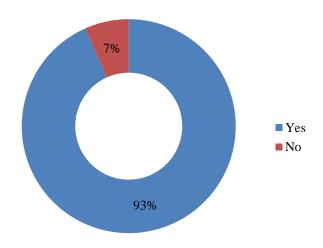


Figure 12: Responses on "have you ever engaged in sharing knowledge via online means? E.g social media, email, company intranet"

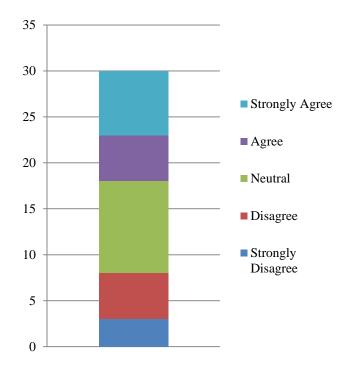


Figure 13: Responses on "do you see online knowledge portal as an effective mean to share knowledge in your department/organization?"

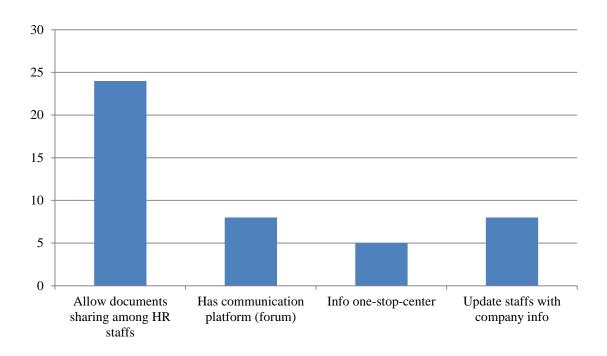


Figure 14: Expectation on what the portal able to deliver

#### 4.2.2 Survey Takeaway

From the survey conducted, there are a few points which are worth to be noted in regards to the portal development. First, most of the respondents are currently neutral (see Figure 2) when asked on the satisfaction level on the current channel used to exercise knowledge sharing. Neutral responses indicate uncertainty in determining either the current knowledge sharing channel works or deliver the best of results to the respondents. Often neutral responses are perceived as responses which are skewed or have higher tendency towards negativity or in this case, the perception of the current channel of knowledge sharing are not helping the respondents to exercise knowledge sharing within their unit, or at large, within the department. Therefore, it is safe to deduce that most of the respondents are not happy with how knowledge sharing are being practiced in the sense of the effectiveness of the channel used to do so. The fact that most respondents cited that most of the channel used for knowledge sharing lies within the formal bracket might as well contributed to such perception. Due to the feeling of uneasiness with the current channel, it is thus appropriate to introduce

a new form of channel of knowledge sharing into the picture for the respondents to try with improvements done according to what they think they want for a channel to be deemed effective.

To address the needs and requirements section of the portal, the survey has asked the respondents to indicate whether a portal will be an effective mean for knowledge sharing and asked them to further scrutinize on what are the functions which they'd like to have installed within the portal for it to become an effective channel for knowledge sharing. Most of the respondents cited that by allowing documents sharing to take place across the portal will be a beneficial feature to them. This somehow justified the argument presented earlier in the problem statement section where the problem of sharing documents among HR staffs has becoming one of the main concern in regards to knowledge sharing initiative. Other options such as the portal to become a communication platform among the staffs and one-stop-info center for HR staffs are also well received by the respondents. Too bad there is no other additional idea are suggested by the respondents in regards to what they expect the portal will be able to deliver.

From the preliminary findings, the next task is to develop the portal in accordance to the requirements identified from the preliminary findings, both from interview session and survey.

