Knowledge Management Tools and Academic Library Services

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Abstract
Evolution of information and knowledge has impacted all organizations, including academic libraries. Knowledge management has drawn the attention of LIS professionals for the past decade. Initially the knowledge management was a feature of the corporate sector; later it started a role in academic libraries too. This paper discusses 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. The study explores the feasibility of services offered through Intranet services in University libraries in the state of Karnataka and Jammu & Kashmir.

Keywords: Knowledge Management, Academic Libraries, Knowledge Managers/Professionals, Intranet.

Introduction
We are living in an era of information and knowledge explosion. The unprecedented growth of knowledge and information has impacted all organizations including libraries. The libraries are the repositories of knowledge and form an integral part of education. Libraries have long history, beginning with chained and closed access libraries of earlier times to present day digital and virtual libraries that use the latest technology for providing information through various services. The success of libraries and information centres (LICs) depends upon their ability to utilize information knowledge of its staff to serve the user community. The ICT has played a significant role in this dynamics which has not only made access across the globe easier, but has facilitated integration of thought process, synergy in working methods and places, team learning and enhancing organizational transparency. Accordingly librarians have also changed their work as custodians of information resources in the library to information providers, navigators, and cybrarians who are busy in satisfying the information requirements of their clients. To provide relevant and value added services to user community and libraries must strive to provide right information at the right time with a right expense of financial and human resources.

Academic Libraries
Academic libraries are information centers established in support of the mission of their parent institutions to generate knowledge, equip people with knowledge in order to serve the society and advance the well being of mankind.

The primary objective of academic institutions of higher education is advancement of learning and acquisition of knowledge. Academic libraries are part of the university and its organizational culture. Whatever affects universities also has an impact on their libraries too. As a result the role of university libraries is changing to provide the competitive advantage for the university. And today librarians are connected to a vast ocean of network based services. Academic libraries are the nerve centers of academic institutions and are mandated to support teaching, research and other academic programs.

Changing Role of Universities
Universities are faced with a challenge to create and disseminate knowledge to society. Traditionally, universities have been the sites of knowledge production, storage, dissemination and authorization. (Reid 2000). Universities and other higher education institutions face similar challenges that many non-profit and for-profit organizations face. The challenges are financial, increasing public demand, accountability, rapidly evolving technologies, changing role of staff, diverse student demographics, competing values and a rapidly changing world. (Naidoo 2000).

Universities need to share information and knowledge among the academic community within and outside the institution. Knowledge management (KM) has become a key issue in the universities due to changes in knowledge culture. Universities are not isolated
entities but exist as a part of society. They engage in teaching, research and community services. Therefore, knowledge created in university through research and teaching should be relevant to the society, and promoting knowledge as a major factor of business of the university and higher education institutions.

Knowledge Management
Knowledge has been identified as a key resource in all organizations whether non-profit or for-profit. Organizations are beginning to realize that there is a vast and largely untapped asset diffused around in the organization, i.e. Knowledge. This realization led to the changed role of academic libraries to provide competitive advantage for the parent universities.

Knowledge and management of knowledge are regarded as increasingly important features of an organizational survival. Application of knowledge resources successfully helps the organization to deliver creative products and services. Knowledge management has been hyped since late 1990’s, first in the business sector and then in the higher education, and then to library management. The need for embracing knowledge management in academic libraries is mainly due to a combined impact of library budget shortfall and higher user expectation and staff user ratio. (Dimattia 1997). A survey conducted by Brainin (2003) on collection management over the last 50 years has depicted an evolutionary path from collection development to collection management and now to knowledge management.

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.

Components of KM
The knowledge management environment centered round three components-

1. People – Technology experts
   Knowledge professionals
   Knowledge managers

2. Process – Creation, capturing, storing, sharing, application, and

3. Technology- Hardware and software packages
   (Robertson and Brun,2005)

1. People: All members of an organization are the focus of the KM; they are the creators as well as users of knowledge assets (both explicit and tacit). They act as target groups, they are involved in creation, sharing and use of generated knowledge within the organization and outside – knowledge is associated with human cognition. The primary requirement in KM is knowledge sharing culture. The people associated with knowledge management are of three types, viz:

   - Technology experts: are those concerned with design and development of tools and services for knowledge discovery. They build applications, databases, networks that allow the organization to do its work with accuracy, reliability and speed. (Kim, Seonghee 2000)

   - Knowledge professionals: are the individuals in the organization who have the skills, training and know-how to organize information/ knowledge into systems and structures that facilitate effective use of knowledge resources. LIS professionals have long been working as information managers and they differ from knowledge managers as information managers are concerned with public domain knowledge, while knowledge managers are oriented towards institutional implicit/tacit knowledge.

   - Knowledge managers: are the groups of people, who focus on the achievement of organizational goals. Identify present needs and problems, initiate practical and manageable activities to achieve set goals.

