

**SKILL AND COMPETENCY REQUIRE IN KNOWLEDGE MANAGEMENT IN  
LIBRARIES AND INFORMATION CENTRE IN CURRENT ERA**

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**Abstract**

*Knowledge management is not one single discipline. Rather, it an integration of numerous endeavors and fields of study. The library will play a very crucial role in the extension and modification of knowledge. The growing need for knowledge management has influenced every component and operation of a library. Knowledge management requires more effective methods of information handling, speedy transfer of information and linking of information with individuals and their activities. The purpose of this paper is to explain knowledge management concepts, its objectives in libraries and information centre and current trends in knowledge management, competency require among LIS professionals and their challenges to incorporate it into libraries. The present study is based on review of published work in the field of KM and LIS .In the knowledge economic era libraries is*

*treasurer of human knowledge. Library play significant role in dissemination and modification of knowledge. It provides an overview of a number of key terms and concepts, describes the role of librarian and barrier of knowledge management faced by library professionals.*

**Keywords:** *Knowledge management, Institutional repository, Semantic web, Information technology, Web 2.0*

## **Introduction**

Knowledge management has been core issue in organization development for last several years. It is a complex process, which deals with creations, acquisitions, packaging and application of knowledge communication, dissemination and application of knowledge of all kind to achieving goal of any organization. Technological changes, the importance of information and knowledge, benchmarking and shifting demands have made organizations essentially learn and adopt new things rapidly. Growing information requirements from customers magnify the need for evaluating, sharing and disseminating information at the right time. Managing the present abundant knowledge is becoming a business imperative (Sheeja, 2012), and everything we do depends on it. Zhao *et al.* (2012) opine that the shift from information to knowledge has resulted in the new economy being led by those who manage knowledge effectively. The World Bank (1999) in its report has revealed that

today's most technologically advanced economies (countries) are truly knowledge based. KM is increasingly becoming popular worldwide (Grossman 2007) and in a variety of disciplines (business administration, computer science, library and information science/studies, etc.) and institutions/organizations (universities, business enterprises, governments, etc.). Through KM, organizations seek to acquire or create potentially useful knowledge and to make it available to those who can use it at a time and place that is appropriate for them to achieve maximum effective usage in order to positively influence organizational performance. Knowledge management covers, in recent year, wide discipline such as Human resource, cognitive science, Library and Information science, Anthropology, sociology, Education, management and Business Administrator etc.

The advent of the Internet, the World Wide Web, and information technology has made unlimited sources of knowledge available to us all. KM has come to mean the systematic, deliberate leveraging of knowledge assets. Simultaneously, many technological developments were devoted to knowledge-based systems: expert systems that sought to capture “experts on a diskette,” intelligent tutoring systems aimed at capturing “teachers on a diskette,” and artificial intelligence approaches that gave rise to knowledge engineering in which someone was tasked with acquiring knowledge from subject matter experts, conceptually modeling this content, and then translating it into machine executable.

In the early 1960s, Drucker was the first who coin the term *knowledge worker* (Drucker, 1964). Barton-Leonard (1995) documented the case of Chapparral Steel as a

knowledge management success story. Nonaka and Takeuchi (1995) studied how knowledge is produced, used, and diffused within organizations and how such knowledge contributed to the diffusion of innovation.

### **Concept of knowledge management**

The term knowledge management (KM) has first introduced in a 1986 key note address to European management conference .Today there are numerous definition and article of KM found on web as well as printed forms. Knowledge Management is one of the hottest topics today in both the industry world and information research world. In our daily life, we deal with huge amount of data and information.

The growth of KM, both as a research theme and an organizational strategy, has gained significant traction throughout the past decade (Chua 2009). Knowledge management literature has described KM in various ways as “Justified belief that increases an entity's capacity for effective action” (Nonaka, 1994, p. 15); and the inherent capacity of organizations to act (Sveiby, 1997). It has also been defined as a “tool to accomplish our goals faster and more effectively by delivering the right knowledge to right person at the right time and in the right context” (Ugwu&Ezema, 2010, p. 184). Technology makes it easy to collaborate, reduces both temporal and spatial barriers in transfer of knowledge, and improves the different aspects of KM such as organization, storage, archiving and retrieval (Anantatmula and Kanungo, 2010). Knowledge management defined as a process that identify creating, capturing, organizing storing, representing and reusing knowledge to

enhance organizational performance by effective and efficient use of organizational resources.(Hurley and Green, 2005; Hume Anantatmula and Kanungo, 2010). The only sustainable advance a firm has comes from what it collectively knows, how efficiently it uses what it knows, and how quickly it acquires and uses new knowledge (Davenport and Prusak, 1998).

