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## Knowledge management and web 2.0-a perspective of libraries in India

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### Abstract

The library management has now seen a transformation in the digital era. The present study made an introspection regarding the digital platforms and how they could be used by the librarians especially in the colleges to transmit the knowledge. The Knowledge management and library in the educational institutions provide a learning environment that would optimize the library management system. The review of literature comprehensively covers the knowledge management perspectives in the libraries.

**Keywords:** Web 2.0, knowledge management, library

### Introductions

Knowledge Management is the domain of professional practices which enliven the potential of the institute's human resources and improve their aptitude to share what they know.

Knowledge Management = KM

$KM = (I + P)S$

Legend:

I = Information

+ = Information Technology

P = People

s = shared use (Lopamudra Sarkar, Sk.Imtiaz Alam, 2018) [5]

### Knowledge management definition

The knowledge management can be defined as follows:-

Knowledge management is the systematic management of an organization's knowledge assets for the purpose of creating value and meeting tactical & strategic requirements; it consists of the initiatives, processes, strategies, and systems that sustain and enhance the storage, assessment, sharing, refinement, and creation of knowledge.

Knowledge management (KM) therefore implies a strong tie to organizational goals and strategy, and it involves the management of knowledge that is useful for some purpose and which creates value for the organization. (Emil Hajric, 2018) [2].

The KM Spectrum contains the following elements that each group a number practices (as many of them are rather technology-oriented he refers to them as KM applications):

Transactional KM deals with knowledge that is embedded in the use of technology. Knowledge is presented to the user in the course of an interaction with a system. As an example, Binney refers to Davenport and Klahr (1998)'s description of case-based reasoning in a customer service application where a customer problem can be solved by retrieving information about a similar situation in the past.

Analytical KM allows for creating new knowledge from vast amounts of data or information by providing certain interpretations. Analytical KM applications allow for deriving trends and patterns from data. As an example, business intelligence solutions create intelligence on customers and competitors from a range of data collected inside an organization and complemented by external data.

Asset management involves the process of managing knowledge assets, i.e. is explicit codified knowledge, and making them available to people when they are needed. In addition, it deals with the process of intellectual property management. The difference to analytical KM is that knowledge assets are often more complex and there is a smaller number of them.

Process-Based KM deals with the codification and improvement of processes in order to come up with 'engineered assets'. This often involves using methodologies stemming from other disciplines such as Total Quality Management.

Developmental KM aims at improving and developing the competencies or capabilities of an organization's knowledge workers including both explicit and tacit knowledge. This may include training and skill development programs focusing on explicit knowledge but also the development of learning programs focusing on tacit knowledge.

Innovation and creation KM fosters an environment in which knowledge workers, preferably with different backgrounds, can come together to create new knowledge. Innovation and creation of new knowledge is facilitated by virtual teams, networking and communities

**Table 1:** List of generic web 2.0 applications

Generic Web 2.0 Application	Example
Wiki	www.wikimedia.org www.twiki.org
Shared workspace	www.google.com/docs
Blogging	www.blogspot.com www.wordpress.com
Social bookmarking	www.digg.com del.icio.us
Social networking	www.facebook.com www.orkut.com www.myspace.com www.twitter.com
Media sharing	www.youtube.com www.picassa.com www.flickr.com

McAfee (2006) <sup>[13]</sup> made an attempt to break down some common features of Web 2.0 applications into a number of components that he refers to as SLATES. The synonym stands for the first letters of the components which are:

### Search

McAfee points out that search technology is essential for an information platform. Although navigation aids might help the user to find information, keyword searches are the most popular way of finding information.

### Links

Links are the basis of all web-based systems and give a good indication of what is important and really matters to the users.

### Authoring

The popularity of sites like Wikipedia and blogs show people's interest in authoring and publishing to a broad audience. Blogs are means for publishing by an individual and wikis let a group of people publish collaboratively.

### Tags

Tagging lets users assign tags to important pieces of information like intranet pages and links. According to McAfee tagging is a way to "outsource" the categorization of content to a system's users. The corresponding categorization system is called a "folksonomy" and contrasts taxonomies, which are up-front categorizations by experts.

### Extensions

These are components that assist users by automating some categorization work. A prominent example referred to by McAfee is Amazon's recommendation system that suggests users based on their previous action what they could be interested in.