Most important feature of knowledge management is motivation of staff to contribute and share their knowledge (not an easy task). Large portion of the knowledge in any organization is tacit, embedded with in individual experience, judgments and intuition (Ahmed, Lim, & Loh, 2002). Some staff may have difficulty in expression and communication. Some staff may not want to share their knowledge for the fear that once their knowledge is shared, they might no longer be valued/ indispensable. Some staff may not share their knowledge for free, as there are free riders who take others knowledge for granted but never share their own. (Susarla,Liu & Whinston 2003).

2. Process: Knowledge management process consists of several stages:

   - Environment creation – people working in the organization have to change their mindset to share their tacit knowledge, nurture it, and learn more about the system, users of the system, identify and integrate people and process and technology.
● **Knowledge creation** – knowledge in public domain is explicit and published. In a personal domain it is tacit. Knowledge is human capital. Identifying new knowledge and creating new knowledge and adding value and vision to the new knowledge and its application is the essence of KM

● **Knowledge organization** – The traditional and current KM oriented organization have a common orientation, i.e. establishing semantic relationships, providing syntax, hyper linking, etc. (Data gathering, classification knowledge database creation content mapping... etc. (Library professionals have expertise).

● **Knowledge sharing** – In KM knowledge sharing deals with creating a value for the intangible assets (HR/Tacit Knowledge)

● **Knowledge synthesis** – The intrinsic value of knowledge created lies in its application in an appropriate situation. Application may be started from top-down or bottom up and even in the middle. Each strategy has its own merits and risks.

3. **Technologies:** Are the gadgets (hardware and software) required to interconnect individuals, i.e. Intranet. And technologies needed for processing, storing and retrieval with in and out side – Internet and a variety of KM solution software packages are available from vendors. We are making use of existing technology to store and retrieve knowledge for promoting knowledge management in library operations. Open source technology and software are ideal. But these require high level of programming skills to utilize. On the contrary, majority of the libraries/librarians have Microsoft Office Suite installed on their work stations. MS Word is good for creating operational procedures and other documentations related to library operations. MS Excel is good for keeping statistics and creating charts at departmental/section level. MS Access can store data for retrieval with customized queries, and can also be converted to web pages (Static/dynamic), facilitate retrieval. And most of the staff members are familiar with MS Word and Excel. In addition, web portals, online help desk, virtual reference desk etc.

**Significance of KM in Academic Libraries**

KM is defined by Gartner Group (2000) as a discipline that promotes as integrated approach to identifying, capturing, evaluating, retrieving and sharing all the information assets of organization. Balcombe (1999) defines knowledge management as systematically capturing, sharing, using and creating knowledge to add value to the organization. It also refers to effectively identifying, acquiring, developing, resolving, using, storing and sharing knowledge, to create an approach for transforming tacit knowledge into explicit knowledge (Shanhong, 2000).

For the purpose of this paper and in the light of above mentioned definitions, KM may be defined as a process of identification, capturing, storing and exploiting knowledge (both tacit and explicit). To determine the value of Intranet as a KM tool at University Libraries in Karnataka, small survey has been conducted to know their understanding of KM. Their understanding of KM is ‘a process of identifying, acquiring, organizing and sharing of information packages among the user groups’.

**Intranet as a KM Tool**

Intranets have emerged as one of the most effective ways of sharing information and knowledge in most of the organizations. They act as circulation system for supporting the flow of information. Therefore, it is necessary here to mention the importance of Intranet as a KM tool.

Blackmore (1997) described an Intranet as a means of exploiting Internet Technologies within organization based computer environment to aid the progression towards the seamless navigation of both internet based and in-house generated learning materials. Curry and Stanchich (2000) have defined Intranet as a private computing network, internal to an organization, allowing access only to authorized users. Yen and Chou (2001) have defined it as a private computer network based on the data communication standards and technologies of the public Internet.

Based on the above definitions an Intranet can be defined as a network that uses Intranet concepts and technologies within the organization in order to be accessed and shared by user groups and employees. And such knowledge is stored electronically and access is usually controlled by password. To persuade people to share knowledge, they have to be motivated and provided with the necessary tools. If given the right tools and guidance, the individual will be able to make the knowledge sharing process as efficient as possible. Intranets have emerged as one of today’s most effective ways of sharing information and knowledge in organizations.

**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 (Skyrme, 1998):

- **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.

**Advantages of Intranet**

1. **Consistency**: Knowledge existing on intranet can be viewed by all always as long as the network is online.

2. **Interactivity**: One can create discussion groups, and other two-way communication tools.

3. **Inexpensive updating**: One can easily and inexpensively update online publications. This can be done as frequently as necessary.

4. **User-friendly Interface**: Intranet application uses an interface that is conducive to point and click navigation. Users can easily get to the information they need and it is easy to learn.

5. **Centralization**: Users can access information from a central database at any time and in number of geographical locations.

