# Knowledge Management and Challenges to LIS Professionals in Electronic Age

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Information Revolution and Global Knowledge Society (IR&GKS) are two important buzzwords of 21st century. Web and web-based technologies in the last couple of years have attacked on the boundaries of Library and Information Work. Consequently the traditional image of LIS professionals is rapidly changing and widening into a knowledge centre and a knowledge manager. The modern library system, keeping in mind that "the right information needs to be in the hands of the right people at the right place" and knowledge is the new expandable source of the economic wealth and a critical asset to an organization, has transformed their external and internal functioning and management. Knowledge Management (KM) is not about technology management but rather than about deciding what information and knowledge is critical to the success of the organization. The emerging issues of Knowledge Management need to be taken seriously in changing perspectives as challenges by the LIS professionals. It has widely and undoubtedly been accepted and proved from various studies that future shall be knowledge based. Therefore, knowledge management, content management, content engineering through LIS professionals shall play a significant role in the 21st century. The paper discusses in detail the various facets of knowledge management such as Evolution and Concept of Knowledge Management, Knowledge Management Technologies and Tools, LIS professionals as Knowledge Manager, and challenges for the LIS professional in the electronic age.

## 0  INTRODUCTION

Knowledge creation and sharing is widely recognized as strategically important for an organization to gain competitive advantage. It is also recognized to be important for organizational learning and innovation. More and more organizations are attempting to embrace knowledge management tools for saving costs and propelling growth. The world is witnessing unprecedented change in application of knowledge in every dimension of development, growth, revitalization, and organization. The concept KM is not about technology management, but rather about deciding what information and knowledge is critical to the success of the organization. The emergence of ICT and its offshoots technologies such as Internet, Intranet, WWW, Web-portals, Groupware, etc. have made a significant impact on the work culture of libraries and information centres worldwide. It makes libraries more responsive, focal-centred towards

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imparting the critical knowledge to the concerned organization. It has been widely accepted through various research studies that future will be knowledge based. The future wealth shall be knowledge and the' KM tools certainly will play a catalytic role in changing environment in libraries. Therefore, LIS professionals must redesign and reshape their tools and techniques and give serious attention towards the newly emerged technologies and tools for effective implementation in their work. The Knowledge Management that is a core study area of management science today is the discovery of library science.

## 1 EVOLUTION OF KNOWLEDGE MANAGEMENT

Knowledge has become a greater factor of production than land, labour, and capital and the evolution of knowledge management is perhaps the most straightforward mechanism for delineating its components. The use of term 'Knowledge Management' is a recent phenomena fully matured in mid 1990. The term appeared first in the context of Library and Information work.[1] Marchand in 1985, then the Dean, of the School of Information Studies at Syracuse, University, UK coined it in the 1980.[2] In the initial stage of evolution of concept knowledge management had only two basic components i.e., Information and knowledge capital, and structural capital.[3] Later because of advent of Internet, and Intranet technologies a Trinity component emerged in knowledge management known as Information and Knowledge capital, structural capital, and customer capital[4].

In Indian context the term 'Knowledge Management' appeared first time and applied in a commercial enterprise known as Tata Consultancy Services (TCS) in 1995. The management initiated the process of refinancing the framework in 1996. A dedicated Knowledge Management team called "Corporate Groupware" was formed in 1998 after a preliminary study. This group launched the Knowledge Management pilot project in 1999. The project is now being successfully implemented in TCS which comprises a matrix of several groups: the Steering Committee, Corporate Groupware, Implementers, Branch Champions, Application Awareness, and the Infrastructure support Group.

## 2. MEANING OF KNOWLEDGE MANAGEMENT

Today, the concept Knowledge Management is well established and applied almost in all facets of management science and well defined by various management experts as well as information experts. There are numerous definitions of Knowledge Management to be found in various publications printed as well as Web. The following definitions are the most commonly used and cited.

