



## Knowledge management with the role of library and library professionals in 21<sup>st</sup> century

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### Abstract

Any educational institute is not complete without a library. Any educational institute's development or progress is directly related to knowledge management through libraries. Knowledge management is an important component of the library's work, enabling it to apply, implement and utilize its ideas for the improvement of its parent organization. A broad term such as Knowledge Management (KM) may be used to describe many things. Every second, knowledge is created, updated, stored, processed, and applied in different places around the world. Management of this never-ending knowledge creation is therefore a great challenge. It is true that librarians in every country are managing this knowledge for present and future use at any given time or place. Focus is mainly on library's role in knowledge management in this paper.

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## INTRODUCTION

There are several types of knowledge economies. An effective management strategy refers to determining, acquiring, developing, resolving,

using, storing, and sharing information in the information economy, reworking and sharing silent and specific information, and utilizing the knowledge of the team to boost emergency and innovation capabilities. [1] The requirements for information and information are increasing step by step as information has become the driving force for social development. [2] As a result, the library has been able to develop in a decent environment. The fashionable financial set up requires intense management information and knowledge, as information has grown into an essential productive factor. In the near future, libraries will need to manage information more effectively. [3] In order to manage information effectively in a library, staff members (and users) must analyze and develop information efficiently, create information bases, exchange information, train library employees, analyze implicit information more quickly, and recognize its use. [4, 5]

## Objectives of the Study

1. Investigating knowledge management concepts
2. Analyzing the tools, technologies, and architectural frameworks that support knowledge management
3. Examining the scope of KM in the profession of library and information science
4. Analyzing how LIS can be used to overcome threats and opportunities
5. Knowledge management professionals.
6. LIS professionals should possess the following competencies in order to practice knowledge management.

### Literature Review

It is a way of creating, characterizing, and sharing and misusing data across a company. [6] There are five key areas where knowledge management can be applied in educational establishments: assessment, course of study development, alumni relations services, and strategic planning [7]. The provision of library services is guided by several kilometre principles, as described by [8]. Increasing the number of educational data used in instruction is made possible by reference, cataloguing, and alternative library services. The implementation of data management throughout modern organizations depends heavily on continuous education through skilled training courses or workshops [9, 10]. has found that data management implementation in a hierarchy had a lower success rate than that in a tribal, market, or adhocracy culture. A stronger culture in an organization's departments and structure also made it easier to manage information, according to the researchers. [11]

### Methodology

In the 21<sup>st</sup> century, technological innovation brings a new challenge to the field of Library & Information Science, and that is the knowledge management (KM) concept. Websites, journals, and blogs are used to gather and combine information for this study. The present scenario observes that knowledge management plays a very important role in the success of any academic institution. [12] Data retrieved from and all conclusions drawn based on it

Between 25<sup>th</sup> February and 3<sup>rd</sup> March, 2021, there will be an Internet campaign. How does knowledge management work? Management of knowledge is a process by which an organization makes, shares, exploits, and enables the use of information and data. [13] A multidisciplinary approach to using information for the purpose of achieving organizational goals. Organizational objectives include improved performance, competitive advantage, innovation, the sharing of lessons learned, integration, and continuous improvement. Information management as a strategic quality and encouraging information sharing are important components of these efforts. These efforts overlap with organizational learning and should be distinguished from it by a greater focus on information management as a strategic quality. Structured learning can be enabled by KM. Know-how management is important for what reasons? It is extremely important for an organization to manage its knowledge because it enhances the decision-making capacity of the organization. [14] It is designed to create a better work force when every employee has access to the experience control throughout the organization, enabling them to make fast, well-informed decisions that benefit the company. As a result of the proliferation of best practices within the organization, innovation becomes easier to foster, customers enjoy accumulating access to best practices, and employee turnover is reduced. Managing information has become increasingly important over the years. [15] In today's highly competitive marketplace, it is a great idea to develop your business in a smart, versatile manner to stay ahead of the curve; you must be able to spot problems from a distance and respond to new information and innovations as soon as possible. As knowledge management has evolved, so have the tools for managing it. The basic needs of each are still addressed, however.

