



ISLAMIC KNOWLEDGE PORTAL: AN ANALYSIS ON KNOWLEDGE PORTAL REQUIREMENTS

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ABSTRACT

In this paper, drawing upon the literature review and empirical data, we address the importance of knowledge sharing from Islamic perspective and the relevancy of Knowledge Management (KM) for sharing knowledge of Islam. We propose Islamic Knowledge Portal as a tool to effectively manage the knowledge of Islam to be a righteous and successful Muslim. In addition, this paper reviews successful implementation of KM portal in several organizations and identifies the important functional specifications to build such system. A survey results are used to empirically investigate the knowledge requirements for Islamic Knowledge Portal, and the findings from these activities are used to identify the required knowledge content and to design the important features for Islamic Knowledge Portal.

Keywords: knowledge management, KM portal, knowledge management system.

INTRODUCTION

Knowledge management (KM) is about managing knowledge to ensure that the right knowledge can be delivered to the right people at the right time. Nonaka and Takeuchi categorized knowledge into two main types namely explicit and tacit knowledge (Nonaka and Takeuchi, 1995). Tacit knowledge is knowledge about how to do things and is normally related to the skills acquired through experiences and resides in the minds of individuals. Due to the nature of this knowledge type, it is not easy to be verbalized and communicated to others (Nonaka and Takeuchi, 1995; Li and Gao, 2003) and can only be transferred through face-to-face communication between knowledge seekers and knowledge providers. To leverage tacit knowledge, it needs to be converted into explicit knowledge, a form of tacit knowledge that has been documented, codified and archived to make it accessible to knowledge seekers. Thus, the aim of KM is to convert tacit knowledge into explicit knowledge (Nonaka and Takeuchi, 1995; Alavi and Leidner, 2001; Davenport, De Long, and Beers, 1998) so that the knowledge can be shared and applied by others at anytime and anywhere (Ali, Sulaiman, and Che Cob, 2014).

Islamic knowledge comprises of various areas of knowledge that covers every aspect of human's life. Hence, KM is very relevant for managing knowledge of Islam. For Muslim, it is obligatory to pursue KM to nurture, to identify and to utilize KM in helping Mankind to become effective users of knowledge. A Muslim as vicegerent (khalif) is obliged to explore knowledge and developing its application as God created all those knowledge for him to be used and applied (the Qur'an 2:29-33) (Bakir and Yaakub, 2011). These verses from the Qur'an justify the needs for Muslim to study and implement effective and efficient ways to manage knowledge to be a righteous and successful Muslim.

Seeking knowledge is a duty upon every Muslim (Bakir and Yaakub, 2011). It is important for Muslim to learn and teach or share only authentic knowledge of Islam, the knowledge that is based on the Qur'an and the

Sunnah. Consequently, we need to spend time, money, efforts, and patience in the quest to seek for authentic knowledge of Islam not only for our own success but also to be able to share it to others. Traditionally, common ways to seek knowledge among Muslim are by attending Islamic events (e.g. Islamic lectures, forums and seminars), reading Islamic materials such as books, magazines and CDs, and listening to Islamic programs on radio and television. Today, the internet technology has made it easier and faster for people to seek and share knowledge of Islam online (i.e., website on Islam, blogs, social media). However, the advent of the Internet has created another problem to the community. As more people seek and share knowledge online, the authenticity of the knowledge shared become questionable as the knowledge content and source of knowledge is not verified and validated. Hence, this issue becomes one of the barriers that prevent Muslim from seeking and sharing the Islamic knowledge online. Thus, it is very critical for the Islamic knowledge seeker to identify the source of the shared knowledge online and to ensure that the Islamic knowledge acquired is authentic. by providing a system that can provide trustworthy knowledge content to overcome the issue of unreliable knowledge resources.

It is apparent that appropriate tools are essential to ensure that knowledge can be managed effectively and efficiently so that it can lead to proper knowledge utilization. Information Technology (IT) has been proven as one of the most important factors that facilitates the KM practices, and knowledge management system (KMS) is seen as the most effective and efficient tools for KM (Maier and Hädrich, 2011). KMS refers to a technology based system that supports any of the KM processes such as knowledge creation, capture, storage and knowledge dissemination and sharing (Davenport, De Long, and Beers, 1998). KM portal is an example of the most common KMS tool implemented in organizations to manage their knowledge assets.