### **Some Selected definition of Knowledge Management**

<b>Definition</b>	<b>Author</b>
Knowledge management is a collaborative and integrated approach to the creation, capture, organization, access, and use of an enterprise’s intellectual assets.	Grey (1996)
Knowledge management is one of those concepts that librarians take time to assimilate, only to reflect ultimately “ on why other communities try to colonize our domains”.	Hobohm (2004)
Knowledge management is extension of information society, an attempt to cope with the explosion of information. It is process of storing, organizing, analysis and dissemination of information to achieve organizational goal.	Broadbent
Knowledge management is the identification, acquisition, utilization, support,maintenance and disposal of knowledge assets for the purpose of adding value an benefiting all stakeholders	Rowley

KM is a process of knowledge creation, validation, presentation, distribution and application	Bhatt (2001)
KM is the creation, extraction, transformation and storage of the correct knowledge and information in order to design better policy, modify action and deliver results	Horwitch & Armacost (2002)
KM is a process that helps organizations find, select, organize, disseminate, and transfer important information and expertise necessary for activities	Gupta et al. (2000)
Ability to create new knowledge through a dynamic interplay of tacit and explicit knowledge	Nota (1995)
A set of intellectual capabilities, which enable an organizational entity to act	Kemp (1999)
Knowledge management consists of “ leveraging intellectual assets to enhance organizational performance”	Stankosky (2008)

All of the above definition we can say that Knowledge Management (KM) refers to a multi-disciplinary approach by making the optimize use of, it is set of processes that collecting , storing , creating and sharing knowledge to enhance organizations or institutional performance in order to achieve their organizational objective , mission and goals within time frame .

## **Types of Knowledge:**

Knowledge is classified into three types (1) Explicit Knowledge (2) Tacit Knowledge (3) Implicit Knowledge

### **Explicit knowledge**

This type of knowledge is formalized and codified, and is sometimes referred to as know-what (Brown & Duguid 1998). It is formal and systematic knowledge which can be easily communicate, sharable, codify and store in certain media. It can be readily transmitted to other by using various communication channels .Examples: books, publication, manuals, standards and report etc. Explicit knowledge comprises anything that can be codified, documented and archived. These include knowledge assets such as reports, memos, business plans, drawings, patents, trademarks, customer lists and methodologies.

### **Tacit Knowledge**

Tacit knowledge was originally defined by Michael Polanyi in 1958 in his magnum opus Personal Knowledge. “We know more than we can tell” Polanyi, 1966. It is sometimes referred to as know-how (Brown & Duguid 1998). Nonaka and Takeuchi describes tacit knowledge as non linguistic , non numerical form of knowledge that is highly personal and context specific and deeply rooted in individual experience ,ideas ,value and emotions. It is refers to intuitive, hard to define knowledge, difficult to articulate and also difficult to put

into words, text, or drawings. It is based on own experience and learning. It is not captured by language or mathematics we can see it only in action. It can be shared between people through personal interactions, stories and discussion. Example: how to love, how to play good cricket, riding of bicycle -there is no manual of how to do so you have to be taught by some who already do.

### **Implicit Knowledge**

Implicit Knowledge is available in our consciousness which cannot be conceptualized and the existence of such knowledge is implied by or inferred from observable behavior or performance. This type of knowledge can often be teased out by task analyst, knowledge engineer or other person skilled in identifying the kind of knowledge. Implicit knowledge available in pieces hasn't put together into a concept, principle and theory. Example: all men are mortal and that I am a man. Thus I have implicit knowledge that I am mortal. Once these outcomes were formulated, it was comparatively simple to trace the criteria used to determine the responses to given application. In so doing implicit knowledge became explicit knowledge.

