

# Impact of Ict on Libraries: A New Paradigm for Librarians

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## Abstract

The education and training of LIS professionals has to be such that it empowers them to give a free rein to their potential as they endeavor to offer relevant and efficient services within the current levels of technological sophistication. LIS schools have embarked on this task by incorporating ICT modules in their curriculum. Information and Communication Technology (ICT) have changed library and information services globally. The digital revolution driven by ICT innovation has transformed; academic libraries fundamentally. ICT (information and communications technology - or technologies) is an umbrella term' that includes any communication device or application, encompassing: radio, television, cellular phones, computer and' network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, ICT covers any product that will store, retrieve, manipulate, transmits or receives information electronically in a digital form. This paper gives brief introduction about KT followed by its need, components, its various activities and services to users are highlighted, the benefits of K'T are specified along with the problems and suggestions, changing role of libraries is discussed and in the end, impact of IC'T on libraries is emphasized.

**Key Words:** Information and Communication Technology, ICT /impact and use.

## Introduction

We are living in a society which is precisely known as "INFORMATION SOCIETY" where up to date information is the fundamental requirement whereas on the other hand with the advent of Information Technology, information explosion has been further intensified especially via the use of Internet. It has fastened the approach of information searching.

Web publishing has now become a major itinerary for transmitting knowledge. Online accessibility of E-documents further intensified the information and the same has brought about the changes in the library services. This dynamic process has had potential for a fundamental change in all aspects of library information products and services provision.

Today libraries, for example, are shifting their role from the custodian of traditional information resources to the provider of service-oriented digital information resources. The basic objective of libraries now a days is to fulfill as well satisfy the users requirements. This is possible only with the introduction of ICT. ICT has greatly affected and influenced the

development of library operations. There is widespread use of computers, increased reliance on computer networks, rapid growth of Internet and explosion in the quality, and quantity of information compelled libraries and librarians to adopt new means and methods for the storage, retrieval and dissemination of information. Library automation, development of digital libraries and application of innovative information and communication technologies (ICT) have tremendously increased. The role of librarian is totally changed in this new era and the libraries are becoming fast track Information Centres. The librarian of today is increasingly becoming more and more interested in the concept of a library as a hybrid information centre.

### **Information and Communications Technology**

Information and Communications Technology (ICT) is the complex term which is a blend of three important concepts viz Information, Communication and Technology. In order to move further with the concept of ICT, let us first understand all the three concepts:

"Information" means processed data or it can be visualised as a commodity which could be brought or sold. According to Gilbert, "Information means, any potentially useful fact, quantity or value that can be expressed uniquely with exactness. Information is whatever is capable of causing a human mind to change its opinion about the current state of the real world".

"Communication" refers to a process i.e. a transfer of information, ideas, thoughts and messages. It involves a sender, a receiver, a code and a language that is understood by both sender and receiver. The communication systems includes, telegraphy, telephony, radio broadcast, radar communication, television network, teleprinting, telex, fax, electronic mail (e-mail), internet, mobile telephone network, telemetry etc.

"Technology" means some technique capable of processing the information. Technology is used to store, manipulate, distribute or create information. It means the tools of scientific knowledge that assist human beings to trounce environmental hazards and barriers to comfort. Technology includes the things like computers, telephones, radio, television etc.

To sum up ICT has been defined by Gilbert as "the acquisition, analysis, manipulation, storage and distribution of information; the design and provision of tools and software for these purposes."

ICT (information and communications technology of technologies) includes any communication device or application as well as the various services and applications associated with them.

ICT and IT are analogous terms used interchangeably. IT also means communication, therefore sometimes, these terms are used synonymously.

Information technology means the tools used to perform calculations, to store and manipulate text, and to communicate like the adding machine, slide rule, and calculator for performing calculations, the typewriter and word processor for processing text, and the telephone, radio, and television for communicating.

### Why ICT in the Library?

ICT is needed in libraries because

1. In the traditional library systems, it was very difficult to store the huge collection which is ever growing.
2. The information explosion has made it impossible for any library to purchase whatsoever is published anywhere in the world.

Therefore, a number of studies were conducted and it is concluded that ICT offers unlimited possibilities and capabilities in communication and dissemination of information in various forms (voice, graphics, data, etc.) with the below mentioned advantages:

- Rapid delivery of Information
- Voluminous and compact storage of Information Accurate results
- Data is more Reliable
- Can be used repeatedly

### ICT Components

ALIN-EA (2005) defines ICT as the electronic tools, processes and procedures for gathering, storing, retrieving, processing, analyzing and transmitting information. It is the convergence of information technology, telecommunications and data networking technologies to a single technology".