Any knowledge management practice should include the following tools

**1. Content Repository:** The management and sharing of knowledge content through tools. Knowledge management repositories have been largely managed with document management software for many years. Many companies today prefer to use tools that can manage a variety of content (e.g. documents, web content, and social

media). [17] CMSs, Enterprise Content Managements, and Cloud Content Managements, for example, can all be used for content management.

**2. Knowledge Search:** Your content repository often includes a text search tool. Search tools are usually available in ECM, for instance. Knowledge is made more valuable through search. There is no such thing as a universal search tool. Search solutions perform differently. A search tool that processes data from multiple sources (such as your ECM and CRM) is necessary for some companies. [16]

**3. Communication Tool:** Communication and capture tools that communicate knowledge. With unified communications (UC), users can exchange emails, chat, instant messages, use VoIP, recognize speech, hold video conferences, and use collaboration tools (such as whiteboards). Communication can be combined into a single interface with unified communications (UC).

**4. Social Software:** Socialization tools that facilitate knowledge sharing. Social features are now integral components of CRMs and ERPs.

**5. Knowledge Visualization:** Visual communication tools. Web pages and PowerPoint slides are the most common forms of communication of business knowledge. Knowledge representations that are dynamic, exportable, and 3D are of great interest. In recent years, there have been a number of tools for displaying knowledge. There is still a lot of room for improvement in the knowledge visualization market, but tools are maturing at a rapid rate.

**6. Decision Support:** Large data sets can be analyzed using tools that seek knowledge. The ability to discover patterns of knowledge in data through analytics and reporting software, for instance;

**7. Big Data:** An online platform that stores, manages, and explores a large quantity, variety and velocity of data are known as big data. To find meaning in unstructured and structured data (e.g. documents, conversations), companies use big data technologies.

## **KM Technologies**

KM technology can be divided into two categories: Groupware: Software for collaboratively sharing

information within an organization. Workflow systems: Systems that enable the representation of processes associated with the creation, use and maintenance of organizational knowledge, such as the creation and use of forms and documents, among other collaboration-related features. [17] These applications offer tools for threaded discussions, document sharing, uniform email, and other collaboration features. A system for automating the creation of website content and/or documents is known as a content management or document management system. It is possible to model explicit roles and responsibilities for editors, graphic designers, writers and producers, as well as validation criteria and tasks within the process. As the Internet grew, commercial vendors began providing either document support or web content support, but these functions were eventually merged and now vendors provide both services. Enterprise portals: Software that aggregates information across an organization or among groups such as project teams. [18]

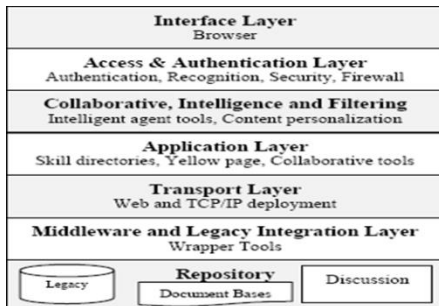
**Elearning:** Customized training and education software for organizations. Online classes, monitoring progress and lesson plans can be included. Scheduling and planning The planning aspect of software can be integrated with project management software to automate schedule creation and maintenance.

**Telepresence:** Virtual “face-to-face” software that allows individuals to meet at one location without actually meeting. Among the most obvious examples is videoconferencing. This is meaning-based attribution technology, which encodes meaning with data to allow computers to infer and extract meaning.

