INTERNET-BASED COMPUTING AND KNOWLEDGE MANAGEMENT: ENHANCE HIGHER EDUCATION PERFORMANCE

Sanasam Bimol 1, L.Sashikumar 2, Masih Saikia 3, L.Pushparani Devi 4

Research Scholar CMJ University, Jorabat, Shillong, India
Hexaware Technologies Pvt. Ltd. Navi Mumbai, India
Department of Computer Science, Pragjyotish College, Guwahati, Assam, India & Technology Faridabad, India

ABSTRACT:

The emergence of internet based computing made it possible to put innovative ideas into practice in many areas including knowledge management. This theoretical perspective paper discusses the importance of knowledge management (KM) initiatives in higher education and tries to give a different structure of knowledge management in higher education through internet based computing perspective. The paper also presented the trends in knowledge management and new emerging technologies have impacted the way knowledge is managed and improved the academic performance.

Keywords: Internet, knowledge management, higher education, portal, repository

INTRODUCTION

It is rightly said knowledge is power, and it is widely recognized as an essential tool for the success or failure of an organization. Power comes from transmitting information to make it productive. Managing knowledge is an intellectual asset towards the opportunity to reach the goal of organization. Managing knowledge in the organization must reflect dynamic nature of todays’ business. Since 1990’s, there are many ideas has been forwarded by the academician and practitioners about Knowledge Management. KM as using internet for knowledge sharing and transfer [1]; Tacit and explicit knowledge with four modes of knowledge creation [2]; and using Cynefine Framework in identifying knowledge [3]. They can be called as Guru’s in Knowledge Management has their own view on what is Knowledge Management is all about. The socio-economic and political developments in the world, globalization of many processes, are closely linked with the developments in the area of information and communication technology – they mutually support each other. In the environment of increased global competition educational organizations are rethinking their strategies, and re-engineering their academic processes. Importance of IT and data-centric solutions for large higher learning institute/university is widely recognized and accepted. However, a consistent and unified approach to managing knowledge in a wide sense is not yet widely accepted in most educational organizations, especially in small training institute and colleges. One of the important emerging developing trends in modern educational institutions is use of internet based KM, here it means internet-based tool provides set of techniques to increase the transfer
and use of different type of knowledge in organization. Internet-based tools KM will only be concerned with knowledge portal, knowledge repository, library etc. It can be used in higher education research activities. The following section is discussed internet-based computing technologies for KM is knowledge portal, knowledge repository – a get way of knowledge and storage of knowledge.

[2] KNOWLEDGE MANAGEMENT INITIATIVES IN HIGHER EDUCATION

With rapid changing economic environment, the role of higher education institutions as knowledge providers has been scrutinised and challenged by the various stakeholders, including the public. To answer this challenge, knowledge management ideas and principles have been proposed to be employed by higher education institute (HEI) for the purpose of doing fundamental and applied research, teaching suitable curricular program, utilisation of knowledge for management decision support to improve internal document management and exploitation to increase the level of knowledge dissemination, and utilisation of knowledge for a qualitative change in the educational process. The introduction of KM would enable the HEI to share their knowledge, to improve the level of teaching and research. Knowledge Management (KM) initiatives in higher education are expanding across the worldwide. The competitive benefits of KM efforts have been demonstrated and documented in industry, government and in the academic world. Towards achieving the objective of Vision 2020, Government of India has their own role in education in supporting Vision 2020 by producing knowledgeable manpower or knowledge worker to the country. In relation to knowledge management and resource sharing Government of India has taken initiative in all departments. All Government organizations, ministries are providing maximum information on their website. Efforts made by Government, UGC and RUSA in Developing KM National Mission on Education through ICT (NME-ICT) under HRD government of India through eprashala of inflibnet project has assigned work to the UGC for development of e-content in 77 subjects at postgraduate level. UGC CEC has a vast repository of 17000 educational video programs and nearly 1000 such programs are being added to this collection every year. Programs are telecasted through Vyas Higher Education Channel. This is very good initiative undertaken by the MHRD and UGC to capture tacit knowledge of teachers in their subject and convert it in digital form (explicit).

