Conceptual framework of E-Learning Based on Knowledge Management Platform

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ABSTRACT

Higher education in developing country is in poor conditions. There were an increasing application of electronic and web systems for education in recent years. The one way to educate people at their door step is only possible by e-learning. To increase efficiency of these systems and improve the education, using application of knowledge management in e-learning system. Many universities and higher education department are emphasizing on providing education at their door step using e–learning and on-line education. The business of academic institutions is all about knowledge. Knowledge management (KM) is currently receiving considerable attention, from both academics and practitioners, and is being addressed by a broad range of academic literature. In this paper we try to find out the best solution model for E-learning based Knowledge Management System. Managing Knowledge is main concern of the any university. With the application of Expert System, we can able to build an appropriate model of on-line education and on-line examination system. Authenticity is always a toughest task to find out the right candidate.
Keywords: Knowledge Management, Knowledge Management System, E-Learning Structure, Knowledge Management Strategies and Technologies

I. INTRODUCTION

Recently, the evaluation of knowledge management has become increasingly important. Nowadays, knowledge management has become an important factor in national economic development in this information era. There is a growing body of academic research which examined adoption of technology among academician to develop the e-learning system for higher education. From the perspective of knowledge management, this essay will focus on the study of the principles and constituents in Academic institution. It aims to improve knowledge management serving for regional creativity system, so as to bring about greater benefits for the society. With the advent of knowledge economy, enterprises have been increasingly recognizing that knowledge has become core assets which have exceeded traditional land, labor and capital assets; and knowledge has been strategic resources to improve core competitiveness of enterprises

[1]. Knowledge management is not one single discipline. Rather, it an integration of numerous endeavors and fields of study. This paper provides a framework for characterizing the various tools (methods, practices and technologies) available to knowledge management practitioners [2].

II. METHODS AND MATERIAL

1. Literature Review

Many researchers stated that knowledge management is the engine which accelerates the performance of any organization and organizational economic growth. And various researcher also acknowledge that KM is key in achieving opportunities for better decision making and competitive advantage for organizations and increase the efficiency and effectiveness of both educational and business organizations[2][3][4]6[7][8][9][11][24].

2. Institutional E-Learning System & Structure

E-learning is unique in its scope, size, and properties and it provides superior education and research opportunities. Today many Institution and university are offering profit oriented e-learning courses and degree programs. E-learning is the use of Information Communication Technology to deliver and sharing the information for teaching, learning, and training. E-learning is a new concept; it may different from old education concept. E-learning is web-based learning process using network technology to design, implement and manage learning which will not replace traditional educational methods, but will greatly improve the efficiency of the education and increase opportunities of learning. E-learning has a lot of advantages; the main advantages are 'convenience', 'accessibility' and 'flexibility'. The people can get information, knowledge, and training they need at any time, this is also known as "Just in time and just enough".

"In companies it often refers to the strategies that use the company network to deliver training course to employees and in most universities, e-learning is used to define a specific mode to attend a course or program to study where the students rarely or never meet face-to-face, nor access on campus educational facilities, because they study online. Many higher education institutions now offer online classes. Online education is rapidly increasing, and online doctoral programs have even developed at leading research universities [20].

3. Knowledge Management

"Knowledge is a power"

It is a famous quote and has broad meaning in different ways. In sixteenth-century philosopher sir Francis Bacon is created with coining the "knowledge is a power", I enthusiastically support his viewpoint, as I believe that the pursuit of knowledge is an important means of personal development. However acquiring knowledge is not sufficient or enough; the key to real growth and development is applying what you have learnt to improve your life [19]. Many people think that learning can be gained from schools and colleges but knowledge can actually be obtained through reading books, attending seminars, conferences, workshops, browsing Internet and being mentored by persons with experiences. It empowers the people to develop the personality and become politically active, so knowledge is power and sharing of knowledge is power.

3.1 Definition and Concept

Many definitions has given by different author and its definition get changed as per time it needs and updating. There are various concepts, conflicting definitions and overlapping views among the researchers and practitioners, but central theme is still the same for all of them i.e. managing the knowledge and encouraging people to share the same to create the value adding products and services. Knowledge consists of truths and beliefs, perspectives and concepts, judgments and expectations, methodologies and know-how [12]. Knowledge originates in the head of an individual (the mental state of having ideas, facts, concepts, data and techniques, as recorded in an individual's memory) and builds on information that is transformed and enriched by personal experience, beliefs and values with decision and action-relevant meaning. Knowledge formed by an individual could differ from knowledge possessed by another person receiving the same information [13].