## Comparison of properties of tacit versus explicit knowledge

Properties of tacit knowledge	Properties of explicit knowledge
Also known as, informal or unstructured knowledge	Also known as formal knowledge
Ability to adapt, to deal with new and situations.	Ability to disseminate, to exceptional reproduce, to access and re-apply throughout the Organization
Ability to collaborate, to share a vision, transmit a culture	Ability to organize, to systematize, to translate a vision into a mission Statement into operational guidelines
It is intangible assets	It is tangible assets
Expertise, know-how, know-why, and care-why	Ability to teach, to train
Coaching and mentoring to transfer knowledge on a one-to-one, face basis	Transfer knowledge via experiential products, services, documented face-to-processed
Difficult to use technology to communicate	Easy to use technology to Communicate and share

### Component of Knowledge Management

The ability to manage knowledge is crucial in today’s knowledge economy. The creation and diffusion of knowledge have become increasingly important factors in

competitiveness. The knowledge management environment are centered on three components. They are People, Processes, and Technology:

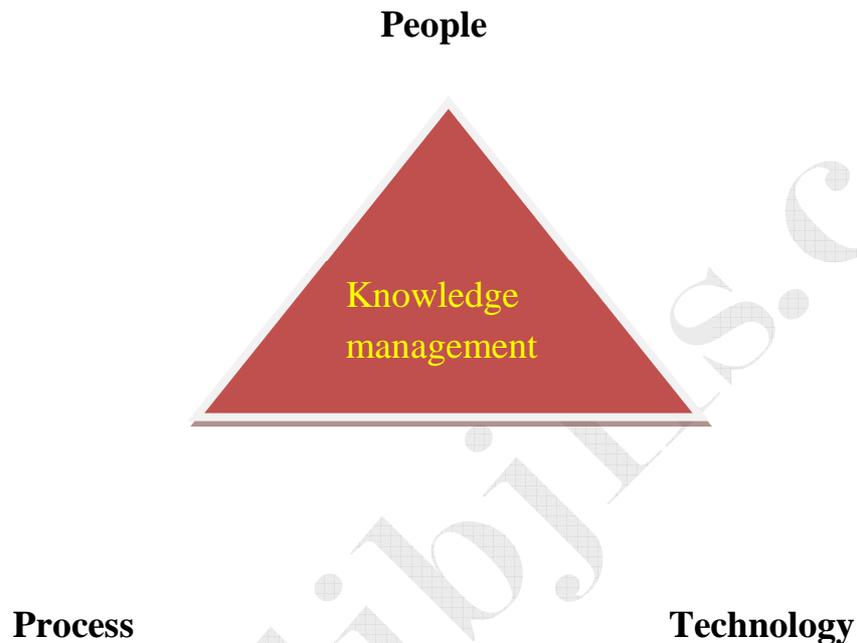
**People** – How do you increase the ability of an individual in the organization to influence others with their knowledge such as technology experts, knowledge professionals and knowledge managers? Knowledge management is first and foremost a people issue. Does the culture of your organization and institutions support ongoing learning and knowledge sharing? Are people motivated and rewarded for creating, sharing and using knowledge?

**Process** – In order to improve knowledge sharing, organizations often need to make changes to the way their internal processes are structured, and sometimes even the organizational structure itself. Its approach varies from organization to organization. There are number of processes such as creation, capturing, storing, and sharing.

**Technology**– Technology is played a crucial role in knowledge management – it can help connect people with information, and people with each other, but it is not the solution. And it is vital that any technology used “fits” the organization’s people and processes – otherwise it will simply not be used. It needs to be chosen only after all the requirements of a knowledge management initiative have been established such as hardware and software packages.

These three components are often compared to the legs of a three-legged stool – if one is missing, then the stool will collapse. However, one leg is viewed as being more important than the others – people. An organization’s primary focus should be on developing a knowledge-friendly culture and knowledge-friendly behaviors among its people, which

should be supported by the appropriate processes, and which may be enabled through technology.



**Figure: Components of Knowledge Management**

### **Objective of Knowledge Management in Libraries**

The role of knowledge management in libraries is become more and more important along with the development of knowledge economy and information technologies. Some of the objective of knowledge management in present era is given below;

- To improve knowledge access and transfer to his Organization and users.