Building an effective KM portal requires understanding of characteristics of a good KM portal and



the KM practitioners need to address that the primary users of such system includes knowledge seekers of all ages with different technical skills and cognitive ability. The portal is valuable only if it helps the knowledge seekers to achieve their goal for knowledge seeking. Hence, the focus should not be limited to what technology can do and then expect that people will use it, but understand the needs of the knowledge portal users. Consequently, the portal developed will attract the knowledge seekers to use it and return to the portal to seek for knowledge. A good KM portal should be able to provide the community of experts and other knowledge users' access to each other and to the repository of explicit knowledge relevant to knowledge needs. KM makes it easy for experts to collaborate with the rest of their community and seeks to promote a culture of sharing and replication of knowledge relevant to their community (Hariharan, 2011).

Although many studies have been conducted on the effectiveness of KMS for managing knowledge, very little efforts exist that discuss KM for managing knowledge about Islam through the use of a portal. A lot of discussions can be found in the literature about the use of IT as an enabler that can promote KM processes in many different domains. For example, the role of IT to facilitate the management of knowledge in education has been discussed in (Ali, Sulaiman and Che Cob, 2014; Abdullah, Selamat, Jaafar, Abdullah, and Sura, 2008), KMS for knowledge sharing in healthcare (Ali et al., 2012) and KMS components for collaborative software architecture environment in (Nor, Abdullah, Murad, and Selamat, 2010). However, limited resources exists that discuss KM as a tool to manage Islamic knowledge such as found in (Bakir and Yaakub, 2011) and (Wahid et al., 2010). Hence, this study is intended to empirically investigate the knowledge requirements for such system in order to design and then develop an effective KMS for disseminating and sharing knowledge about Islam.

This paper discusses the importance of knowledge sharing from Islamic perspective and the relevancy of KM for sharing knowledge of Islam. In addition, this paper reviews successful implementation of KM portal in several organizations and identifies the important functional specifications to build such system. The paper also discusses the results of a survey conducted to investigate the knowledge requirements for Islamic Knowledge Portal. The findings from these activities are used to identify the required knowledge content and to design the important features for Islamic knowledge portal. The paper concludes with a summary of the recommendations and implications for the Islamic Knowledge Portal implementation.

KNOWLEDGE MANAGEMENT (KM) PORTALS IN ORGANIZATIONS

The most similar and recent study has been proposed by IslamGRID project by Department of Islamic Development Malaysia or JAKIM (Wahid et al., 2010). IslamGRID KM is an application developed by JAKIM

with the aims of collecting, preserving, disseminating and promoting knowledge of Islam to all Muslims. IslamGRID KMS provides a platform for people to organize, store and access explicit knowledge using specific tools to make it easier and attractive for people to access and communicate with the community. The features include the creation of Islamic knowledge repositories that stores knowledge and information from internal and external sources. The study addresses methods to acquire and disseminate knowledge; in an effective manner. IslamGRID KM is developed based on the KM Process Model shown in Figure-1 which comprised of seven stages: Knowledge Identification, Knowledge Discovery, Knowledge Acquisition, Knowledge Creation, Knowledge Storage and Organization, Knowledge Sharing and Knowledge Application.

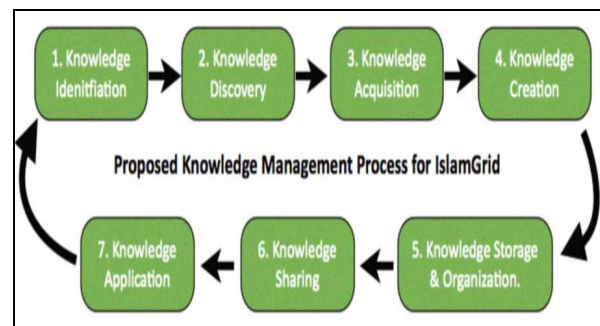


Figure-1. Islam GRID KM process model (Wahid *et al.*, 2010).

The establishment of KMS at The Malaysian Agricultural Research and Development Institute (MARDI) is aimed towards developing centers of excellence, accredited and specialized laboratories, facilities, and technology information center. MARDI's KMS implementation strategy is to manage both explicit and tacit knowledge for higher efficiency as well as applied knowledge management to enhance innovation processes (Talisayon, 2013). MARDI implemented various portals for different knowledge needs such as:

1. MyFruit - a one-stop-shop for information about tropical fruits comprises over 1,000 information sheets on all aspects of tropical fruit production, processing, and marketing;
2. MePIS - provides information on tropical herbs R and D, e-gallery, books on herbs
3. AgrobIS- provides access to data on all biological genetic resources conserved at MARDI.
4. iSMART- provides information on more than 300 technologies developed by MARDI, commercialized, or in the up-scaling status
5. AnjungNet - An intranet for MARDI's staffs, which facilitate internal communication through e-forums and e-news