3.2 Knowledge work and Knowledge worker

Generally, defined, knowledge work is dominated by cognitive effort to use, generate, and extract value from knowledge. Knowledge work tasks are usually dominated by intellectual demands, technical know-how, creativity, interaction, mobilization, networking, and innovation. Knowledge work is about creating solutions for problems within organizations, through interpreting and applying information, and thus support and recommend them to the firm's management [14]. Tom Davenport (2005) defined knowledge workers as employees with "high degrees of expertise, education or experience and the primary purpose of their jobs involve the creation, distribution, or application of knowledge" [15].

3.3 KM Strategic and Technologies

The strategic knowledge management approach consists of a methodology supported platform knowledge management capabilities, knowledge centric solutions, knowledge networking for business, scientific or public organizations. KM enhancing human understanding improves the learning and decision making power.

a. Knowledge Creation Technologies

1. Content Management System

Many universities and research institutions, have been adopting Content Management System (CMS) to help them organize digital content and create content-based information and knowledge for the stakeholders. CMS are very relevant to Knowledge Management since them responsible for the creation, management and distribution of the content on the intranet, extranet or a website. CMS allows you to manage the content within your website without technical training means a CMS web presence allows you to manage your website even if you have no technical knowledge, experience with HTML or website design. It reduces the time required to publish allowing you to get your content on-line faster. CMS aims at managing all of the unstructured information in an organization. Unstructured information is often referred to as content as such managed in content management system. While CMS itself is not the source of knowledge, it can be a very valuable enabler in knowledge-capture processes. The CMS serves as an effective enabler within an organization for knowledge management activities.

2. Data Mining and Knowledge Discovery

Data mining and Knowledge Discovery in Database are not the same bur we can say that data mining is the discovery part of the KDD. Data mining is use of algorithm and techniques to extract the useful information and knowledge from large amount of data or database. How data mining works Data ——> Target Data ——> Preprocessed Data ——> Transformed Data ——> Patterns ——> Knowledge – – > Make decision. A university and other educational institutions now include on-line course offerings, thus bringing the concept of mining course data to a new dimension. Data mining is quickly becoming a mission critical component for the decision making and knowledge management processes.

3. Blogs

"Blog" is an abbreviation of "web log". A blog originally is as an online journal or personal diary, which can be used by you for everything from updating your friends and family about your life, giving your own advice column, discussing your pol itical views, or relation your experiences in a topic of interest. Most of the blogs are interactive and allowing the visitors to leave comments and messages each other via GUI widgets on the blogs and we can say that blogging as a form of social networking. A blog can also be managed by software such as content management system, where lots of features are also created and populated. It is a portal for creativity and personal initiative where good ideas are rewarded not only with good grades but also with direct responses from colleagues and, hopefully, from readers across the web.

b. Knowledge Dissemination Technologies

1. Networking Technologies

Another way to think about the role of networking technology in knowledge management and organizational learning is as a way to connect people together to leverage their individual intellectual capital. There are many social sites exist which help to connecting people to each other all over the world. With the help of social network, **expert networks**, forums, chat rooms people can communicate to each other, share ideas, thoughts, and knowledge to one another. In this section we give the description about the **expert networks** specially. Expert networks provide a forum for people who need to establish knowledge sharing focused on solving a problem. Expert networks are typically based on peer-to-peer support. These kinds of systems aid geographically distributed organizations. Expert networks often emphasize the importance of acknowledging that most knowledge cannot be made explicit and stored in a computer, but will reside in the brains of experts. Peer-to-peer support is tacit-to-tacit when experts use a chat tool to communicate, but it is tacit-to-explicit when solutions are stored for future use and reference. One could also argue that an explicit-to-tacit conversion occurs when someone finds a solution to a problem in the knowledge base of stored solutions and applies it to solve their task. Common features are expertise brokerage and expert identification. Other features are communication and collaboration between people and the capture of questions and answers. These tools typically track and rate expertise, customer satisfaction, and rewards that are handed out to people who contribute to the success of the system [23].

2. Groupware and Collaboration Tools

Collaboration technologies play an essential role in knowledge management. The research institutions and universities use the various collaborative tools and technologies to support collaboration between student and between students and teachers and other organizations also make the wide use of technologies to support the collaboration between the stakeholders. Groupware is software and hardware for shared interactive environment. Groupware systems are very useful when it comes to supporting knowledge management. They can greatly facilitate explicit knowledge sharing through publishing, and knowledge management. These are not solution or even enablers, they are only supporting tools. Groupware are an interactive environment that can offer numerous between to stakeholders [21].

