ISSN : 2395-7352

Relevance of Knowledge Management and it's Tools in Technology Based Academic Libraries

R N Mishra
R K Ngurtinkhuma

Abstract

Adoption of Information and Communication Technology in library domain not only exemplified the services but also opened up scintillating avenues for document management which, however, with the proliferation of information on web resulted in the propagation of the term information management and subsequently to knowledge management. Explicit, Embedded and Tacit, the three panoptic group of knowledge have predominant impact in libraries. Arriving to the massive missions like, accumulation, systematic organisations, preservations and effective disseminations of knowledge, the libraries require adequate professional competencies along with infrastructures. Preservation of knowledge and its management from valuable records of culture connect to succeeding generations and the Libraries through out the ages have proved to be essential intermediary in establishing communication among past, present, and future. Further, it adopts multiple knowledge management tools to ensure preservation of knowledge both in print or electronic. The paper discusses various dimensions and activities involved in information management and knowledge management including its creation, impetus on library services and technological issues including various knowledge management tools for effective organization of knowledge and its dissemination including enhancement of skills.

Key words: Knowledge Management, Models of Knowledge Management, Knowledge Application Management

1. Significance of Knowledge

Refined product of information using data in the relevant field through human intellect recorded both in print and electronic form connotes to the term knowledge which is channelized through certain process from the creator to the user. The diligence of such knowledge for a sustainable development of the society in multiple ways needs channelization to reach the researchers for further development in the given field of research and the society as a whole to bring transformation. Such knowledge is assigned for action on a specific plan. It is like kinetic and potential energy where, the former moves things and the latter is

recorded and acts as the reservoir. Application of such knowledge not only surmounts the deficiencies but also brings reform in the unorganized, unscientific information which infrequently leads to disillusion and improper decision in decision which thereby, bring serious threat to the various developmental plans. Hence, its' importance as a resource has been recognized for centuries. Knowledge has multiple dimensions and has been identified in many ways by different authors. Knowledge created through prolonged research establishes facts and reveals the truth which needs to be conveyed through a systematized body of ideas.

Thus, knowledge may be defined as an organized body of information or understanding of facts that by thorough assimilation can be achieved which further, helps in the generation of new knowledge. Moreover, knowledge in true sense of the term acts as an effective tool to solve the routine problems of the society. Knowledge has been signified in many ways by scientists. To mention a few, Lumberton viewed information and knowledge revolution as having far reaching consequences on economic, social and political systems. Bertrand Russell through theory of descriptions, however, has categorized knowledge in two ways i.e, (a) Knowledge by acquaintances and (b) Knowledge by description. In the present state, both information and knowledge have dominance over the literary world. Further, Russell argued that information is based on direct experience and it is fundamental and needs no justification, which is otherwise known as "Knowledge by acquaintance." The information that is not based on direct experience is known as "Knowledge by description." The Darwin Magazine in 2001 has viewed knowledge is the right information put into use in the right way at the right time, whereas information is merely the amalgamation of various data sets within a specific context (http://km.brint.com/CBK/WorkingKnowledge3.pdf).

2. Knowledge Generation

Essence of knowledge lies in the scientific management of information. Application of Information Communication Technology (ICT) revolutionized the information world and not only created new course for its creation, assimilation, combination but also opened avenues for acceleration and channelization. The knowledge thus gained through filtration of information and its use strengthened the economic growth and development to the extent that it is becoming the leading factor for adding value and for wealth creation in the market economy. Knowledge is the aggregation of approximations that are conceived from human mind at different stages. It also emanates from the interactions with individuals in different directions and there is no specific or identified boundary of its structure.

Modern information system prevailing in libraries is considered as vital and strong knowledge resource centre

which capitulate, generate and organize knowledge. Further, it not only provides rapid and high-ended resolution access to the conglomerated information of various organisations, corporations, databases etc. but also adds new efficiency to the retrieve organizational information including dissemination of recorded information. Information services in the present technological age provide massive opportunities to locate documents instantaneously. Further, digital storage technologies make it also economical and viable for personal possession of the collections similar to the holdings of the libraries.

3. Knowledge Management- The Concept

Knowledge has been extensively documented as a powerful intellectual wealth which, however can be well implemented for both in profit and non-profit oriented organisations. The transformed form of information yields to knowledge concept and its flow does not confine to one direction,it rather stretches to multiple directions and resources. The optimal use of the resources through computers, multidisciplinary research outputs coupled with personal knowledge precipitated generation of abundant knowledge in versatile fields and its scientific management for dissemination and preservation became indispensable. The irresistible growth of knowledge from wide array of resources especially in libraries and information centers with the help of the modern technological devices became crucial in the highly competitive service environments including business surroundings which rather became more responsive, innovative, and competitive including efficiency. The capturing of distributed knowledge available from multiple and diversified sources and its organization through powerful electronic medias like, CD-ROM, DVD, Web, Pen Drive, Hard Disk signify to knowledge management. Further, Knowledge Management can be specified as a strategy, process through technology application for identification, selection, organization and dissemination of quality information services in the libraries. It embodies synergistic integration of information processing capacity and creative capacity of human beings in order to maximize the responsiveness and flexibility of organization (Siau & Tian 2005, 117-23).