- Knowledge management in libraries is to promote capture, process, organize and dissemination of knowledge to enhance the performance of library and user.
- To strengthen knowledge internetworking and to quicken knowledge flow.
- Libraries must pay attention to diffusion and conversion of knowledge. They act as bridges for turning the results of knowledge innovation into realistic productive forces.
- Libraries take part in scientific research process directly. The library work is a component of knowledge innovation to promote scientific research.
- To promote collection, processing, storage and distribution of knowledge and manage knowledge as an asset and to recognize the value of knowledge to an organization.
- Faster and easier recovery of data and disseminate the valuable information to user timely.
- To reduce the mistake, errors and risk and Information technology is a tool of knowledge management in libraries.

### **Knowledge Management Competencies Required Among LIS Professionals**

KM is more on human as well as organizational issues, different types of skills and competencies are require for library professional to work in KM environment.

### **Information Technology Skill**

IT is becoming increasingly important to KM in construction organizations and academic. The information technology has been recognized as an enabling tool in facilitating

knowledge acquisition in knowledge management. The computer technologies are capable of assisting knowledge seekers and experts engaged in different types of knowledge acquisition process such as socialization combination, externalization ,and internalization(Apostolou, Mentzas & Sakkas, 1999). Due to impact of globalization, and revolution of ICT, the libraries are undergoing tremendous change in its environment. ICT tools and techniques, knowledge management systems, internet, web resources, digital libraries have made significant change in the existing library systems and services. The application of IT enlarges the scope of knowledge acquisition, raises knowledge acquisition, speed and reduces knowledge acquisition cost. IT provides a systematic and professional approach to the management of Information Technology service provision. The following are the information technologies that have and are being used for acquiring organizational knowledge. *Groupware* is software that supports collaborative work and sharing of information in the pursuit of company goals and objectives. Groupware such as the popular

Lotus Notes, provide tools to enhance the communication between work groups and keeps everyone up to date on what has transpired (Vail Iii, 1999).*Electronic networking*, in this context, the KM needs to produce information, acquisition data at the source, transmit it to the data warehouse, analyze it with data mining, and finally transmit the information to the needed entities (Vail Iii, 1999). *Knowledge mapping*, Vail Iii (1999) defined a knowledge map as the visual display of relationships of acquisitioned information which will provide a vehicle for the communication of knowledge in an organization.

## **Management Skill**

Knowledge management must encourage people to interact within and across disciplines and functions; each person brings specific expertise and experience. Defining each member's role would help in creating and sharing of knowledge. Knowledge management requires different types of managerial skills for the success of knowledge management in present scenario. Kinnell also emphasized the management role of information professionals, arguing that they needed not only a portfolio of skills but also, the ability to critically assess the relevance and value of modern management techniques in order to meet current challenge. Role of management and leadership making effective use of Knowledge Management from different functions and divisions of libraries and information centers by defining the roles and process, and by identifying the organizational support needs, managers can successfully lead teams and effectively accomplish the expected outcomes.

## **Communication Skill**

Communication skills have long been a requirement for LIS professionals. The advent of virtual and digital environments, might at first have suggested emergence of a backroom, supportive type of role for librarians, one involving less interaction with users. In tacit knowledge reinforce of human dimension of knowledge management with its implied focus

on relationships and collaboration where communication is the means to connect human minds through interaction.

### **Team work spirit**

Teams are formed when individuals with a common taste, preference, liking, and attitude come and work together for a common goal. Teams play a very important role in organizations as well as our personal lives. Every employee is dependent on his fellow employees to work together and contribute efficiently to the organization. No employee can work alone; he has to take the help of his colleagues to accomplish the tasks efficiently. It has been observed that the outcome comes out to be far better when employees work in a team rather than individually as every individual can contribute in his best possible way. In organizations, individuals having a similar interest and specializations come together on a common platform and form a team. Team and team work must be encouraged at workplace as it strengthens the bond among the employees and the targets can be met at a faster pace.

