# Information Communication Technology for Modern College Libraries and Information Centers

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## ABSTRACT:

This paper is based on application of Information Communication technology in Library services to meet the user's requirement in present scenario and importance of information communication technology in college libraries provides instant and easy access to information that lead towards the modernization of college library services.

## INTRODUCTION

Information and Communication Technology is rapidly changing the whole world crating new challenges and opportunities. It's offering new ways for communicating and exchanging of information and knowledge computers, Communication and Information access Technologies are effecting revolutionary changing in the way the Information stored. Retrieved and disseminated. Information Technologies had an everlasting impact on the library and information centers. Libraries are getting themselves Transformed from Traditional once to digital libraries having wide spread are of computers. Tell communication and Microelectronics to facilitate online searching, easy to access Information through CD Roms, DVD roms, data base, Multimedia Networked. Many libraries have started creating databases of their own in machine readable forms. The traditional methods of stories recording and retrieval have been changed by Information and communicating Technology. The art prints, charts, diagrams, filmstrip, flash cards, games, globes, kite scopes, kits, maps, microfilms, microfiche, micro prints, motion pictures films, disks, slides, study print, tape recording and video tapes etc. are multimedia materials. Controlling and disseminating Information's. Which have become

challenges for today's librarians? Effectiveness of a library services is now largely depends upon the information and communication Technologies.

In the changing environment, every library grows in terms of reading materials, equipment's, spaces, staffs, readers etc. The library and information centers Scenario is changing at a dynamics pace. There is paradigm shift from print media to web media; from ownership of document's to access information; intermediately to end user model of services and from location of specific libraries to digital / virtual (hybrid) libraries,

Similarly there is a change in the needs and interests of the needs. Hence the role of library and information professionals has also changed dramatically. To meet the current requirements, library professionals must be able to perform various tasks coping up with the changes in technical Environment.

## 2. DEFINITION OF ICT

**Information:** The oxford dictionary defines as the*" information is the result of processing , gathering, manipulating and organizing data in a way that adds to the knowledge of the receiver"* it is also defines information is a knowledge or facts communicating about a particular subject ,event, intelligence.

**Communication:** according to encyclopedia Britannica *"interest in communication has been stimulated by advances in science and technology which by their nature have called attention to humans as communicating creatures".*

**Information Technology:** It defined by encyclopedia of computer science*" information technology is an imprecise term frequently applied to a broad area of activities and technologies associated with the use of computers and communication"*. But generally implying the application of computers to storage, retrieval, processing and dissemination of data, particularly in the field of commerce.

## ICT INFRASTRUCTURE

ICT infrastructure is usually considered with respect to its main areas, which are ,

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- Hardware

- Software

- Telecommunications

**Modes of communications technology**

- Telephone

- Telegraph

- Television

- Computers

- Communication satellite

- Internet

- E-mail

- Fax

- Tele text  and video text

- Video conferencing

- Tele conferencing

## COLLEGE LIBRARIES:

### College Library:

College performs an important function in the educational process. College education provides a totally different environment for boys and girls whom ho for higher studies. Usually the classes comprise a large number of students and unlike school education, the college students get less individual attention from the teachers. The students therefore have to depend much more on the self -learning. Therefore the college library is the ultimate place for the students to supplement their class room teaching (IGNOU, 2000) In general, college is regarded as an institution of higher learning, which provide courses after school leading to Bachelor's degree. Some of the prominent colleges also offer courses leading to Post- Graduate degree and Research work leading to Ph. D. Degree (Jefferson and Smith-Bernett, 1978).

**Objective and Function of College Library**

The main objective of college library is to become instrument of instruction. In order to determine, how far it has succeeded in achieving the objective, one should determine the extent to which the user uses the library resource for their assignment as an integral part of the curriculum. In other words we can say that the teaching in the classroom must depend more on library than the textbooks. Therefore library must become the integral part of teaching programme (Krishan Kumar, 1989).A college library is expected to support the objectives of the college. Therefore the basic function of the college library is to provide study materials to its user's in short possible time and serve the requirements of the students, teachers and researchers towards reading, study and research.