#### 4.3 PORTAL DEVELOPMENT

#### **4.3.1** Preliminary Development

For the start, all tools have been successfully installed inside the developer's work station (personal computer) for ease of development. The portal has been established, and the database for the portal use has also been successfully set up. The screenshot of the portal and administrator's panels are as follow:

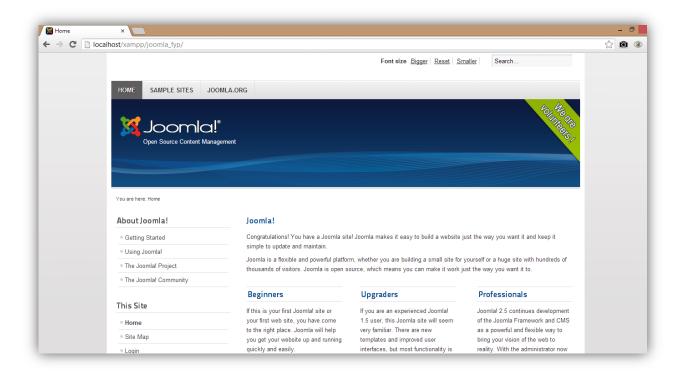


Figure 15: Main Page (Prelim development)

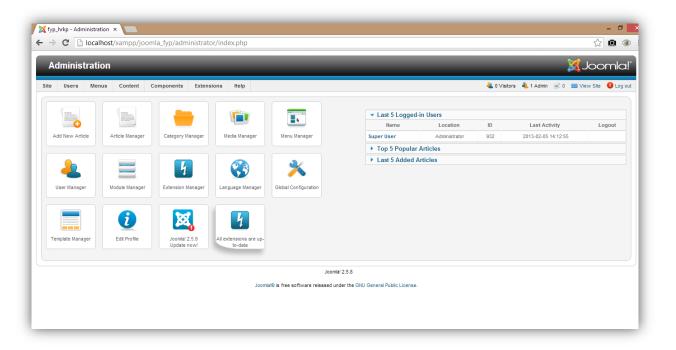


Figure 16: Administrator Control Panel

Now that the portal has been set up, future development processes to take place will be:

- a) Finding suitable Joomla! template for the portal
- b) Adding functionalities and plug-ins deemed necessary for portal usability and users' needs
- c) Portal workability testing
- d) Portal's user acceptance test

#### 4.3.2 Working Prototype

A working prototype has been successfully built just before Pre – SEDEX presentation for testing purpose and evaluation to take place by lecturers involved. The working prototype has been built according to the specifications and requirements outlined by the users i.e survey respondents as well as interviewees who have been approached earlier during data collection stage. The functions which have been incorporated inside the working prototype are as follow:

#### a) User login

Users of the portal will have to login with provided login credentials in order to be able to view posts which are made exclusive to only registered users, comment and participate in forum.

#### b) Document sharing

Registered users are allowed to share documents or any other work-related materials they have in their possession among them as well as the portal visitors. To do so, they will have to create a new post and attach the related documents with the post. The post will then be labeled accordingly with some posts will be able to be viewed and its content retrieved by all visitors of the portal and some posts only allowed to certain users with certain access levels.

#### c) Create new post

Registered users will be able to create new post to attach documents for sharing and convey information, tips or stories which they deem as important and beneficial to be shared among them.

#### d) Comment post

To make it more interactive, the plugin which enables registered users to comment on all posts which have been posted is installed. Registered users may find the comment area is located at the most bottom of the post.

#### e) Forum

Registered users may as well initiate discussion on certain matters and area of interest in the forum area. There, registered users may ask questions and interact in regards to the discussion.

The functions incorporated in the portal are meant to address the project's objectives and the problems identified earlier in Chapter 1.