A comprehensive review on KM experiences in oil and gas industries such as BP, Royal Dutch Shell, Chevron, ExxonMobil, Schlumberger and few more companies has been discussed by Grant (2013). Oil and gas industries relied heavily on IT as the main tool for the codification of information to achieve their KM goals and proved that IT was an enabler for many of the technology and people-based activities important to knowledge management success. The author listed the KMS key features implemented at these organizations to facilitate knowledge sharing for competitive advantage. For

example, companies have developed databases of best practices to capture positive and negative experiences. Other databases facilitate the meeting of experts including Yellow Pages of Engagements and BP Amoco's Connect - a voluntary intranet Yellow Pages directory that makes it easier to find expert.

Table-1 summarizes the implemented features of KMS implementation in the organizations discussed with respect to the functional specifications of a good KM portal as suggested by Hariharan (2011).

Table-1. The Functional Specifications of KMS Implemented in Organizations.

Functional specifications	IslamGRID (Wahid <i>et al.</i> , 2010)	MARDI (Talisayon, 2013)	Oil and gas portal (Grant, 2013)
Knowledge repositories and sub-repositories to support community of practice (CoP)	√	√	√
Content management	√	√	√
Document sharing (upload and download documents)	√	√	√
Knowledge checking and validation	√	x	√
Expertise finder	Not mentioned	x	√
Collaboration tools (e.g. discussion board, forum etc.)	√	√	√
Personalization	Not mentioned	√	√
Alert and notification	Not mentioned	x	√
Search and retrieval	√	√	√
Rating of content	x	x	x
Access control	√	√	√
Intergration with external content (hyperlinks)	√	√	√
Logs and reports	√	√	√

RESEARCH METHODOLOGY

This study adopted the research methodology shown in Figure-2. The methodology of this study involves several stages as listed below:

1. Literature review- in depth review on related topics such as KM, KMS, KM portal in organizations, and Islamic KM. In this stage, justification for developing a portal to manage Islamic knowledge is justified. In addition, the characteristic of a good portal is also identified.
2. Data collection- involves gathering information from the intended users of Islamic Knowledge Portal to identify the requirements for the portal.
3. System Design- the results from the literature review and empirical data from the survey are used as the basis for designing Islamic Knowledge Portal. The

system features are identified and the conceptual design of the portal is developed.

4. System testing- the verification and validation of the proposed system to ensure that the Islamic Knowledge Portal meets the user requirements and of quality. The testing includes unit testing, system testing and user acceptance testing.
5. System Implementation- the Islamic Knowledge Portal will be implemented and documentation and reporting will be done.
6. Post-implementation Evaluation- for KMS, the post-implementation evaluation is very important to gather feedback from the user to identify areas for improvement and to ensure that the knowledge portal developed is meeting the KM objective.

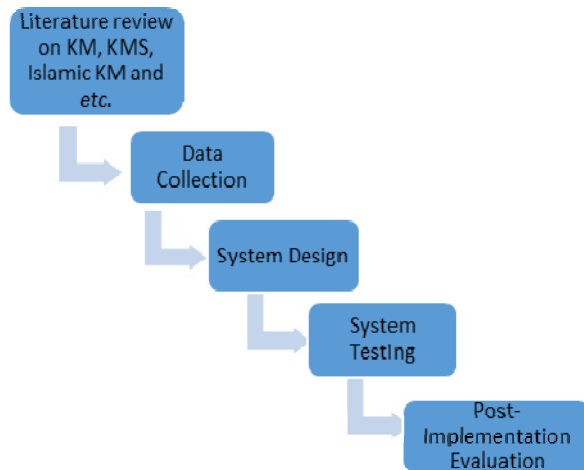


Figure-2. Research methodology.

RESULTS AND DISCUSSIONS

This study presents data based on a survey of 80 respondents in Malaysia conducted via online questionnaire.

A. Demographic background

Table-2 presents the demographic background of the respondents. The proportion of male respondents (53%) to female respondents (47%) is quite balanced. Majority of the respondents is in the age group of 19 to 30 years old (65%), followed by 46 and above (26%), 31 to 45 years old (5%) and less than 18 years old (4%). Most of the respondents are not married (67%).

Table-2. Demographic background of the respondents.