KM initiatives are often expressions of part of process concerned with knowledge creation, innovation or organisational learning. This means feeding data into a database for sharing knowledge by means of access methods. A growing number of universities are managing intellectual property as an asset. It is now widely believed in the higher education sector that knowledge management can help to increase organisational effectiveness through the application of useful knowledge. Today most of Knowledge management in education can be thought of a framework or an approach that enables people within an organisation to develop a set of practices to collect information and share what they know, leading to action that improves services and outcomes. Overall, knowledge management brings together three core organisational resources – stake holders of academic environments, processes, and technologies – to enable the organisation to use and share information more effectively [4].
KNOWLEDGE MANAGEMENT PORTAL: CONNECTING HIGHER EDUCATION

In present trend of competitive modern education system knowledge portal become essential for higher education institutions and universities. Knowledge portal have a consisting of the explicit and implicit knowledge. Most of the educational institutions have explicit knowledge in the form of books, project report, conference proceedings and journals in the library. However, institutions may not have a store of implicit knowledge. The only explicit knowledge available in the higher education will not enough the requirements of all stakeholder. It is important to have a collection of implicit knowledge from the internal and external sources or other institute in order to frame knowledge management systems effectively. Create a knowledge portal could have an opportunities for connecting other higher education institutions and can be derived many knowledge management systems so that the institution can succeed in improved teaching-learning process. The knowledge portal created can be attained an effective knowledge transfer to the students and sharing knowledge among the faculty. Pickett and Harmre [5] stated that a portal is a gateway to resources in accessible networks, such as the Internet or intranet. Thus, a site may include many web pages or even a simple web page, which presents users a static view of the available resources and information. Using web-based technologies, knowledge portals are an emerging approach for providing a single point of access to various information sources and applications. Web-based technology can be a powerful enabler to make effective KM. It is the most commonly used technology-support for KM portal that often forms part of an Intranet. However, portal should make easy to share best practices or other internal or external knowledge relevant to the organization. Heila Pienaar [6] defines a Web portal as a Web site that aggregates an array of content and provides a variety of services, including search engines, directories, news, e-mail and chat rooms. KM portal provide the members of different community of experts access to each other and to collaborate with the rest of their community and seeks to promote a culture of sharing and replication of knowledge relevant to their community. Today’s portal systems allow combining different portal components, the so-called portlets, side by side on a single portal webpage [7]. The portal is an effective tool for sharing and replication of knowledge, capturing new knowledge during replication. Generally, a portal is defined as a web site with a highlighted feature: it provides quick access to services and personalized information [8]. The KM portal acts as a bridge across group communities as it contents knowledge repositories that were specific to each line of communities. It is important for the KM portal to have personalization and flexibility to change and grow constantly. The KM portal can be a powerful platform to recognize and provide visibility to people who share or replicate knowledge relevant to the business [9]. In order to support the academics’ knowledge management in an integrated manner the portal must have the following characteristics:

- Combination of a vertical portal and enterprise information portal.
- Seamless interface and personalization and customisation capabilities.
- Support both the teaching and research.
INTERNET-BASED COMPUTING AND KNOWLEDGE MANAGEMENT: ENHANCE HIGHER EDUCATION PERFORMANCE

- Flexibility to change and grow constantly.
- Enabling technology for knowledge management.

According to [10] the design of a knowledge portal for institutions involves the following steps:

- Knowledge extraction from sources
- Content management
  - Submission and document indexing
- Information refinement
- Information storage and retrieval
  - Search and analysis support
  - Keyword suggester
  - Meta-searcher
- Knowledge dissemination

[4] KNOWLEDGE REPOSITORY IN HIGHER EDUCATION

The advent of internet has brought a great change in knowledge sharing among the professionals. Acquisition, transformation and sharing the knowledge is increasing on internet, numerous search engines across the globe allow data at ones’ fingertips. Internet is the most obvious example of a knowledge repository [10]. Experiments are recently started. Higher education institutions KM is abound in potential knowledge repositories that continents academic and enterprise information. In other words, it is the some kind of online collection database for organizational operation. These databases provide access variously to internally generated data about the organization’s operations. According to [12] define a Knowledge Repository is an online database that systematically captures, organizes, and categorizes knowledge-based information. Knowledge repositories are most often private databases that manage enterprise and proprietary information, but public repositories also exist to manage public domain intelligence. HEI leads to the creation of various database as knowledge repositories on which future generations of scholars and researchers may use a wider knowledge creation process. In this context journals, conference proceedings, and other publicly disseminated and validated output may be regarded as knowledge repositories. Knowledge repositories are information systems used for storing data, information, and explicit knowledge [13]. They can be classified into three types: external knowledge (data/information gleaned from outside sources), structured internal knowledge (research reports, marketing material, organizational systems and processes), and informal internal knowledge (discussion databases, and lessons learned). These systems allow individuals within an organization access to large amounts of explicit (codified) knowledge in a structured, easily accessible format. But these repositories are owned by the community, rather than individual institutions. However, higher education institution knowledge repositories could have an integrated collection of knowledge, embedded either in one knowledge repository, or in a series of linked repositories. With its facilitating knowledge based operation need to encompass both internal and external knowledge, and explicit and elicited tacit knowledge. A scenario in which each member of the community that is the university has access to the combined knowledge and wisdom of others in the organisation, and has access to that knowledge in a form that is packaged to suit their
particular needs. The most obvious example of a knowledge repository is the Internet [10]. With its numerous search engines, on the internet allows to search and access the possible information. Many institutions have started introduced KM portal and developed knowledge repository to share the knowledge and communicate with other experts in higher education, research institutions and industry, worldwide. The constantly increasing and popularity of using the internet as a knowledge repository there is a great extent scope of further study on IT based KM to cloud-based KM. Using this repository searche often produced data which could be easily adapted to current research with saving time and money [14].