### **Current trends in Knowledge management**

The new way, knowledge management of an organization, is handled, has undergone significant changes. New techniques, new demands, new kind of data, forcing organizations to reformulate their strategies to achieve an interactive, distributed and collaborative environment. The most common recent trends and technologies have emerged towards KM implementation in libraries are discussed as below:

## **Semantic Web**

Semantic Web is to offer more intelligent services processing, transforming, and assembling the data repositories by facilitating machine understanding of content available on the Internet into useful information. According to the W3C, "The Semantic Web provides a common framework that allows data to be shared and reused across application, enterprise, and community boundaries". The vision of the Semantic Web is to offer more intelligent services by facilitating machine understanding of content. Ontology is an important building block in the future Semantic Web. Ontology provides a shared and common understanding of a domain that can be communicated across people and applications. This is an appropriate vision for knowledge management, too. With Semantic Web, the idea is to make more intelligent applications possible. For example, to schedule a meeting, the application could suggest the most suitable time according to specific user requirements and general user preferences. This requires ontology that captures the concepts and knowledge in a deep enough level to make automatic applications possible.

## **Enterprise 2.0**

Enterprise 2.0 came from Andrew McAfee, who coined this term "Enterprise 2.0 is the use of emerging social platforms within companies, or between companies, their partners and customers. According to B.Duperrin "Enterprise 2.0 is the implementation of a set of resources for the emergence of dynamic brought by individuals in order to adapt the company to the challenges of the knowledge economy and societal changes under stress its

culture and its context. Enterprise 2.0 is favorable to the construction of knowledge and know-how, to share and exchange experiences and skills. These new tools, the author contends, may well supplant other communication and knowledge management systems with their superior ability to capture tacit knowledge, best practices and relevant experiences from throughout a library and make them readily available to more users.

### **Institutional repositories**

Institutional repositories (IRs) are other fast growing tools to manage institutional knowledge at university libraries. IRs is defined by Foster and Gibbons (2005) as “an electronic system that captures preserves and provides access to the digital work products of a community”. The institutional repository becomes the foundation upon which a library creates its institutional information and knowledge. Such repositories often form the first kernel of an organizational memory or library memory for the university .A key role of the repositories is in the support of communities of practice where knowledge is shared and created in a trusted environment. Repositories can also act as a catalyst in the changing technical infrastructure and cultural environment. Repositories are well placed to play a key strategic role in delivering the shift to a cultural and technical environment that supports large-scale collaboration. It composed of explicit knowledge that has been documented and organized for access. Frequently, they resemble libraries or archives in some respects. The knowledge is collected and organized in some symbolic form, such as a catalog or a bibliography. Authorized users may access the knowledge.

## **Adoption of web 2.0 and social media's**

McAfee in 2006 initiated an active debate on the potential effect of the use of social software tools (e.g. wikis, blogs, podcasts, collaborative bookmarking, etc). Social software tools rely mostly on social aspects of every-day organizational life, rather than technological ones, and can facilitate knowledge exchange and sense-making Coakes (2006). Web 2.0 provides interactive collaboration tools to improve knowledge exchange and productivity. With the dawn of web 2.0, libraries have completely transformed their ways of interaction with the library user Blogging, wikis and Twitter can be used as knowledge creation tools by both users and librarians (Kim and Abbas, 2010). Blogs are commonly used in academic libraries. A blog allows a person or a group of people to post information and receive feedback. For example, libraries can set up a blog restricted to library staff replacing previous notebook or bulletin board systems for conveying information. O’Leary (2008) provides a keen view of social software and of the Wiki tool in particular. He proposes that Wikis can provide organizations with numerous “additional capabilities” through their capacity to capture and articulate knowledge. Wikis can be enable to store and edit frequently used and updated university documents such as policy and procedure manuals and can be used as project management tools as a work space for asynchronous communication. Tagging is a popular, user-centered subject tool, which enables web searchers to add tags that operate in the same way as subject headings. The librarians can find relevant websites'

tag them and save the information. All librarians need to appreciate the value of social media for connecting people to information and knowledge as well as connecting people to people. The application of social media is improving the effectiveness and the adoption of KM in libraries environment.

### **Use of virtual/online reference services**

Virtual reference is reference service initiated electronically, often in real-time, where patrons employ computers or other Internet technology to communicate with reference staff, without being physically present. Communication channels used frequently in virtual reference include chat, videoconferencing, Voice over IP, co-browsing, e-mail, and instant messaging. Libraries serve hundreds/ thousands of users every week, accumulating tacit and explicit knowledge. It is not easy to remember and recall everything when answering a reference query. It is quite challenging for librarian to serve customers when information is available in multi-formats and comes from different sources.