### Signals

These are applications that signal users when content on pages of interest has been updated. A key technology used for this is RSS (short form of "Really Simple Syndication"), which is a protocol that allows users to aggregate updates from a numerous websites in one single place. (Thomas Bebensee, 2010) <sup>[15]</sup>.

### Review of literature

Lalitha Aswath *et al.* (2009) <sup>[4]</sup> explores the feasibility of services offered through intranet services in university libraries in the state of Karnataka and Jammu and Kashmir. The information and knowledge evolved over the year has impacted the organizations, including academic libraries. The researches discuss the various components of knowledge management process identifies Intranet as one of the tools of KM its contents, resources required and advantages as a tool for KM.

Imran Khan (2013) <sup>[3]</sup> provides the interactive environment required in libraries with web 2.0 and the new ways available for information storage and retrieval. The advent of Information and Communication Technology (ICT) in the libraries and information centres has brought about a drastic change in the acquisition of information processing, storing, accessing, disseminating and usage. New technologies and web 2.0 applications social media, cloud computing and others have impacted the various aspects of organizations. The service delivery and content delivery over online is now customer driver, socially rich, more interactive and collaborative. The libraries and corporate information centres have to choose from the tools and practical methods to implement the processes.

Sheikh Mohad Imran (2011) <sup>[10]</sup> explores the impact and use of web 2.0 in the libraries in a sample study conducted in twelve National Libraries. The technological advances have impacted the way one seek and obtain the information. The web applications as backed by the new programming languages have changed over the years. The researcher focuses on the impact and applications of Web 2.0 in the libraries.

Oranuch Sawetrattanaration (2014) <sup>[6]</sup> conducts the study in Thai university libraries investigating the implementation of Web 2.0 technology for Information literacy Instruction. The study covers the implementation, its ways and problems. The reasons for non-implementation of Web 2.0 technology are also explored. The researcher identifies the implementation gaps of web 2.0 technology for ILT and also the reinforcement of the implementation.

Suthanya Doung (2018) <sup>[12]</sup> explore the awareness and use of web 2.0 tools by the first year Information Science (IS) students at Walailak University of Two hundred and Six undergraduates were surveyed. The survey results showed the familiarity of web 2.0 tools among the IS students of WV. The recommendations were made to the university to leverage the Net generation or digital natives to enhance learning among the students

Tanmay Saha (2015) <sup>[14]</sup> contends the relevance and importance of Information and knowledge Society as well as libraries. Data and Information need to be harnessed to make it useful. The knowledge management contributes largely in this regard. The academic libraries can get benefits from knowledge management bridges the relationship between library and the user.

The digital transformation has opened up digital formats through web, online public Access catalogue via internet.

The authors delineate the differences between information professional ay in management of the knowledge and information in the digital environment.

### **Objectives of knowledge management in academic libraries**

The main objective of Knowledge management is to ensure that the right information is delivered to the right person just in time, in order to take the most appropriate decision.

The objectives are as follows:

- To promote collection, processing, storage and distribution of knowledge
- To promote scientific research
- To promote relationship between library and users
- To protect the intellectual property right, in information technology era
- To create knowledge repositories and manage knowledge as an asset
- To organize the value of knowledge and improve effective research (Rajurkar M.U., 2011) <sup>[7]</sup>.

### **Roles of knowledge professionals for knowledge management**

Knowledge Management has emerged as a key concern of organizations. Librarians have long been regarded as part of the support staff of the organization, working quietly in the background, often uninvolved in any of the critical functions of the organization. Information professionals have to recast their roles as an knowledge professional. In other words, librarians need to work as knowledge worker.

Knowledge work is characterized by variety and exception rather than routine and is performed by professional or technical workers with a high level of skill and expertise. So those who exercise their intellects in any of these types of activities are knowledge workers. If librarian's work can be or is totally routinized, then they are an administrative worker (for example, gatekeeper), not a knowledge worker. (Seonghee Kim, 1999) <sup>[8]</sup>.

### **Scope of km in the LIS profession**

Mainstream KM literature indicates that the application of KM contributes to the improvement in organizational performance, economic success in the market place, organizational creativity and operational effectiveness, quality of products and services and economic sustainability.

