

**INTEGRATING SEMANTIC WEB IN KNOWLEDGE BASED INSTITUTIONS OF HIGHER
EDUCATION: ISSUES, POTENTIALS AND CHALLENGES**



**RESEARCH MANAGEMENT INSTITUTE (RMI)
UNIVERSITI TEKNOLOGI MARA
40450 SHAH ALAM, SELANGOR
MALAYSIA**

BY:

**SHARIN SULAIMAN
AZLINA BUJANG
AZLINA NARAWI**

FEBRUARY 2013

Table of Contents

1. Letter of Report Submission	iii
2. Letter of Offer (Research Grant)	iv
3. Acknowledgements	vi
4. Enhanced Research Title and Objectives	vii
5. Report.....	1
5.1 Proposed Executive Summary	1
5.2 Enhanced Executive Summary	2
5.3 Introduction.....	3
5.4 Brief Literature Review	4
5.5 Methodology	8
5.6 Results and Discussion.....	9
5.7 Conclusion and Recommendation	18
5.8 References	19
6. Research Outcomes.....	21
7. Appendices	
Appendix A: Questionnaire	22
Appendix B: Description of the Knowledge Based Management System.....	25

Project Team Members

**Sharin bin Sulaiman
Project Leader**



.....
Signature

**Azlina binti Bujang
Project Member**



.....
Signature

**Azlina binti Narawi
Project Member**



.....
Signature

5. Report

5.1 Proposed Executive Summary

Based on Rowley (2000) he states that universities and their staff must recognize and respond to their changing role in a knowledge-based society. Universities do have a significant level of knowledge management (KM) activities, and it is important to recognize these, and use them as foundations for further development. Both public and private universities play important roles in providing easy access to knowledge especially to their students. University knowledge needs differ from corporate needs where universities seek to share scholarly knowledge for the good of society whereas corporation seeks profit. However, it is also important to note that universities have started to manage knowledge as intellectual property to be sold or bartered, as well as given away (Kennedy, 1998). Realizing the benefits that KM can offers, more learning institutions have attempts to incorporate KM practices in these four main areas: learning and teaching, scholarly research, academic publishing, and libraries. However, these learning institutions face issues and limitations in practicing KM concept that need to be encountered. Among the predicaments of practicing KM concept is on an organizational knowledge management systems (KMS) still remains underutilized and hardly recognizable by knowledge workers [Davenport, 2005; Maier, 2007, McAfee, 2006]. At the same time, knowledge workers are lack in number and increasingly need appropriate Information Technology (IT) solutions facilitating their daily work [McAfee, 2006].

Therefore, in order to overcome these KM issues, it is recommended for Knowledge based institution of higher education to integrate semantic web as a way to improve the effectiveness of KM practices. In short, Web semantic is an extension of the current web in which information is given well defined meaning, better enabling computers and people to work in co-operation (Bernes-Lee,, Handler,, Lassila,. (2001). There are a number of Web-based services and applications that demonstrate the foundations of Web 2.0 concept, and they are already being used to a certain extent in the field of education. These are not really technologies per se but services (or user processes) built using the building blocks of the technologies and open standards that underpin the Internet and the Web. These include blogs, wikis, and multimedia sharing services, content syndication, podcasting and content tagging services. Unfortunately, there are challenges exists in integrating semantic web in the institution of higher learning which relate to knowledge assets management including the availability of content, ontology availability, development and evolution, scalability, multilingualism, visualization and stability of Semantic Web languages.

5.2 Enhanced Executive Summary

In the knowledge based society, higher education institutions often encounter problems as they seek to manage knowledge effectively. Consequently, they try to identify the causes of these problems and find solutions to it. In this study, we apply a knowledge management problems-causes-solutions framework that encompasses: problems associated with knowledge creation, storage/retrieval, transfer and application; causes, concentrating on the technical dimensions; and web semantic as suggested by IT solutions. Survey data from 180 knowledge workers is analyzed in a preliminary verification of the framework. The importance of the framework and its implications for knowledge management research and practice are discussed. Projected challenges are outlined also for future research.

Keywords: *Knowledge management (KM), Knowledge management system (KMS), Knowledge Workers, Higher Education Institution, semantic Web.*

5.2.0 Explanation of the Keywords

Knowledge management:

The process of gathering and making use of a firm's collective expertise wherever it resides – on paper, in databases, or in people's head.

Knowledge Management System (KMS)

Internal corporate information systems focused on the acquisition, codification, and management of data and information within an organization. The best of these systems incentivize employees to input and share their experiences so that others can learn from these experiences and perform better. KM systems can also track customer behavior in fine detail allowing organizations to tailor the experience they provide their customers in terms of customization, personalization, and customer service (Dictionary of Sustainable Management)

Knowledge worker:

A term first used by Peter Drucker in his book, the Landmarks of Tomorrow (1959), the knowledge worker includes those in the information technology fields, such as programmers, systems analysts, technical writers, academic professionals, researchers, and so forth. The term is also frequently used to include people outside of information technology, such as lawyers, teachers, scientists of all kinds, and also students of all kinds.