**Knowledge Management System Design:** An advanced task such as developing a KMS requires careful thought before choosing the tools to help support the data processes. Business culture and structure should be taken into account when designing the system. There are many different kinds of KMS, from simple folders to sophisticated business intelligence systems using complex algorithms and AI. As a result, we have studied a variety of KMS architectures that aim to support organizational collaboration and data management processes. [19] There are a number of attributes of design that are similar across architectures, including functions and services,

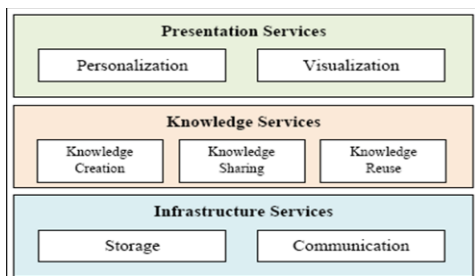
notwithstanding the differences in terms of functions and services. In general, Tiwana plans the KMS design. Repositories, cooperative platforms, networks, and cultures are all major components of KMSs.

Every data management system is based on these four elements. A system could be enhanced by integrating alternative tools to enhance its services. Besides those four elements, Tiwana further proposed a seven-layer KMS architecture that integrates their attendant data technologies.



Source: [https://theses.univ-lyon2.fr/documents/getpart.php?id=lyon2.2009.surephong\\_p](https://theses.univ-lyon2.fr/documents/getpart.php?id=lyon2.2009.surephong_p) Figure: 1The seven-layer architecture (1)

Chua designed the KMS according to a straightforward 3-tier model, which is made up of infrastructure services, data services, and presentation services. Organizations use these services to streamline data processes and communicate within themselves. Data storage, sharing, and making technologies are emphasized. Fig. II. Chua's three-tiered design for the KMS is illustrated



Source: [https://theses.univ-lyon2.fr/documents/getpart.php?id=lyon2.2009.surephong\\_p](https://theses.univ-lyon2.fr/documents/getpart.php?id=lyon2.2009.surephong_p) Figure 2: The three-tiered architecture (2)

Storage and communication technology comprise the first tier of this model. A repository serves as a repository of knowledge within the general model of knowledge management, particularly

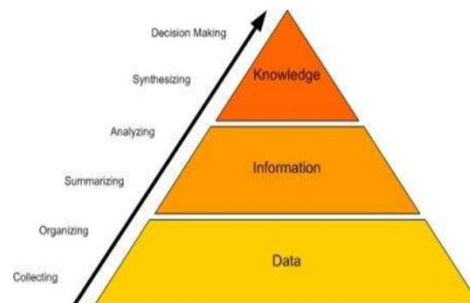
for knowledge creation and reuse. Knowledge transferring activities between the users can be supported by the KMS through the use of communication technology. [20]

As a second tier, knowledge services provide technologies that enable the creation, sharing, and reuse of knowledge. In order to create tacit knowledge, users need to transform it into codified knowledge (explicit knowledge). Information is shared between parts of an organization using knowledge sharing technology.

When the need arises, users can access the appropriate knowledge in the system using the knowledge reuse feature. Presenting the appropriate information to users is the third tier of services, which mainly helps them make decisions. It is the primary concern of presentation technologies to enhance the user's interface with information/knowledge sources. By visualizing and personalizing all KMS services to fit the organizational culture, this part relates to the culture of knowledge usage. For these services to be designed, an organizational analysis must be conducted.

### Knowledge Management Method

Enterprises of all sizes use knowledge management. Sometimes, tools and techniques used in a structure setting are unique to that setting. With the help of totally different tools and techniques, the data management method consists of six basic steps. The information becomes data after following these steps consecutively.



Source: <https://www.hebergementwebs.com/project-management-concepts/knowledge-management> Figure 3 The process of knowledge management (3)

Step 1: A data management method begins with collecting data. The resulting data might not be

the most accurate if you collect inaccurate or unsuitable information. As a result, selecting based on this data could also result in inaccurate choices. Information collection can be accomplished using a number of strategies and tools. [21] To begin with, data management methods should include information collection. Personnel involved in the information collection process should follow these procedures properly. There are specific data assortment points defined in the information assortment procedure. The outline of certain routine reports also includes some of these points. Information can also be gathered by reviewing daily sales reports and monthly sales reports. Additionally, the techniques and tools for extracting information from the information assortment points are described. Sales reports are also paper-based reports where a knowledge entry operator must manually enter the information into an information source. The daily group action report, however, is a web-based report where the information is directly stored within the system. During this step, information storage is additionally discussed alongside information assembling points and extraction mechanisms. This is mostly accomplished using a software information system application, which is used by most organizations.