While, the value of KM in the LIS profession has been recognized as:

- Survival factor for libraries to overcome the challenges library professionals are facing in the changing and competitive environment
- Solution for the improvement of future prospects of libraries 26.
- Method for improving knowledge-based services for internal and external users through creating an organizational culture of sharing knowledge and expertise within the library.
- Solution for the development and application of the organizational knowledge to improve library operations and services. (Shabahat Husainand Mohammad Nazim, 2015) <sup>[9]</sup>.

### **Need for km in libraries**

The exponential growth in human knowledge in a variety of formats has led libraries to develop their resources, access

and share strategies from print to electronic and digital resources. Due to budget shortfalls in libraries, limited technological access, poor staffing and space, libraries have to carefully analyze the needs of their users and seek co-operative acquisitions plans to meet the needs of users.

In fact, the lion's share of the library budget is allocated to its staff and acquisition and cataloguing of library materials. Effective use of staff (HR) and improvement of efficiency and effectiveness of technical services operations are the real focus of knowledge management in academic libraries. The goal is to make full use of the knowledge existing in the organization to increase the operational efficiency and productivity.

### **Resources required by km**

KM is a useful resource. Qualified and dedicated personnel are required for a successful KM effort, as a supporting technology. One of the resources required for a successful KM effort is personnel. KM requires not only knowledgeable employees, but also specialized knowledge workers. A KM worker requires varying depths of knowledge in particular areas

- *Technical skills* – information (resources) management, information technology skills.
- *Business knowledge* – industry, markets customers, competitors, and general business context.
- *Interpersonal skills* – networking, listening, interpreting, challenging, teamwork, communications.
- *Management skills* – motivating, coaching, facilitating, influencing.
- *Company/organization knowledge* – Knowledge of procedures and culture.
- *Personal characteristics* – integrity, confidence, openness, trust, supportive, honesty, willingness to learn. (Lalitha Aswath and Sangita Gupta, ICAL 2009) <sup>[4]</sup>

### **Knowledge management in library information centers**

As a learning organization, libraries should provide a strong leadership in Knowledge Management. Libraries should improve their Knowledge Management in all of the key areas of library services. To cope with the exponential growth in human knowledge, libraries need to develop their resources access and sharing strategies from printed to electronic and digital resources. Limited by funding, technology, staff and space, libraries must carefully analyze the need of their users and seek to develop cooperative acquisition plans to meet the needs of users. Libraries should be developed and maintained an integrated online public access catalogue (OPAC) with both internal and external resources as well as printed and other formats of knowledge. Libraries should use the new approach to capture web information by cooperative efforts such as Dublin Core, Metadata and the cooperative online resources catalogue. Other new methods such as data mining text mining, content management, search engines, natural language searching, concept of yellow pages and such technologies in information visualization as two dimensional or three dimensional knowledge mapping. (Sudhir S. Patil, (2013)) <sup>[11]</sup>

### **Towards an impact model of knowledge management 2.0**

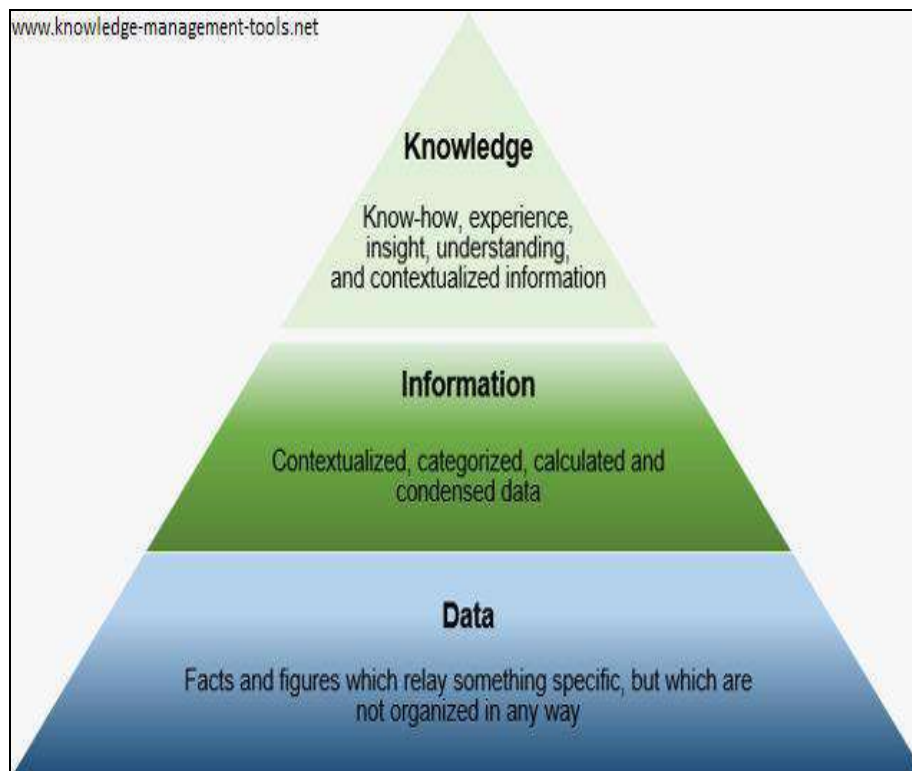
This section explains how we determined the impact of Web 2.0 applications on KM practices in case studies in two