3. Wikis

It is very tuff to describe the simple definition of Wikis. With advance of internet in education technology Wikis might be playing a crucial role in learning. The term wiki derived from the Hawaiian word for "quick". While a precise definition of Wiki does not exist [16], in general it can be defined as the internet based the general consensus is that a Wiki is a collective website where any participant is allowed to modify any page or create a new page using her Web browser. The use of Wikis in educational settings and knowledge management, to include using Wikis to store storyboards, scripts, code and drafts in a course on digital format [17, 18].

c. Knowledge Application Technologies

Knowledge application technology which brings together business and academic to the new products, processes, and goods and services. Knowledge applications technologies support actual use of knowledge and have played its major roles to support the KMS that consists of knowledge use, knowledge finding, and knowledge utilization.

4. Methodology

Methodologies of research include a comparative analysis of scientific literature, research generalization to analyze knowledge management, knowledge management technologies and strategies and KMS models. In this research the methods used are Research & Development, descriptive method and literature survey.

III. RESULTS AND DISCUSSION

A. Proposed Framework

Phase 1: Operational level - Because knowledge lives in people's heads, and loses value when it is written down, it can't be treated like data or information. Knowledge is created through practice, collaboration and interaction etc., and different technologies and applications (CMS, Data mining & knowledge discovery, blogs and knowledge document etc.) will be useful for knowledge creation. And then analyze that knowledge with the help of document, learn and research [24].

Phase 2: Tactical level- this phase includes the knowledge storing, knowledge sharing and knowledge transferring. This would contain knowledge bank, database of documents for all faculty and students and other staff members. It could include previous presentation on various topics relevant to different subjects, documents, notes related to different subjects, old question papers, online quiz, discussion forums, research papers etc. Knowledge would come from both external and internal sources. There are many different technology and applications which support the knowledge sharing and knowledge transferring. Stakeholders would be appreciated to share and collaborate on this platform [24].
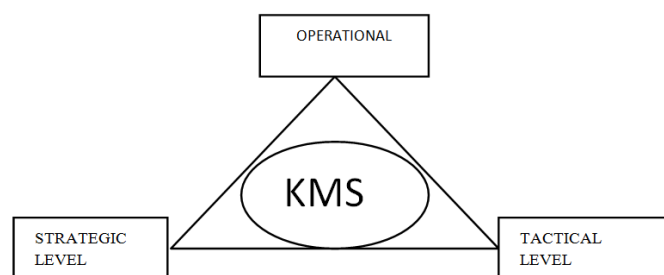

Figure 1: Stages of Knowledge Management System

Phase 3: Strategic level –Knowledge management system is helpful in managing culture of creating, learning, sharing and utilizing and application of knowledge. Strategic level integrates the operational level and tactical level. The strategic level which explore association of knowledge creation technology and knowledge dissemination technology [24].

B. Conceptual Framework

A conceptual framework of e-learning based on knowledge management system presents knowledge management as consisting of a repertoire of technologies, methods, techniques, and tools with three activities performed sequentially knowledge creation, knowledge dissemination, and knowledge application (Wiig et al., 1997).
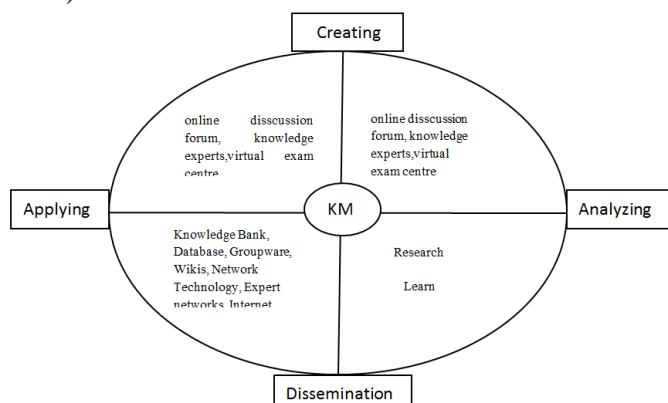

Figure 2 : Conceptual framework of E-Learning Based on Knowledge Management plateform

IV. CONCLUSION

In the basis of many other literatures related to e learning and knowledge management system, proposed the framework of e-learning based on knowledge management system for academic organization. In this research we try to find out the best solution model for E-learning based Knowledge Management System and also discuss the concepts and classification of knowledge management and represent the wide spectrum of strategies and technologies. The objective of this study is to conduct a conceptual review analysis of the knowledge management. This framework of e-learning has been specially designed to improve the performance of online education and e-learning in any educational organization. Knowledge management strategy and technologies are very helpful for the success of any knowledge management system and in

achieving the goal of organization. The proposed conceptual framework of e-learning based on knowledge management system and supporting technology will blend the institutional goals, organizational behavior, and social activities with the knowledge management strategy. Knowledge management system and relevant technology helps the organization to gain the competitive advantage effective working through sharing and reusing the knowledge.

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