ICT is grouped into three categories often used in library and information centres:

- Information Technology -in it the use of computer hardware, software and peripherals with knowledge of computer literacy is required. These lend a hand to save the time and effort and on the other hand provide rapid access of information. Examples are: Computers, PC's, Softwares like CDS/ISIS, libris, Minisis etc.
- Telecommunications Technologies Communication technologies transmit the information in the form of signals using electrical media as carrier of signals. It includes Audio technology used for story telling to children, Audio-Visual

Technology like TV, VCD, cell phone, Fax, E-mail, voice-mail, teleconferencing, internet etc.

- Networking technologies- Networking interconnects the computers and other communication devices in order to transfer the data from one location to another. Examples are that of LAN (Local Area Network), Wan (Wide Area Network), MAN (Metropolitan Area Network)

### ICT Based Library Activities

Some of the areas in libraries where ICT can be effectively used are:

- Acquisition
- Cataloguing
- Circulation
- Serials Control
- Administration OPAC
- Reference Service
- In-house Database
- Bibliography

### ICT Based Library Services to the Users:

The information retrieval of documents from electronic resources and Internet is simpler, easier and faster in contrast to manual systems. The various ICT based Library Services to users are:

- Web OPAC
- Inter-library Lending using e-resources
- Access to databases, e-journals, e-books
- e-reference service and e-orientation
- CD-Rom and online searching
- Online reservation service
- Newspaper clipping service etc.
- Document delivery services
- Compilation of bibliographies

### Changing Role of Libraries

Convergence of computer and communication technologies and their consequent application to library and information services has changed the viewpoint of information from unitary to universal access. Over the past few decades developments in Information

technology have brought about many changes to library services and infrastructures as their foremost focus was on the deployment of computer networks providing access to electronic information. Most libraries and information centers in India, are in the practice of using computers as stand-alone devices whose applications are restricted to bibliographic database maintenance and word processing. There are very few libraries or information centers in India that are fully mechanized. Some libraries are in the infancy stage of the automation and networking process. A few libraries have CD-ROM access. The Internet plays an imperative role in libraries. It has broken down the distance barrier in communication. It has greatly influenced the practice of librarianship. Furthermore, some libraries have an online connection and are providing external resource sharing on a limited scale. Only a few specialized libraries and information centers have started networking or resource sharing or have used the telecommunication system for data transfer.

Therefore, libraries are changing in terms of their collection, facilities and services owing to constant changing scenario of information on account of Information and Communication Technology applications and information seeking behavior of clientele. Libraries are no longer considered as traditional store house of knowledge rather they now, act as Learning Resource Centre and also connoting the concept of e-library that is accessible from anywhere, anytime globally. This is especially true in the case of academic libraries attached to specialized institutes and universities. The application of ICT has brought noteworthy changes in libraries like automated cataloguing, circulation, information retrieval, electronic document delivery, and CDROM databases. Technologically too, the libraries in India are gearing to execute new technologies, which are appropriate to Internet generation users, The LIS professionals are playing a crucial role to see through this transition and to ensure place for libraries in the future. Computer professionals are contributing in relation to technological development, which are part of these libraries in developing and implementing ICT applications. The similar kind of change is necessary for the academic libraries in other developing countries for their future existence. The library professionals in these countries have to gem themselves in a big way to bring the similar kind of changes in the library services with the help of authorities and computer science professionals. The activities which were carried out manually in libraries with so much of pain and strain are being carried out smoothly with the help of ICT with greater efficiency and velocity, Resultantly ICT satisfies the three laws of library science i.e. "Every Reader his / her book; Save the time of the Reader and Library is a growing organism" as it provides remarkable information sources,

rapid communication speed to the users who come with intricate demands, breaking down the barrier of distance and ensures that the right information to the right reader is provided at the right time. It is an exceptional tool for library and information centers. For Library and Information professionals, ICT is blessing in disguise.