[5] CONCLUSION

It is convinced that adopting internet base computing in KM, higher education institution has very strong benefits of connecting all higher education stakeholders. Such benefits include efficiency, effectiveness, consistency, better management of knowledge, improving of academic performance and quality of teaching & learning material in higher learning institution. KM portal and repository definitely will profitably in terms of generating knowledge and manage the knowledge with most of the required and satisfy the stakeholders. The KM portal system has achieved the aim to be a single gateway for information sharing, as well as a dynamic link between students, teachers, employees, scholars and experts. Knowledge repository is a single largest area where all the stakeholders can share and store the knowledge for future reference and use.

ACKNOWLEDGEMENT

We thanks to all the article contributor which is referred here in our paper has got a great impact and contribution to come out our paper in this shape. We express our gratitude to all the authors that mentioned in reference and not mentioned but who has given a great resources needed to complete our work.

REFERENCES


[10] www.Shodhganga.inflibnet.ac.in/bitstream/10603/9772/10/10_chapter%205.pdf]


Author[s] brief Introduction

Sanasam Bimol obtained T.D.C.(CS), MCM, MPM, DBM, and M.Phil(CS), from Manipur University, Manipur (India), University of Pune, Pune (India) and M.K.University, Madhurai (India) respectively. He was as an approved lecturer by university of pune in Department of Computer and Management in MPICMSR, Pune, University of Pune. At presently he is working as HOD, Department of Computer Sc. in Moirang College, Moirang (Government of Manipur, India). His research papers are published in International and National Journal and in conference proceedings and key-note speaker in national seminar and conference. His area of interest is DBMS, MIS, Cloud Computing, Knowledge management, Software Engineering and Information Security.

L.Sashikumar obtained Bachelor of Comp.Sc. (BCS), M.C.A from Pune University and Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, India respectively. Have 8.5 + years of experience in Computer Application Development as a software engineer. Presently working as a System Analyst with Hexaware Technologies Pvt. Ltd., Navi Mumbai. His research papers are published in National and International conference proceedings and Journals. His areas of interest are DBMS, Networking, and Cloud Computing.

Dr. Masih Saikia obtained his Bachelor’s degree majoring in Physics in 1995 from Gauhati University. Then he started studying Computer Science and obtained his Master’s degree in Computer Application in 2003 from Manonmaniam Sundaranar University, Tamilnadu, India. He has also obtained M.Tech degree in Information Technology. Then he obtained M.Phil degree in Computer Science in 2009 from Periyar University, Tamilnadu, India, and obtained PhD in Instrumentation in 2010 from Gauhati University, Assam, India. Currently, he is working as an Asst. Professor & Head of the Department of Computer Science in Pragjyotish College, Guwahati. He is also a visiting faculty and an approved Research Guide for MPhil/PhD in the Faculty of Computer Science & Engineering at CMU, Meghalaya, India. He also works as a Resource Person for the Ph D Scholars ’ Programme in different Universities. His research domain includes Digital Image Processing, Pattern Recognition, Optical Character Recognition, Artificial Intelligence and Neural Networks. His current research interests are Computer Networks & Data Communication, Wireless and Mobile Communications.

Laithangbam Pushpani Devi is working as a lecturer in Ibotonsana Girls’ Higher Secondary School, Imphal (India). She obtained T.D.C.(CS), M.Sc.(CS) and M.Phil(CS) form Manipur University (India), Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (India) and M.K.University, Madhurai (India) respectively. She is preparing Ph.D (Computer Sc.). Her research papers are published in International and National conference proceedings. Her areas of interest are DBMS, Networking, ICT in education and Cloud Computing.