**Step 2:** It was necessary to organize the information collected. There are usually certain rules supported by this organization. The organization outlines these rules. Information related to sales, for example, can be filed as a group with information relating to staff. Information can be accurately kept up to date with this sort of organization. For organizing and reducing duplication, techniques like 'normalization' are used when information is abundant. It organizes and associates information so that it can be retrieved logically. In the second step, information becomes information.

**Step 3:** The essence of the knowledge is distilled by summarizing the knowledge. In addition to the tabular or graphical format, the extended information can be provided in a manner that is appropriate. There are many ways to summarize, including using software packages, charts, cause-and-effect diagrams, and other approaches entirely.

**Step 4:** Identifying patterns, redundancies, and relationships in the knowledge can be accomplished through the analysis of the knowledge. Having a skilled individual or team allocated for this purpose is crucial since their expertise plays a prominent role. When data is analyzed, reports are usually generated.

**Step 5:** As a result of synthesis, information has become data. Several ideas and artifacts are developed from the results of studies (usually reports). An organization may have a group of data components, each of which can be utilized across the organization, based on patterns or behaviors of one entity. In the cognitive content structure, this information is kept for later use. Cognitive content can typically be accessed through the web from anywhere by implementing a software system.

**Step 6:** During this stage, decisions are based on the data. A project or a task estimate may be based on previous estimates once a selected variety has been selected. The method is accelerated and added high accuracy as a result. In the long run, data management adds value and saves money.

### Knowledge Management Framework

1. **People** – A company's DNA must include knowledge sharing and an ethos of it must be incentivized to promote it as a priority.
2. **Process** – Knowledge management requires a clear system and room for innovation at all stages.
3. **Technology** – Knowledge management systems are supported by technology, allowing for the easy search, discovery, and access of knowledge. Furthermore, technology facilitates better communication between people.
4. **Governance** – Knowledge sharing must be prioritized and rewarded by the organization's governance. It will be difficult to implement knowledge management systems without this step.

A knowledge management system can improve an organization's ability to adapt to changing market conditions, exceed customer expectations, and create unique products.

### Knowledge Management in Libraries

The university community will benefit from a rethinking of educational libraries' structure in light of rapid environmental changes. The library user's needs are emphasized more than the library's needs. [22]

Technology has transformed information from a one-time resource into a key resource in today's world. Libraries are generally responsible for gathering, processing, propagating, storing, and using information in order to provide services to their communities; however, due to advancements in ICT, libraries now operate in a different environment, requiring new ways to handle data. During the information economy, educational libraries may be able to improve their services through knowledge management. Throughout the library, information and experience will be shared in order to achieve this goal. To serve the needs of the educational user community, educational libraries must be able to utilize the information and knowledge of their employees. To stay relevant in today's library setting, educational librarians must continually update or acquire new skills, considering their dynamic roles as information managers. Library functions may have to be restructured and expanded to meet the demands of the ever-changing educational environment.

### **Strategies for KM in Libraries**

Information is created, captured, shared, and utilized through knowledge management methods. Educational libraries support university communities by providing resources and data services, but data is the key resource they need. Information about how a library operates, information about its users and what they want, information about its collection, and information about library facilities and technologies.

As more data is collected, new information will be made that will eventually lead to the development and improvement of the service for the users. Although there is a lot of variety in the data, it is very dispersed across nearly all of the library sections and levels. Rather than being controlled by a single individual, the data is managed by a number of people. By collaborating in the teaching and analysis activities of the university, academic librarians will participate in the data creation process. An educational library should consciously strive to accumulate

competencies that are neither internal nor externally available in the form of data creation within this context. User-centric libraries are those that respond to users' demands and are user-centered. Learning libraries had to develop innovative ways of responding to users, so that their services would be more valuable to them. Developing an effective library website is important to change librarians not simply into avid users of reference services however additionally into experienced in handling a wide variety of user inquiries.