The first by Davenport[6] that: 'Knowledge Management is the process of capturing, distributing, and effectively using Knowledge' is one of the earliest and one of the simplest and stark. The second definition is more comprehensive

given by Gartner Group[7] that 'Knowledge Management is a discipline that promotes an integrated approach to identifying, capturing, evaluating, retrieving, and sharing all of an enterprise's information assets. These assets may include databases, documents, policies, procedures, and previously un captured expertise, and experience of individual workers' is illuminating because it makes very implicit that aspect of Knowledge Management of including not just conventional information and knowledge units, but also 'tacit knowledge' that which is known but not captured in any formal or explicit fashion' The third definition as given by Ruggles[8] reads 'Knowledge Management' is newly emerging, interdisciplinary business model dealing with all aspects of knowledge within the context of firm, including knowledge creation, codification, sharing, learning, and innovation. Devenport and Prusak[9] gave another pragmatic description of Knowledge Management which says 'A fluid mix of contextual information, framed experience, values and expert insight that provides framework for evaluating and incorporating new experiences and information'.

It is revealed from the above definitions that Knowledge Management is not about technology-management, but rather about deciding what information and knowledge is critical to the success of the organization, and to ensure that Knowledge Management activists get prioritized within the organization. In very simple words, Knowledge Management is a considered 'techno-cultural solution'.

## 3. WHY KNOWLEDGE MANAGEMENT?

Knowledge has become a much greater factor of production than land, labour, and capital. The increasing dimensions in KM have given emphasis on promoting, rewarding, pooling together of knowledge resources (i.e., documents, experiences, expertise, etc). The undermentioned reasons justify the need of Knowledge Management.

• Knowledge is the basic input to all kinds of services and considered as the prime mover of the society.

• Knowledge helps to cope up with changes in redesigns, re-expanding, and re- casting the production and services.

• Knowledge sharing is the natural next step to information sharing for the maximum utilization of resources.

• Knowledge Management combing dissimilar resources to provide innovative products in multiple markets [10] .

• Knowledge is new, expandable source of economic wealth and there is an emerging recognition that the most valuable resource of any country is its inherent intellectual assets/effectively exploited through innovation[11].

• Knowledge helps in streamlining operations and reduces costs by eliminating redundant processes.

## 4. KNOWLEDGE MANAGEMENT VERSUS TRADITIONAL INFORMATION MANAGEMENT

The below given comparative outlines will help in understanding the concept of Knowledge Management more precisely. The view is often expressed in traditional library and information science discipline that Knowledge Management is just old wine in new bottle, just the new name for information resource management, which in turn was just a new name for Documentation, which in turn was just a new name for Librarianship. The major differences found between Knowledge Management and Traditional Information Management are given as [12-13].

| Knowledge management | Traditional information management |
|---|---|
| Emphasis upon unstructured and informal information and knowledge | Emphasis upon structured and formal information and knowledge |
| KM play an active role in corporate culture transformation and act as metamorphosis | Information Management remains natural in terms of transformation within organization |
| Knowledge context, organization sectoral, and supplier customer | Growing contextual knowledge but often not well recognized within organization |
| An awareness of knowledge as text but coming from a background in non-textual information | Information primarily as text secondarily as numeric or graphic |
| KM linking knowledge sharing with compensation policy | Information Management has never been involved with competition policy |
| KM poorly organized | Information Management well organized with the help of various information tools e.g., classification, cataloguing, thesaurus, etc. |
| Emphasis on internal information but now, increasingly external information that is competitive in nature | Information Management generally emphasis on external information more precisely published literature |
| Information and knowledge sharing, in the context of a dense web structure | Information and knowledge delivery, as a hub and spoke structure |

## 5. KNOWLEDGE MANAGEMENT TOOLS

The present century is the age of digital nervous system, which aims at

leveraging the two-core revolutions-PC and the Internet. Therefore, the Knowledge Management became imperative as the World moves from industrial economy to knowledge economy; the role of effective Knowledge Management tools in integrating the resources of an organization has become imperative. The Knowledge Management tools run the gamut from standard tools packages to sophisticated collaborations tools designed specially to support community building. Generally, tools fall into one or more of the following categories: Knowledge repositories (Libraries), expertise access tools, e-learning applications, discussion and chat technologies, search and mining tools, e-portals, enterprises knowledge portals, groupwares, etc. are available to manage the knowledge resources. The following are most popular Knowledge Management tools[14].

I.   **Intranet:** Most popular and effective Knowledge Management tool based on Internet and WWW technology. With the help of this tool library, organizations, can easily communicate, distribute information and products, facilitate project collaborations, projects etc, and also check unauthorized access.