### **Benefits of ICT in Libraries**

- Helps in the development of Library cooperation and the formation of library networks;
- Helpful in the easy integration of various activities within a library and between libraries in a network;
- Helpful in the eradication of recurring work in a library system and saves precious time as well as financial resources;
- Increases the variety of services offered by the libraries from time to time;
- Increases the efficiency and effectiveness of the services provided by the libraries.
- Helpful in the rapid information exchange
- Possible to transfer of data with the help of internet - Provides remote and 24X7 'access to users

### **Problems**

- Lack of technological knowledge hampers the development of ICT in libraries
- Lack of knowledge about computers
- Paucity of funds
- Inadequate infrastructure
- Inadequate physical facilities
- Lack of resources pertaining to ICT
- Lack of interest among the library personnel
- Lack of training among library personnel
- Lack of E-Resources

### **Suggestions**

1. Well-trained library personnel are necessary for implementing ICT in libraries. The short term training programmes may be conducted for library professionals in computer applications, online information retrieval, e-publishing as well as softwares like MS-office etc.
2. Adequate funds are required for purchasing and maintaining components of ICT.

3. To create awareness among the library personnel regarding importance of ICT in libraries.
4. Adequate information infrastructure at National level may be created.
5. Seminars, workshops, etc., need to be organised to create awareness among library personnel
6. Provision for purchase of e-resources may be made in the budget.
7. Staff of libraries should be provided with PC's, Laptops to strengthen their ICT skills.

### **Impact of ICT on Libraries**

ICT has changed the nature of functioning of libraries. A variety of terms such as hybrid, digital and virtual library impacting on various aspects of library and information centres. A digital library can be defined as a "Managed collection of information with associated services where, the information is stored in digital format and is accessible over a network". The virtual library has been defined as "Remote access to the content and services of libraries and other information resource, combining an on-site collection of current heavily used materials both print and in electronic form with an electronic network which provides access to and deliver from external world wide library and commercial information and knowledge sources. Hybrid libraries are libraries that provide access to both electronic resources and paper based resources". From the definitions it is clear that most of today's libraries fall in hybrid category. Hence, the innovation in ICT helps in digital media replacing the traditional libraries and becoming superseding the information storage and retrieval.

### **Impact of ICT on Collection Management**

In this age of information explosion electronic resources has made collection management a very multifarious and challenging task. There is budgetary constraint, numerous formats and ever changing user needs. Collection management implies participation in tasks such as analysis of requests, negotiation of contracts and evaluation of resources.

### **Impact of ICT on Electronic Resources**

ICT has essentially altered the library collections. Library collection consists of not only the physical collection like books, periodicals, but also incorporates digital resources.

### **Impact of ICT on E-Journals**

E-journals and E-books are a version of the traditional print form digitized and disseminated electronically to the user. With the introduction of internet, the publishing has transformed radically making E-Journals and E-books accessible 24X7.

## Impact of ICT on Users

Net generation library users have a preference for e-resources rather than print resources. They want all resources e-format rather than print form. On-line transaction is always preferred by users these days. Libraries must change to cope up with the requirements of the users.

## Conclusion

ICT, It and Computers have brought unparalleled change and revolution to the libraries and information services. It has created an environment where rapid continuous change has become the norm. Gone are the days when the library's collection was its pride and determined its value. ICT has reduced the library from the stature caretaker of our literary legacy to being a competitor among many others in thy information society. Libraries and information centres can hardly work these days without computers and ICT's. The libraries as well as librarians have accepted the concept and development of ICT. The concept of the libraries as a physical entity is being gnarled by on-line access and the rise of virtual libraries. ICT has changed the functioning of libraries and information centers. Increase in the number of users, greater demand for library materials, increase in the amount of material being published, resources are some of the reasons for the budding need of ICI. The Librarians and the government must make healthy efforts to help develop ICT-based libraries to meet the challenging demands of the users.

## References

- Babu, T. Ashok. Vision of Future Library and Information Systems. New Delhi: Viva Books, 2007.
- Smith, M.Q. The Impact of ICT Change on the Management and Operations of Academic Libraries (Online available) [www.ndltd.com](http://www.ndltd.com)
- Narayana, G.J. Library and Information Management. New Delhi: Prentice Hall, 1991.
- Ncoyini, S. S. The Use of ICT to Disseminate Information to Users in Public Libraries: A case Study of Nyanga
- Mulla, K. R. E-resources and Services in Engineering College Libraries. Journal of Academic and Special Librarianship, Vol.7. No.1. 2006.
- Chandra, H. Resource Sharing and Networking oil Engineering College Libraries. (online available) [www.cenlib.iitm.ac.in](http://www.cenlib.iitm.ac.in)
- McGraw Hill Encyclopedia of Science and Technology.





- [www.wikipedia.org](http://www.wikipedia.org) TIG Research Journal, Vol. 1, No, I May 2008
- [www.google.com](http://www.google.com)