	Frequency	Percentage
Gender		
Male	43	53%
Female	38	47%
Age		
Less than 18 years old	3	4%
19-30 years old	53	65%
31-45 years old	4	5%
46 and above	21	26%
Status		
Single	54	67%
Married	27	33%

B. Source of islamic knowledge

About 38% of the respondents prefer to seek knowledge about Islam by referring to the experts such as "Ustaz" or "Ustazah", 21% of the respondents seek knowledge from online resources such as websites and

blogs while another 21% refer to Quran and Sunnah (20%) for knowledge. 37% of them agree that time constraint is the main problem they face in order to seek for knowledge about Islam as they need to find a specific time to attend a knowledge sharing session such as religious talk or gathering (for example, "usrah") or see the experts to seek for knowledge. They prefer to seek knowledge directly from the experts caused they think that the source of knowledge is validated as it comes from the reliable sources. 44% of the respondents agree that it is very important to refer to valid sources to seek knowledge of Islam and to ensure that the knowledge is validated and the truth.

48% of the respondents rely on their memory to keep the knowledge that they have acquired, while 41% of them put the knowledge into written notes and about 9% of them recorded the knowledge (Audio or video). Memorization or keeping the knowledge in memory is not a good way to retain knowledge as this knowledge can be easily lost due to many reasons such as cognitive limitation of a person (e.g. the memory decreases over time), hence it is very important to store this knowledge in explicit form and share this knowledge with others so that the knowledge can be retained and referred by other people.

C. Knowledge sharing

When it comes to knowledge sharing, majority of them indicated that they have no problem in sharing the knowledge that they have with other people (75%) and they prefer to share the knowledge through facebook (47%), others medium such as face to face discussion (25%), online chatting (18%), blogs (5%) and email (4%).

The results indicated that Islamic knowledge seeker want to seek for Islamic knowledge about Quran and Sunnah (30%), Ibadah (26%), Aqidah (24%) and Akhlaq (20%), respectively.

D. Requirements for islamic knowledge portal

The survey results indicated that knowledge validation is one of the most important factor for knowledge seeker of Islamic knowledge. Even though currently there are lots of knowledge shared online (for example in blogs, websites and etc), the knowledge seekers still prefer to seek knowledge about Islam directly from the experts as they have problem to trust the knowledge shared in various online sources such as social medias and etc. The knowledge shared online can be from unreliable sources as knowledge can be shared by anyone who might not be an expert in the area of knowledge. Consequently, the portal to disseminate knowledge of Islamic need to include this important feature that will ensure the knowledge shared in the portal is from valid sources and it has been validated by the experts in that particular area. Based on the literature review and survey results, the Islamic Knowledge Portal should be designed to incorporate these features:



1. Repositories of knowledge about Islam, which must include knowledge about Quran and Sunnah, Ibadah, Aqidah and Akhlaq
2. Collaboration tools such as e-forum, discussion board that allow the community of practice to share knowledge with others and also to communicate with the experts whenever they have problems or questions to be asked and clarified.
3. Document sharing tools to allow uploading and downloading of knowledge. This will foster knowledge sharing to happen within the community. However, the knowledge need to be **validated** by the expert before it is made public to ensure that only authentic knowledge is shared to the knowledge seeker.
4. Expertise directory such as expertise finder/locator that allows the Islamic knowledge seeker to communicate with the experts for consultation about any issues related to Islam.
5. Alert and notification tools to notify knowledge seekers whenever new knowledge is deposited into the portal which might be of their interest. This also can serve as a reminder to the Muslim to always find time to learn and seek for Islamic knowledge despite their busy schedule.
6. Search and retrieval tool to make the process of searching and finding specific knowledge much easier and faster for the knowledge seeker
7. Integration with external contents such as JAKIM, e-news and etc. to enable ease of access for the user to search for information and knowledge that is not available in the Islamic Knowledge Portal.

CONCLUSIONS

A portal to disseminate knowledge of Islam is very much needed to promote the knowledge sharing among the knowledge seeker. Especially today where people are so busy with their daily routine, time constraint is one of the factors that limits their intention to seek knowledge and improve their understanding about the religion. Therefore, a knowledge sharing platform that enables people to share and learn from a community of practice is important to ensure that the learning can happen at anytime and anywhere. This paper has discussed the importance of KM to manage Islamic knowledge to make it more accessible to Islamic knowledge seekers. However, the design and development of such portal needs to be properly done to ensure that it will serve its intended objective to enable knowledge utilization by the users. Based on the reviews and survey results, we have analyzed and identified the important requirements to ensure effective and efficient knowledge portal can be developed. Consequently, the portal will exhibit the characteristics of a good KM portal that will attract people to utilize the system for seeking and sharing knowledge. Future work includes the development of Islamic Knowledge Portal prototype based on the conceptual and logical designs of the proposed system. User acceptance testing will be conducted to ensure that the proposed Islamic Knowledge

Portal content and features meet the knowledge requirements of the intended users of such portal.

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