2.   **Text Retrieval and Document Management Software** are the application software designed especially for library point of view that enable to create databases of documents for automating library routine activities (i.e., acquisition, cataloguing, circulation, article indexing, OPAC, etc) and search documents. Several software options are available for example PC/DOCS, CDS/ISIS, WINISIS, LYBSIS, SOUL, PROCITE, SLIM++, Granathalaya.

3.   **Groupware:** A kind of application software with built-in calendars, scheduling, e-mail, navigational tools that support the collaborative activities of work groups team experts. The Lotus Notes Domino and Microsoft's MS Exchange server are the popular Groupware software and widely used as Knowledge Management tools[15].

4.   **Data Warehousing:** Data warehousing is the key component of Knowledge Management tool. It facilitates data search from the heterogeneous databases and also serves functions of various query formulation for the intensive search.

5.   **Workflow Management:** Includes dynamic work management solutions such as document management, workflow, imaging, Computer Output to Laser Disk (COLD), and network storage management.

In addition, Knowledge Management tools receive a boost from network computing technology such as the Internet, and the World Wide Web for effective access to information in a Web environment that in result promotes "information productivity" of course, one of the wonderful and superb service which became a core part of work culture of any enterprises known as e-mail. E-mail is the most fundamental building block of Knowledge Management tool.

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It not only makes the communication faster and more efficient, but also makes the organization more flatter[16].

## 6. CHALLENGES TO LIS PROFESSIONALS

The human action and the information flow shall be the two most dominant inputs to any sound development strategy. For them right information needs to be in the hands of the right people at the right time. The success does not rely on an individual's Knowledge but the knowledge of organization as a whole. Libraries and Information centres since their inception are more or less the part and parcel of their attached organization and epic centre of delivering the strategic knowledge to the users of their organization. In changing perspective the work culture of libraries and their tools and techniques have undergone several changes. The terms such as knowledge manager, resource manager, information specialists, technology gatekeeper, web navigator are some of the examples that are commonly applicable to LIS professionals. The new generation of LIS professionals is more advanced and IT savvy and engages not only LIS activities but also in other important activities of institutions.

In1990, Prusak and Matarazzo[17], conducted a study to determine the value of LIS professionals in a corporate sector in the growth and development of company. They found the role of library manager as: the online search performed by librarians was the most valuable service offered. They also found that most companies surveyed had no methods or processes in place to evaluate the effectiveness, efficiency or productivity of what librarians do. While every one appeared to 'like' libraries and librarians, few firms thought of them as 'mission critical'. They concluded that with no methods to evaluate library contributions to productivity and profits, the stature of librarians within the firm was likely to sink further in terms of compensation, status, value and impact.

Another study conducted by Flectk and Bawpen[18] in the professional field of Law and Medicine revealed the findings of study as: The working librarians in their associated institutions were highly regarded by their clients but they fulfiled very much a service oriented and reactive function, serving clients by responding to their needs, rather anything more dynamic and proactive. Their clients perceived the librarians as efficient, intelligent, helpful, and processing specialized knowledge. They were also seen as un-ambitious people whose satisfaction was in helping others to their ends.

Today, the top executives of corporate organizations well recognize the value of managing knowledge for their effective and timely consumption. For this they show their interest to appoint Chief Knowledge Officer (CKO) who will help the enterprise as a whole. The responsibility of CKO is a kind of extension of library affairs. Therefore, this is the right time that LIS professionals re-think their ethics, responsibilities, participations, services, status, and the more important the needs of their institution so that LIS professionals may play their role as

model in the sustainable growth and development of their institution.

## 7. FUTURE PARADIGM OF KNOWLEDGE MANAGEMENT

In coming days, the web-portal technologies, such as e-journal portals, e-gateways etc, will certainly improve the creation and delivering of the content to users more effectively and efficiently. According to Gerry Murray, Director, IDC, Knowledge Management technologies such as enterprise knowledge portals (EKPs), which connect people, information centres, and processing capabilities in same environment will be the technology of future. Further, he also identifies three levels of web portal technologies for knowledge management such as enterprises information portals (EIP) which provide personalized information to users on a subscription and query basis, enterprises expertise portal (EEP) which provides connection to people based on their abilities, and enterprises collaboration portals (ECP) which provide virtual places for people to work together. Undisputedly, knowledge management tool certainly will playa significant role in 21st century.