#### 4.4 PORTAL SCREENSHOTS



Figure 17: Main Page

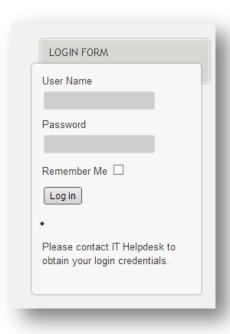


Figure 18: Login Form (credentials to be provided by Admin)



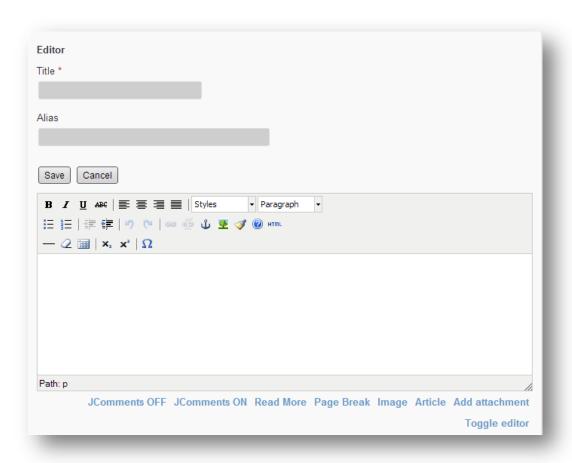


Figure 19: Create new post (Post Content)

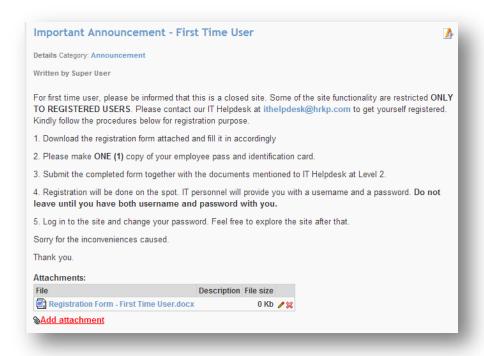


Figure 20: Document Sharing (Can edit and attach new document)

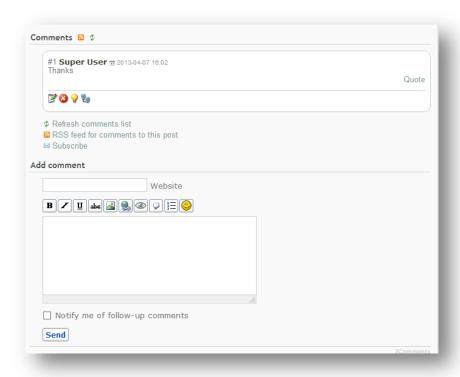


Figure 21: Comment post

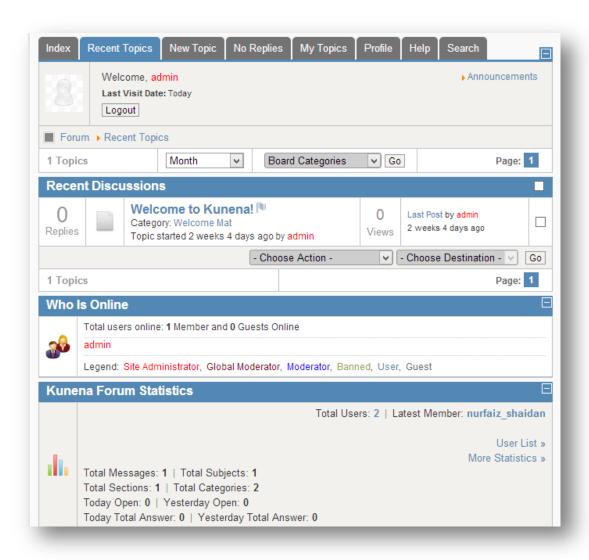


Figure 22: Forum (for interaction and further discussion)

#### **CHAPTER 5**

#### CONCLUSION & RECOMMENDATIONS

#### 5.1 RELEVANCY TO THE OBJECTIVES

The objective of the project is to develop an online portal which is capable of facilitating knowledge sharing activities among HR Training & People Capability unit's staffs which enables staffs to share their work-related resources with their other colleagues; acts as a sharing medium where staffs are able to post their knowledge on certain domain area for others information; and help to cultivate and nurture the culture of knowledge sharing among unit's staffs. In view to all of the objectives, the work progress of the project has currently pave the way to the development of the online portal, with user requirements, initial feedbacks and expectations of the portal are currently being collected, examined and analyzed. It is positive to say that the objective outlined for this project is not far-reached, instead it is feasible to develop a knowledge sharing portal which will benefit HR people & capability unit staffs within organization.