### **Digitization's of library collection**

The knowledge becomes electronically preserved entity in the digital form. The technology gives the library a modern outlook by automation of the documents available in the library, and thus becoming user friendly. The Knowledge Management system is developing rapidly in the present era in the form of collection of data or knowledge information. The digitization process helps the knowledge information to be shared with other people through Internet/ intranet.

## **Role of LIS professionals in Knowledge Management**

Like other business management trends, knowledge management is also a commercial concept, emerging first in the for-profit sector and then entering into the non-profit sector. The present day librarians or Knowledge Management must possess certain quality. Webb (1998) pointed following per requisites of a present day librarian

- Creating new knowledge through filtering, summarizing and packaging information
- Creating indexes, taxonomies, thesauri and abstracts;
- KM integrators: A librarian can act as one who connects the information sources, services, and people in an organization.
- Librarians normally act as knowledge brokers in an organization since they know better than others where someone can look for particular information.
- Teachers/trainers: to ensure that the users (and colleagues) know how to access relevant sources of information.
- System designers - to develop and design appropriate systems for the delivery of information to their users in an appropriate manner.
- To maintain information quality and ensuring that users have access to information from the most trusted sources.
- To give Knowledge about the library’s own competencies and capabilities.
- To give Knowledge about the emerging library trends and technologies.

## **Barrier of Knowledge management in libraries**

Every library professional that works in public, academic and special library want to achieve organizational goal and provide better services through use of better technology but due to some following barrier they are not able to do that:

- Personal barriers involve the attitudes and behaviors of users that impede the success of knowledge management initiatives. Users concerns include perceived lack of usefulness, the time and effort required to invest in the KM systems versus the benefits derived from their usage, incentives for sharing knowledge.
- One major barrier is linked to the lack of or poorly defined KM initiatives’ goals
- A major fundamental barrier to motivating people to participate in KM effort is corporate culture
- One major personal barrier to knowledge management is user acceptance .If users are not accepting towards the knowledge management system, or towards the knowledge management program, it can be a significant barrier
- One of the biggest barriers to success is staff members’ complaints that they do not have enough time to do knowledge management
- Users perceived lack of incentives to share knowledge this barrier arises out of the structural imbalance between knowledge seekers and knowledge providers. The

knowledge provider, while able to provide knowledge, typically has little or no incentives to do so, i.e. why would anyone in the organization benefit from my experiences and knowledge? Why should I give away the fruits of my labor for free to others here? As much as I would like to pass on my knowledge, how could I possibly find the time to do it? The knowledge seeker is highly incentivized to receive knowledge, but unable to do so without the coop every library is no use of modern tool and technique.

- Lacks of proper training of library staffs

-Lacks of motives in KM

-Lacks of expertise in organizations

- There is no cooperation between senior and junior staff and lacks of sufficient budget for modernization of libraries.
- Barrier related to organization (storage and dissemination of knowledge) , environmental barrier (Definition of knowledge and acquisition of knowledge) and human related barriers (evaluation and application of knowledge).

## **Conclusion:**

Knowledge management is continued to contribute to the improved exploitation of the information and knowledge resources available to the libraries and information centre. It is clear that knowledge management plays a significant role in libraries and information centre. Higher education and libraries can use knowledge management to achieve their organizational goals and library operations to improve effectiveness. KM can also help libraries streamline their day-to-day operations, improve their visibility and involvement in the larger organization, and assume a leadership role in helping to capture the institutional memory.

Therefore LIS professional need to focus on their users to provide valuable information to their user anytime, anywhere and in desired format. They need to manage all types of organizational knowledge to maximize its utilization. As a learning and knowledge organization, universities should empower their libraries to develop campus-wide knowledge management systems.

An effective KM strategy will require libraries to develop an in depth understanding of the domain of knowledge and how it is used within their broader organization. Knowledge Management is about enhancing the use of organizational knowledge through sound practices of knowledge management and organizational learning. Thus, KM is a combination of information management, communication and human resources. In the library world there is a lesson to be learned from the business world. Knowledge management is as important

for libraries as for the business minus the competitive, proprietary and money making concerns. In fact, libraries have had a long and rich experience in the management of information.

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