## 8. CONCLUSION

Knowledge Management has been identified as the major and important management initiative that will help organizations, institutions, libraries and information centres to utilize the very fruit of information technology in fulfiling the objectives of parent organization. The availability of new IT offshoot technologies, particularly Internet and World Wide Web, have been instrumental in catalyzing the Knowledge Management. It is equally important that if, the ICT tools and techniques are well resourced and effectively implemented they will certainly provide a comprehensive knowledge platform for speedy, pin-pointed, exhaustive accessed, interactive delivery of the requisite contents to users.

Internet a wonderful invention of modern society has revolutionized the entire work culture and managerial aspects of libraries and information centres and LIS professionals by playing a key role in building the true image of knowledge management in the shape of electronic storage of information and retrieval, content delivery, content management, accessing of information through online databases, transfer of files, etc. Most of the technological tools now available in LIS segment tend to help in how to disseminate information but offer less assistance for how to use Knowledge. Tools that assist in knowledge creation are even less and not well developed particularly in libraries and information centres, however, some of the more user friendly technologies such as face-to-face discussions, the telephone, electronic mail and paper based tools such as books, periodicals, film charts, etc. are traditional tools and are not much effective in knowledge management in changing perspectives and emergence of new sophisticated technologies.

Knowledge creation, and sharing is widely recognized as strategically important asset of any organization. For effective and efficient knowledge

management LIS professionals must redesign and re-shape the traditional management tools and techniques and apply more advanced Knowledge Management tools for capturing, processing, preserving, and disseminating the contents to the user in a real time. Knowledge Management and its facets such as content management, content engineering, web content management, etc., require a holistic and multi-disciplinary approach to management processes understanding of the dimensions of knowledge work. Therefore, LIS professionals as they are the ultimate knowledge worker, must rediscover and recognize what they have to offer and then ensure that it should be recognized by management.

REFERENCES

1.  MARCHAND (L A) (1983). Strategies and tools in transition. *Business and Economic Review*. 29 (5): 4-8.

2.  KOENIG (M D) (1992). Enteringstage III: The convergence of the stage hypothesis. *Journal of American Society for Information Science*. 43 (3): 204-207.

3.  KOENIG (M D) (2001). Lesson from the study of scholarly communication for the new information era. *Scientometric*. 51 (3): 511-528.

4.  KAPLAN (R S) and NORTON (D P) (1992). The balance scorecard: Measures the drive performance. *Harvard Business Review*. 70 (1): 46-56.

5.  JAVERI (A P) (2001). Wealth from information. *Computer Today.* 17 (233): 72-73.

6.  DEVENPORT (T H) (1998). Real success knowledge management projects. *Sloan Management Review*. 39 (1): 43-57

7.  DUHON (B) (1998). It's all out heads. *Inform.* 12(8): 9-13.

8.  RUGGLES (R) (1998). The State of the nation: Knowledge Management in practice. *California Management Review*. 40 (Spring): 80-89.

9.  DAVENPORT (T H) and PRUSAK (L). (1998). Working Knowledge: How Organization manages. Boston, Harvard Business School.

10.  BHUNIA (C T) (2000). The future in knowledge management. *Electronics For You.* 32 (11): 59-60.

11. ENTOVATION International Ltd. <www. entovation.com> (Accessed on 12.11.2003)

12. BROADBENT (M) (1998). The phenomenon of Knowledge Management: What does it mean to Cambridge. USA, MIT Press.

13. SRIKANTAIAN (T K) and KOENIG (M D) (2000). Knowledge Management for information professionals. Medford ND, American Society for information Science.

14.  GAUR (Kavita) (2000). Give and take. *Computer Today*. 16(195): 42-44.

15. THURAISINGHAM (Bhavani M) (2000). Data mining: Technology, techniques tools and trends. Washington, D.C., CRC Press

16. PALME (T) (1995) Electronic mail. London, Artech House.

17. PRUSAK (Laurance) and MATARAZZO (James M) (1990). Tactics for corporate library success. *Library Journal*. 114(4): 15-30.

18. FLECK (Isabel) and BAWDEN (David) (1998). The Information professional: Attitudes and images, examples from information services in Law and Medicine. *Journal of Librarianship and Information Science*. 27 (4): 215- 222 .