And now with the working prototype is ready, up and running, it proves as a testament that the objectives of the project can be actually accomplished and reached. The working prototype can be used to facilitate knowledge sharing activities among targeted HR staffs. The portal has incorporated functions which will help to facilitate knowledge sharing activities as per outlined in Chapter 4: Results & Discussions.

#### 5.2 **RECOMMENDATIONS**

The system instead of catering to a certain function in Human Resources department, should as well, being used to cater to the whole lot of Human Resources department as it is more feasible economically to do so. Feedbacks from interview respondents stated that other staffs would welcome such move as it will help all of the HR staffs to be able to share knowledge cross units, and further enhance the overall efficiency and effectiveness of the department as a whole.

More functions can actually be installed to improve the interactivity of the portal as the portal which lacks in this department might not appeal well to the users and thus hindering them from using the portal for further knowledge sharing activities. This will then make the whole effort goes to waste as without users utilizing the portal to facilitate their knowledge sharing activities, the whole point of revamping the system and introducing new mean for them to try will be useless. Therefore, the portal can be further improved in term of interactivity by adding latest post list, latest commented post and a form of notification bar, like the one can be found on Facebook to give real time update on what is happening within the portal, for example, notification on replies made on discussion thread user participated. Such interactivity will keep users interested with the portal and build more confidence towards the portal as an effective mean to their knowledge sharing activities.

#### 5.3 CONCLUSION

The HR Knowledge Sharing portal is poised to be the portal to address the issues regarding inefficiency of current channel of knowledge sharing activities. With proper refinement over time, the portal will be able to do more than just a portal which solve the issues raised by the target group but rather as a driver for efficiency and productivity of the target group which in this case are the HR staffs.

On different note, the development of the portal has helped me to better understand the whole concept of knowledge sharing, content management system as well as realizing the importance of information system in facilitating day-to-day business routines. By dwelling deeper in my project's area of interest, I have been able to gain as much exposure and practical hands-on on how can I use the knowledge which I have learned along my years of study in the field of information system I general, and knowledge management in specific.

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# **APPENDICES**

No.	Details	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Selection of project	1	4												
	title & supervisor	×	×												
2	Project proposal			4											
	submission			×											
3	Approval of project														
	title				×										
4	Research class			4	4	4	<b>A</b>								
				×	×	×	X								
5	Data gathering			+	+	+	+	+							
				×	×	×	×	×							
6	Submission of						4	+							
	extended proposal						X	X							
7	Proposal defense													+	
														^	
8	Project work resume								<b>*</b>	<b>*</b>	<b>*</b>	<b>→</b>	<b>→</b>		
									_	^	^	_	_		
9	Submission of interim														<b>★</b>
	report														

Figure 23: Gantt chart for Final Year Project 1 (FYP I)

No.	Details	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Prototype	4	4							4					
	development	×	×	×	×	×	×	×	×	×					
2	Submission of progress		4												
	report		×												
3	Pre-SEDEX														
	presentation										×				
4	Submission of final												4		
	report (draft)												×		
5	Oral presentation													4	
	(VIVA)													×	
6	Submission of Final														_
	Dissertation														×

Figure 24: Gantt chart for Final Year Project 2 (FYP II)