6. **Simplicity**: It can be created and maintained with a minimum of programming expertise.

7. **Flexibility**: Provides one access point to the organizations database from all corners of the organization, as if it is available in one's own office.

8. **Faster and improved services**: Intranet improves the way in which services are rendered easily and quickly.

9. **Accuracy and timeliness**: Information and data are as accurate as supplied by people and will not change between requests and barring technical problems, messages will be delivered on time.

10. **Reduces paper work**: Intranet is closer to a paperless working environment, because the more the intranet progresses the less paper will be used.

11. **Currency**: The intranet contains the most current information, knowledge: in a format that can be searched, they are the major steps in the transition towards paperless workplace.

**Contents of an Intranet**

Content of an Intranet is the engine that drives the Intranet as a KM tool. To be of some value to an organization it must be up-to-date and of interest to employees. The content of the Intranet depends on the needs of the employees and therefore differ from organization to organization. An Intranet should have minimum features like discussion forums and bulletin boards, which are excellent media for knowledge sharing. Robinon (1999) stressed that Intranets should be always fresh and up-to-date, and concentrates on sharing best practices and the “how was it done factor”. Jussilainen (1999) opined that all the information on the intranet must be up-to-date and valid. Many authors have stressed that the following information should be available on the intranet like news concerning staff, directories containing details of personnel; annual budget of the organization, reports, agreements, policies, forms, management information, discussion forums, bulletin boards and electronic documents (Magazines and books) etc., which can assist in sharing of knowledge. Availability of such information can save time; it improves the productivity and provides opportunity to share with the rest of the colleagues.

Based on the foregoing information a survey has been conducted in state of Karnataka and Jammu & Kashmir. In Karnataka there are nine general universities, of which six have been selected for the study purpose (Bangalore University, Bangalore; Gulbarga University, Gulbarga; Karnataka University, Dharwad; Kuvempu University, Shivamogga; Mangalore University, Mangalore; University of Mysore, Mysore). Three universities – Kannada University at Hampi, Tumkur University at Tumkur and Karnataka State Women’s University at Bijapur have not been considered as they are still in their infancy. In Jammu and Kashmir six Universities have been identified namely, University if Kashmir, Kashmir; University of Jammu, Jammu; Share Kashmir Agricultural University, Jammu; Baba Gulan Shah Badshah University of Rajouri; Shere Kashmir Agricultural University , Srinagar; Mata Vaishno Devu University, Katra.

The survey conducted to identify the availability and usage of intranet as a KM tool in selected university libraries in Karnataka and Jammu and Kashmir yielded a mixed response. Generally librarians are satisfied with work they are doing. But the content of the intranet in all the libraries was very limited and are not systematically developed. None of the libraries surveyed complied with minimum requirements for an intranet specified by Robinon and Jussilainen. The only service common in all eight libraries with intranet facility was e-Journal service. It was learnt during the telephone interviews that the contents of these intranets are not updated regularly and that resulted in less frequent visits to intranet by staff/ users. In one of the university libraries in J& K, though it does not have intranet facility, but provides a number of Knowledge Management related services like staff news, agreements, policies, e- journals, forms, discussion groups, bulletin board services through
website link. Based on the analysis of the content, frequency of updates and telephone interviews with the library staff and users, it can be said that the potential of intranet as a KM tool has not been fully utilized. Knowledge management requires a holistic and multidisciplinary approach to management process and an understanding of the dimensions of knowledge/information work.

As such, Intranet has a great potential usage for many purposes and in many ways. It can be used for communication support, provision of nascent information to internal staff, as an interactive platform. But the libraries under survey have shown that they have not been properly equipped to establish/use intranet as one of the KM tools.

Though there are some success stories of KM in corporate sectors and research laboratories – coming under CSIR, ICMR, and ICAR – KM is still in its infancy in other university/academic libraries. Little effort has been devoted to the study of how to improve library operations through Knowledge Management. KM becomes inevitable in Academic libraries because of three reasons:

1. Budget cut is a primary driving force for implementation of KM.
2. Students, faculty and university administration have greater expectation of academic libraries.
3. And they have sensed the threat of being marginalized by internet-based information services and level of computer literacy of library users (both students and faculty).

So the challenge of KM is to determine what information within the organization qualifies as ‘Valuable’. All information is not knowledge and all knowledge is not valuable, significance of KM lies in identification of valuable knowledge, which is ever changing and is always complementing to the existing system.

**Conclusion**

Though Knowledge Management so far a corporate feature, the environment in which the academic libraries operate is changing. Academic libraries have not yet fully realized the potential of knowledge management. It is not individualistic but teamwork. They have the knowledge of information organization along with certain amount of expertise is ICT application too. But, they are poor in integration of work and individual skills. This is very essential as knowledge is considered as serviceable good and insures continued viability of libraries in the ever changing environment.

**References**


