OPPORTUNITIES AND CHALLENGES OF INFORMATION MANAGEMENT IN THE DIGITAL ERA

Stanley Madan Kumar
University Librarian (Retd)
University of Agricultural Sciences
Dharwad 580 005
E-mail: sunnystanmk@gmail.com

Abstract
ICT is a synergic blend of digital and electronic media for creation, acquisition and dissemination of knowledge. ICT has also given birth to new formats of recording information and, new tools and techniques of handling information. With the advancements achieved in electronics and digital technologies Internet has been transformed from ‘browse and surf’ environment into a mammoth knowledge exchange. The paper studies the emergence of web-based ICT, globalization of networks and Internet which have deeply influenced the library profession and has provided new opportunities and challenges for library professionals.

Keywords: ICT, Information Access Provider, Information Management, Net-Gen users

Introduction
Knowledge has become a driving force of social development and the importance of knowledge and information is raising. The transformative powers of ICT which lies at the basis of Knowledge. Society is exerting its increasing influence on almost all disciplines. Information management in combination with communication and human resources together form the concept of knowledge management.

Metamorphosis
Earlier, librarian was regarded as a mere custodian of reading materials acquired and stocked in the library. With the passage of time and breakthroughs achieved in electronics and digital technologies, and new means of communication altered the way in which information is handled, stored and exchanged. Library metamorphosed from a mere store house of documents to a dynamic power house of information.

This has brought a revolutionary change in the way libraries adopt and function. Today almost everyone involved in knowledge production prefers the e-format, because it is easier and economic to create, preserve, handle and disseminate at a faster speed than print format.

The challenges facing the library profession has never been more demanding than they are in the present digital era. Digital technology and computers have become an integral part of modern library. The emergence of web-based ICT, globalization of network and Internet, all have deeply influenced the library profession and has provided new opportunities and challenges for library professionals.
Emerging Technologies in Information Management

Problem Areas of ICT

ICT is a synergic blend of digital and electronic media for creation, acquisition and dissemination of knowledge. ICT has revolutionized the functioning of libraries which hitherto were mere storehouses of printed books and reading materials. ICT has also given birth to new formats of recording information and new tools and techniques of handling information.

Address for correspondence: No. 80 ‘SriRanga’ 2A Main, 10th Cross, Laxmaiah Block, Ganganagar, Bangalore 560024.

When the integration of ICT into library system is being considered, the below noted areas are regarded as problem areas.

1. Accessibility and affordability
2. Shortage of trained manpower
3. Librarian’s fear of technology and lack of motivation
4. Apathy of powers that be (management)
5. Budgetary constrains
6. Maintenance of ICT resources
7. Integration of ICT in LIS curriculum to produce qualified human resource

Challenges Posed by ICT

Books, tapes, CDs of yester year are being replaced by e-mail, video-chats and social networks. Internet is becoming more user-friendly. ICT has enabled instant access to enormous information, anywhere, any time.

Challenges raised by ICT in library services are -

- Changing role of libraries and librarians
- Copyright management
- Preservation of digital information resources
- Communication system continuously changing the way people access information
- Frequent revision of technology.
- Search technology becomes increasingly complicated
- Exponential growth in demand for global information
- More technology- dependence

Information Management Issues

Information management and retrieval tools are essential in any organization of recorded information for retrieving information. They are surrogate records which give enough information to identify an information package. The basic retrieval tools are-
IT has changed the way information is organized. Significant issues concerning information management in digital era are –

(a) Application of IT tools for library automation
(b) Better innovative ways for measuring information productivity
(c) Control, coordination and decentralization of information
(d) Appropriate access to information resources
(e) Increased emphasis on information literacy and user education
(f) Increased user accountability

Knowledge is the most vital factor in the development and growth of individuals, institutions and also of the country. As work becomes more knowledge-intensive, richer forms of communications become more important. Because of the ever increasing complexity of information, individuals are faced with diverse, abundant information options, raising questions about its reliability, authenticity and validity.

The growth of information management has become a key concern of librarians. As the librarians and information workers are trained in searching, acquiring, selecting, organizing, preserving and disseminating information, it was long presumed that it was their domain. With the advances in IT, nowadays other professionals in IT sector are also claiming their share in information management.

**Search for Excellence**

Information management requires a holistic and multidisciplinary approach to be efficient and enduring. These include -

1. User-orientation given periodically for retrieving information from print and sources. Users have to be kept well aware of the advances achieved in information management technologies.
2. Re-engineering, which includes library automation, skilled human resource, ambience of library environ.