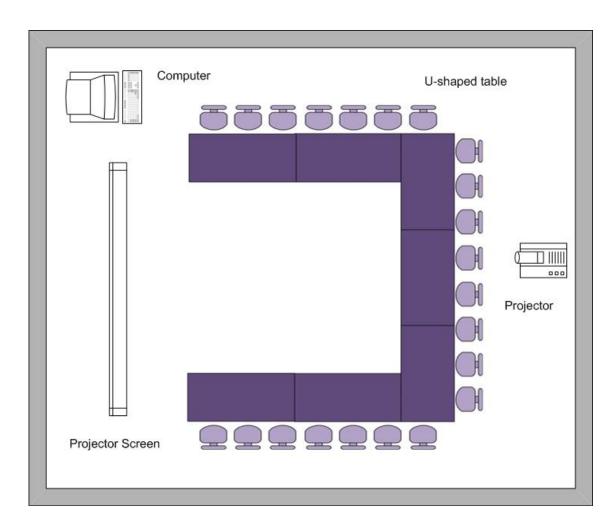


Figure 25: Training Session Layout

# INTERVIEW PROTOCOL – HUMAN RESOURCES KNOWLEDGE SHARING PORTAL FOR TRAINING & PEOPLE CAPABILITY UNIT

Interviewee:		Organization:			
Department:		Unit:			
Years of Service:	Years Attached to Department:				
Contact no:	Email:		Date:		
Interviewer:	Start:	End:	Duration:		
Type of Interview:					

#### PART A: CURRENT KNOWLEDGE SHARING PRACTICE

- 1. What channel does your department used in disseminating work-related knowledge? Is it formal channels such as formal meeting? Is it informal channels such as informal discussion and sharing session? Or any other method?
- 2. How do you feel about the current channels used? Are you satisfied with them? Is there any an issue or problem faced while using these current channels?
- 3. From rating 1 to 10 (1 is the least, 10 is the best score) kindly rate the current channels used.
- 4. From your observation, is there any improvement needs to be done to the current channels? If it is, recommend suggestions to make the channels work better.
- 5. Do you think the management is giving enough support to nurture knowledge sharing among the employees?
- 6. Can you list out some of the initiatives that have been taken to promote knowledge sharing culture in the organization?
- 7. Do you find those initiatives really helpful in promoting knowledge sharing culture among the employees? Any improvement needs to be done?

#### PART C: ONLINE KNOWLEDGE PORTAL AS KNOWLEDGE SHARING TOOL IN ORGANIZATION

- Have you ever engaged in sharing knowledge via online means? E.g social media, email, company intranet
- 2. What's your view on such method?
- 3. Do you see online knowledge portal as an effective mean to share knowledge in your department/organization? Why?
- 4. From your opinion, what might be the barriers to implement knowledge portal as one of the main knowledge sharing tool in your department/organizations?
- 5. Will you give your support to these initiatives if they are about to be introduced at your workplace?
- 6. Kindly provide your suggestions on ways to make knowledge portal more attractive and practical to be used as knowledge sharing method within your department/organizations.

## **HUMAN RESOURCES KNOWLEDGE SHARING PORTAL – SURVEY FORM**

#### **GENERAL DETAILS**

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Services										
HR Plan										
	ee Relatio	าร								
Remune	eration									
Others (Please specify)										
ART A: CL	JRRENT P	<b>(NOWLE</b> )	OGE SHA	RING PR	ACTICE					
1. Wha	at channel	does vou	r departm	ent used	in dissemi	nating w	ork-related	l knowledo	ne?	
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	ngly igree	Disa	gree	Ne	utral	Agree		Strongly Agree		

	among the em Strongly	ployees? Disagree	Neutral	Agree	Strongly Agree
	Disagree				
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	NIZATION	OWLEDGE I OKIF	IL AO MIOWELD	<u>SE OFFICIAL TOO</u>	<u> </u>
1.	Have you ever	engaged in sharing	g knowledge via on	lline means? E.g so	cial media, email,
	company intra	net			
Ye					
No					
2.	<u>-</u>	• .	tal as an effective r	mean to share know	ledge in your
	department/or				
	Strongly	Disagree	Neutral	Agree	Strongly Agree
	Disagree				
				<u>I</u>	<u> </u>
^	VAII ( I		O		
3.		expect the portal to			
		sharing among HR s		themselves in regar	rds to
	eir job-related as		indificate among	illelliselves III legal	us to
		on one-stop-center	for HR staffs		
Ac		company's info			
	uale stans with				
Up					
Up	hers (Please spe	ecify)			
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THANK YOU FOR YOUR COOPERATION