It may not be out of place to mention that, many of the consortiums have organized the knowledge in such an effective way that, the users in any type of libraries can have a seamless access to use the recorded knowledge which reaches to the desktop through networking. The UGC Infonet Digital Library Consortium equally facilitates the services to the academic communities in the university level provided they are the member organization of the UGC-INFLIBNET. Like wise other agencies such as UNESCO and other open source organizations like commercial and academic such as, infolibrarian.com. bubl.ac.uk, doaj.com etc. The Darwin

Magazine in 2001 opined that knowledge management is fundamentally active and people need to have access to the right information at the right time. Knowledge management needs to be proactive, tightly integrated with business processes and integrally related to day-to-day operational activities. (http://km.brint.com/CBK/Working Knowledge3.pdf)

3.1 Value of Knowledge Management

Data is an entity which contributes to facts and its relevance in the context of an organization like library, generates value oriented results required by the information seekers whether researcher, faculty or student and its relation with other related areas contributes to information. According to Bellinger (2004), the patterns of relations of data and information including other patterns have the capacity to represent knowledge. For the utility of information, it needs to be clearly understood and its application in the relevant area of study results to knowledge. He further remarked that, the value of Knowledge Management relates directly to the effectiveness with which the managed knowledge enables the members of the organization to deal with present situation judiciously. On-demand access to managed knowledge accelerates research value in a given field of study and leads to sustainable knowledge which can be applied by others to enhance the capability of understand in future.

Subramaniam (2013) has credited the following best practices for maximizing the knowledge management practices.

☛ *Increasing search mechanism through multiple search techniques*

Absence of literacy causes bottlenecks in finding relevant information in a given period of time causing thereby, discontentment among the users in the libraries. Hence, multiple and different methods need to be oriented to the users to improve skill power to retrieve the knowledge which will substantiate the requirements with value added knowledge.

☛ *Leveraging the Knowledge through various channels*

Inconsistency of knowledge dissemination causes irritation among the users. Therefore, the libraries require extending the services through multiple channels so as to facilitate the users in accessing knowledge. Rigidity in adoption of multiple channels by the libraries for knowledge dissemination leads to insufficient research output. The users requires to access knowledge through e-mail, web-based, personal contact, document delivery etc. consistently so as to enhance the knowledge capturing capacity and use.

☛ *Leveraging the knowledge base for revenue and compliance*

Knowledge base in service organization like library excels the potency and efficiency of user service. It not only amplifies potential gain to the libraries in terms of users' satisfaction but also generates substantial revenue for the

library through online membership and access of statistical databases etc. on payment.

☛ *Fostering sourcing with quality control*

Invariably the enlightened customer visiting the library possess worthy knowledge and expertise as well who express their willingness to apportion to the aspirants through both in persons and online communities and social networks. The libraries thus, gains potential and value oriented knowledge and recognize the accomplishments through knowledge base which needs to be quality controlled for dissemination which however, requires comprehensive workflow capabilities of knowledge management system.

☛ *Implementing workflows for adaptive content management*

Content management is one of the indispensable components of knowledge management system which not only excels the use of the knowledge exorbitantly but also adds substantially to value added knowledge. Content effectiveness such as, content usage frequency, explicit and implicit content assessment trigger content creation and maintenance tasks, and assign them to individuals with service levels attached to them to ensure timely refinement and enhancement.

3.2 Models of Knowledge Management

The knowledge management model applies to the technique of accumulations, organization, storing, and indexing in a scientific way so as to retrieve the same in a seamless way. It further associates to the analysis of knowledge so as to make an advantage over their competitors. Knowledge Management Practitioners identify the knowledge for capturing, apply the altering form i.e, codification from paper to systems by way of different formats ranging from limited fields to hypertext, validate the knowledge, contextualizing and re-contextualizing the knowledge (Raman; 2003; p.21) including adopting the advances in groupware tools for facilitating the exchange of organizational information. Knowledge management systems often rely on groupware technologies such as Lotus. The knowledge management model regards the sum of all knowledge within the organization as its intellectual assets and provides tools for managing those assets. As a management tool, knowledge management systems require technology as well as consultants who not only advise the procedure to handle knowledge audits, analysis and flow but also counsel the rapid adoption of new technology. Over the past few years, just as groupware applications shifted from proprietary client/server models to a platform-agnostic Web model, knowledge management's embrace of Web technologies has extended its usefulness and cut costs. Web-based knowledge management systems require no (or minimal) change to users' desktops and can be simpler to install and administer. More recently, knowledge management systems started using XML to identify

relevant data elements and extract knowledge from them both in and out of the organization. XML offers document schemas and tags, allowing readers to collect meta-information about each piece of information(http://www. computerworld. com/s/article/64911/Knowledge _Management? taxonomy).