Academic libraries need to become knowledge-based organizations in order to utilize their capabilities. The importance of information sharing needs to be supported by the potential for educational librarians to identify, integrate, and acquire external data.

### **Role of the Library Professionals**

Information managers are clearly transforming from ancient librarians. This shift at hand, however, requires a great deal of preparation before it can be incorporated into library operations. Competencies gained from 'managing information' must be applied to 'managing knowledge' in a broader context. "Publishing services are rapidly becoming a norm for analysis libraries," according to a report issued by the Association of analysis Libraries (ARL).

Library staff have to be capable and skilled enough to satisfy the needs of the university community in a timely and effective manner for an educational library to succeed. It took new skills such as technical skills, structure skills and social skills to succeed in this setting.

A lot of the focus of academic library professionals should be on providing services that are user-centric, in order to achieve the university's goals.

Educational librarians may be preoccupied by a number of new initiatives, including:

1. Maintaining and distributing a broad range of pedagogical materials developed by colleges.
2. Planning, coordinating, and managing online journals and monographs through the development of digital publication services,
3. Addressing pedantic communication issues through education, outreach, and support.

**Below are some examples of how university libraries can add value to data creation methods.**

1. Through close collaboration with the educational sector (faculty) regarding library resources.
2. Going through close negotiations with publishers when it comes to access and distribution terms.
3. Allowing library users to print materials on-demand.
4. Providing electronic and/or print resources that can be accessed both on and off campus.
5. Publishers can now gain market intelligence via a variety of channels, such as reviews and blogs, and provide an enhanced experience for their customers..

**Assumptions for libraries of the future, according to the Association of College and Research Libraries of the American Library Association.**

1. Collections and preservation of digital information
2. In response to changing demands and expectations, librarians will need to develop more data storage and retrieval skills.
3. Greater access to services and faster response times
4. Intellectual property debates are more common
5. The need for more funding to support technology-related services; the growing demand for these services
6. The institution will become more business-like in higher education
7. Consumerism and customer service will be increasingly emphasized by students
8. HE's traditional and distance learning models are more prevalent
9. The public will have greater access to publicly funded research

**Challenges Faced by Educational Libraries**

In addition to less print material, libraries have a lot of electronic material in several formats and

media thanks to the rapid development of knowledge and communication technologies. By utilizing these technologies, educational libraries can provide services and resources to the university community. University services must be reconfigured to meet tutorial community needs.

Users acting within a dynamic educational environment should be able to access information services in academic libraries. For universities to become more effective in teaching, learning, and analysis, educational librarians should act as intermediaries between library users, schools, and colleges. [23]

Librarians need to adapt to the changing environment of electronic media in order to help library users. Education librarians must remain competent navigators of all media to help library users with their tasks. Tutorial librarians face the challenge of managing services that provide users with a precise mixture of formats and media.

**Conclusion**

The business strategy must include Knowledge Management as a critical component. Managing information for his or her organization may be very dependent on the library. In order to satisfy their customers, libraries beware of implicit information while operating at a higher level. Professionals in libraries and information management develop appropriate knowledge management systems in their organizations or libraries. The best knowledge creators are librarians and information professionals. The skills of librarians are based on programs for professional education and training, communities of practice, and data technology and sharing information. Educational libraries face a number of constraints that inhibit the successful implementation of information management, including a lack of an information sharing culture, a lack of management commitment, a lack of incentives and rewards, a lack of monetary resources, and a lack of IT infrastructure. In libraries with limited budgets and human resources, information management should be implemented top-down or bottom-up, depending on the current management structure and technology. Combined efforts can facilitate information management extending potency and

catering to patrons' increasingly diverse demands.

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- [2] Source: [https://theses.univ-lyon2.fr/documents/getpart.php?id=lyon2.2009.sureephong\\_p](https://theses.univ-lyon2.fr/documents/getpart.php?id=lyon2.2009.sureephong_p) Fig. 2 The three-tiered architecture (2)
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