student-run organizations. In addition, it introduces the KM 2.0 Spectrum, an overview of Web 2.0 applications for KM, and the KM 2.0 Impact Model that based on the findings

from the two case studies. (Thomas Bebensee, 2011) [16].

### Data, Information, and Knowledge



**Data:** Facts and figures which relay something specific, but which are not organized in any way and which provide no further information regarding patterns, context, etc. I will use the definition for data presented by literature "unstructured facts and figures that have the least impact on the typical manager."

**Information:** For data to become information, it must be contextualized, categorized, calculated and condensed. Information thus paints a bigger picture; it is data with relevance and purpose. It may convey a trend in the environment, or perhaps indicate a pattern of sales for a given period of time. Essentially information is found "in answers to questions that begin with such words as who, what, where, when, and how many". IT is usually invaluable in the capacity of turning data into information, particularly in larger firms that generate large amounts of data across multiple departments and functions. The human brain is mainly needed to assist in contextualization.

### Library 2.0

Library 2.0 is the application of interactive, collaborative, and multimedia web-based technologies to web-based library services and collections. In the library and information professional world, a savvy audience of users relative to the general consumer is generally dealt with. The library professionals also tend to the digital divide issues of the more challenged user. This means that what most critical users of the library do not know about or use, the library professionals can often inform them about and train them in the newest technologies that can have an impact on their success. For those users who can quickly become comfortable using technologies such as Wikis, RSS, instant

messaging, news aggregators and blogs, the library professionals can help them to leverage these in making a difference in reaching their goals. Its quite clear that each and every one of the technologies listed in Web 2.0 above, viz., RSS, Wikis, blogging, personalization, podcasting, streaming media, ratings, alerts, folksonomies, tagging, social networking software, and the like could be useful in an enterprise, institutional, or community environment and could be driven or introduced by the library. The beauty of Web 2.0 and Library 2.0 is the level of integration and interoperability that is designed into the interface through the portal or intranet.

Library 2.0 is a concept of a very different library service, geared towards the needs and expectations of today's library users by making the information available wherever and International Journal of Digital Library Services whenever the user requires it, and seeks to ensure that barriers to use and reuse the information are removed. Library 2.0 is mainly around the concept of how to use the Web 2.0 opportunities in a library environment. It is one of the major breakthroughs seen in recent times. It is a new way of providing library services through new internet technologies with emphasis on users. Library 2.0 is a loosely defined model for a modernized form of library service that reflects a transition within the library world in the way that services are delivered to users. The main principle of the Library 2.0 is in the fact that the information has to be extended from the library to the users and vice versa, to allow fast and permanent adaptation of the library services. (Imran Khan, 2013) [3].

### Conclusion

Based on the analysis of the current management characteristics of teaching and research library, this research

studied the motivation of management optimization, investigated the current state of library management, and worked out the problems existing in library relationship at present.

Problems exist in librarians, bookshelves, books, environment and consultation were discussed.

Aiming at these problems, a series of optimization methods of library management were put forward by using process reengineering, reengineering and other technical methods. The current mechanism system should be innovated and reorganized, and advanced technology introduced. Try to draw high-level management personnel, increase investment in data purchase and improve the reading environment, so as to achieve the optimization of library management system. Through the practice of industrial engineering theory and method in the management of teaching and research library, it is found that this method can make up for some shortcomings of traditional management methods and promote the modernization and scientific construction of libraries. (Dongqing Cai, 2018) <sup>[1]</sup>.

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