Knowledge Management tools have been defined by the scientists/ intellectuals in multifarious ways. To be specific, Allan Frost has described three various models of knowledge management such as, (i) KM Process Framework by Bukowitz and Williams described in 1999; (ii) KM Matrix by Gamble and Blackwell in 2001 and (iii) Knowledge Management Process Model by Botha et al in 2008. (http:// www.knowledge-management-tools.net/ knowledge-management.html).

3.2.1 KM Process Framework

Bukowitz and Williams in 1999 have visualized knowledge management as a process heightening knowledge assets. The model was developed by him where he emphasized on knowledge initiatives which are the outcome of tactical and strategic changes and need. While, the tactical changes are actuated by the demands of the consumers based on market demands, the strategic changes are activated by shift in macro-environment. In this model, both the types of changes contribute to knowledge-based assets giving the shape to knowledge repositories.

3.2.2 Knowledge Management Matrix

The Knowledge Matrix model was conceptualized by Gamble and Blackwell in 2001 where they submitted a general theoretical outline with guidelines for execution and principally they stressed upon managerial initiatives of the organisation. The authors fragmented the knowledge domain into four components such as,

a. Determination of knowledge source,

b. Organization of knowledge to measure the strengths and weakness including its relevance and reusability,

c. Socialization of knowledge, and

d. Internalization of knowledge.

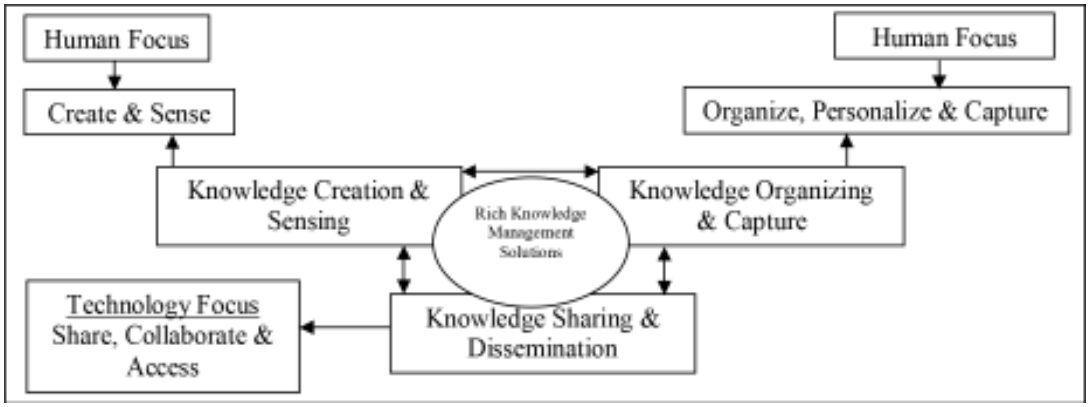
The Knowledge Management Matrix Model as devised by Gamble and Blackwell is depicted below.

Source: http://www.knowledge-management-tools.net/knowledge-management.html (27.9.13)

In this model, source determination of knowledge is one of the primary mechanisms of knowledge management which after acquiring subject to copyright is distilled and split into different categories with specific standard so as to disseminate the users in a convenient channel which otherwise known as socialization. Ultimately, the knowledge is internalized as institutional property under the copyright provision.

3.2.3 Knowledge Management Process

This is another achievement in knowledge model where Botha and others in 2008 developed a model known as Knowledge Management Process Model and this model happens to be a realistic approach in knowledge management. This model, however, does not emphasize on creation of new knowledge as a specific knowledge management initiatives rather, has sharpened the idea on user point of view. The model propounded by the authors has been depicted below for clear understanding.



Source: http://www.knowledge-management-tools.net/knowledge-management.html (27.9.13)

4. Knowledge Management Repository

Many repositories both open source and consortium in both national and international field have accumulated information pertaining to multifarious areas including knowledge management through articles from versatile peer-reviewed journals. To project some of them, Informatics through Open J-Gate provides 7642 open access journals out of which 4578 are peer-reviewed journals and 5821 terms matched to 'Knowledge Management' (http://www.openjgate.com/Search/Search Results.aspx?).

Likewise, UGC Infonent Digital Library Consortium developed and maintained by UGC-INFLIBNET provides information on current as well as archival access to more than 5500+ peer reviewed electronic journals and nine bibliographic databases covering a wide range of e-resources on Arts, Humanities, Social Sciences, Physical Sciences, Chemical Sciences, Life Sciences,