Librarians have the longest tradition of organizing information for the purpose of retrieval and posterity. In a traditional library, conventional documents like printed books, audio and video materials, microfilms etc. cannot be accessed by several users,
simultaneously. With the phenomenal growth of Internet, it is now possible to access the needed material in any library, any time, any place, by several users at a time.

We must remember that computers, networks and Internet alone does not solve all information problems. They are merely tools and are to be appropriately used to get access to relevant information, appropriate to deal with the problem.

To keep pace with the exponential growth of knowledge, libraries need to develop their resources, access and sharing strategies. Librarians have to master and become conversant with the Universe of Knowledge which is becoming interdisciplinary, multidisciplinary and cross–disciplinary in nature. Methods such as data mining, content management, semantic webs, search engines etc. are some of the recent developments in information management. In a broad sense, a digital library is a computerized system that allows user to have access to an organized, electronically stored repository of information and data.

ICT-Based Library Services
At present, the ICT–based library information services are –

- Speedy and easy access to information
- Access to information resources- any time, any place
- Provide remote access to information
- Access to unlimited information from varied access points
- Increased information flexibility to be used by any user, according to individual requirements
- Facilitating reformatting and combining of data from different sources

Information Management
Information and knowledge are two key factors in all developmental activities. Their flow will have to be streamlined to be made available for use and exploitation. Digital concept offers significant and unparalled improvement and value addition to library services. Improved information retrieval and enhanced document delivery capabilities are the widely acclaimed strength of digital libraries.

It is a basic human nature to organize and manage so that retrieval could be easier. Work places are organized in such a way that the required documents are retrieved faster without hindering work process. Learning process are organized so that relationships among ideas are used to help learners in recalling the learned materials (e.g. PMEST of Colon Classification).

Librarians are generally driven by a desire to provide access to information sources. They are involved in a continuing search for excellence in organizing and codifying information sources. Since information in digital library is electronically stored and
accessed, it is not bound by space and time. They can be accessed simultaneously by multiple users, ensuring continuous availability of documents.

Information management as applied to libraries include knowledge resources and access to different types of knowledge resources. In simple terms, information management comprises of four steps:

1. Information collection
2. Organization of information
3. Information preservation and
4. Dissemination

Sheer abundance of information and unprecedented advances in ICT applications have ushered in radical changes in library system. Blogging, tweeting and other social network media are transforming the way information is managed and disseminated.

We are in the initial stages of information revolution. With the rapid digital technology advancements many more changes are in the offing. If the librarians want to be leaders in the information and knowledge sphere, they need to know how to exploit the current technology that makes this happen. Librarians with ICT expertise can work as information architects designing information storage and retrieval systems, develop protocols for collecting, organizing, interpreting and classifying information. They have to function as information brokers between content providers and remote users.

Net-Gen User Community

One of the many components required to improve scientific research is easy access to scientific literature. Low price is the biggest reason why soft copies are in great demand among students. When a particular book is in demand and print copies are not readily available, e-books are preferred.

Present day students are quite different in character from previous generations. Internet has become indispensable for college and university students. “If I can get access to information with a few clicks, then that’s what I’d opt for” is a common statement. They prefer to look up for streamlined information flow. Wikipedia is preferred over other traditional encyclopaedias. But, who is checking the authenticity of information found on the web?

With the advancements in S&T, we see a decreasing need for old and basic knowledge and a greater value is based on application-based learning. Present generation users expect access to most recent information, updated information resources and ICT facilities. The traditional processes of knowledge transformation has to be adopted not only to the speed at which users deal with information, but also how they transform it eventually into knowledge.
Emerging Technologies in Information Management

Conclusion

The growth of digital information resources dictates new roles and relationships for libraries and librarians. Keeping pace with the changing technology has become a matter of necessity rather than a choice. The earlier role of providing information has now changed to providing access to information. The readers of digital age are information seekers and information consolidators. The librarians are information service providers.

In order to meet the ever increasing demand of the diversified user community, libraries in digital environment have to develop ways to manage, access to materials in e-format and also effectively share them as they did share print resources in pre-digital era.

The new digital ICT is not a single technology but a combination of hardware and software, multimedia and delivery systems. As ICT advanced, the costs of hardware and software declined and the digital option became more attractive. When it was realized that sharing costs would benefit the stakeholders, resource sharing of digital resources gained momentum.

Internet has transformed from “browse and surf” environ into a mammoth “knowledge exchange” environ. Internet has many uses as well as limitation. It can be a vehicle for inexpensive easy mass distribution of products and services. There are limitations as well, such as security and privacy issues, hackers, worms, viruses and Trojan horses.

The real questions are how do we stay connected? How do we share our knowledge? How do we function anytime, anywhere, no matter what?

References