**Impact of Information Communication Technology on Libraries**

The Exponential rise in generation of new information, especially Scientific and Technological information since World War II has gradually reduced the effectiveness of the traditional tools and retrieval aids used by librarians. We are now in the age of information technology revolution along with information explosion. Due to information explosion, automation of library service is imperative for efficiency and effective working of library and information center. The automation is defined as a technique of making, a process or a system operates automatically. Though generally library automation may mean use of suitable machines to perform the activities of library mechanically without much manual or mental efforts by human beings, today library automation signifies "mechanization of library housekeeping operations predominantly by computerization". The most commonly known housekeeping operations are acquisition control, serials control, and cataloguing and circulation control. In recent times, even the related topics such as information retrieval, semi-automation, automatic indexing and networking of automated systems are also treated as part of library automation. Although computers have a major role in library automation, telecommunication and reprographic technology have an equally important role because of the extent of support they offer. Most of the Library and Information Centers (LICs) of India have started using computers and Information Communication Technologies in organizing their collections, housekeeping operations, processing, retrieval and dissemination of information to the end users. The use and impact of ICTs is now visible in Indian library and information centers which may be due to the drastic reduction / escalation of the cost of hardware and software and their easy availability in

the markets with service support from the suppliers or venders. The impact of IT is also evident on the activities of many LICs associated with universities and other institutions of the national importance.

Now days there are several information technology for various housekeeping, management and administrative functions of the library, different electronic and digital media, computer aided electronic equipment's, networks and internet has provided significant role in retrieval and dissemination of information and playing an vital role for modernization of libraries main of them are :

### A. Web technology:

The World Wide Web was developed in 1989 by Tim Berners Lee and by 1995 web has expanded to global proportions. The website is composed of millions of websites and a website is a collection of web pages (HTML documents) that are linked together and stored on a server (host computer). Web technology includes client server technology, web browsers, document markup language such as HTML, XML, RDG, TIE etc. The web technology has enormous impact on modern library services for retrieving information worldwide.

### B. Importance in modernization:

Several libraries has its own website to provide information regarding library, now website is working as a vibrant communication tool for librarians, various professional organizations developed website for better communication, web technology promote research and publication process, provide online access to catalogue and database. Web technology enables resource sharing among the libraries and plays a leading role in modernization of libraries.

### C. Internet technology:

Internet is a world's largest computer network. It comprises of a vast international network of computer networks that enables computer for all kind of share services and communicate directly. Internet provides access to graphics, database, documents, software, archives, picture and sounds.

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**2014**

### D. Importance in modernization:

Internet enables libraries to worldwide search within a few seconds and provides access to a large volume of information for communication. Internet supports for multimedia information exchange with open standards and few rules. Internet connects universities, colleges, schools and other educational institutions for information sharing and exchange. Libraries and information centers embracing email services and incorporating it into various information related service as it plays an important role in the dissemination of information.

### E. Networking technology:

Networking means different things to different people in different context. Martin defines networking as a group of individuals or organizations, which are interconnected to form a system to accomplish some specific goal. Library network is a specialized library co-operation for centralized development of co-operative program and services. Networking technology uses telephones lines, satellite communication, microwave communication, public switching telephone network and pocket switching data network etc. Networks are categorized into star network, hierarchical network and distributed network exists, LAN (Local Area Network) that helps in library housekeeping and resource sharing WAN (Wide Area Network) that allows electronic communication among remote user's DELNET, INDONET, INFLIBNET, MALIBNET, NICNET, ADINET etc., are major WAN in India.

### F. Importance in modernization:

Network technology promotes library co-operation, library consortia, and library networks which are the basis for modernization of libraries networks maximizes the effective uses of library resources, improves efficiency in library operations, increases communication and idea sharing. Network encourages applying systems techniques to all library operations and lead improved management of library operation and library resources.

### G. Library automation:

Automation is the basic need for modernization of any library; library automation is usually distinguished from related fields such as information retrieval, automatic indexing and abstracting, automatic textual analysis. However, now a day's clear distinction is not maintained and library automation may sometime include related fields as well. Although computers have a

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major role in library automation, telecommunication and reprography technology have equally important role because of the support they offer to library automation for mechanization of library functions. To modernize the library services advanced hardware and software are required some main of them are:

### H. Optical disc storage technology:

Optical disc storage technology is among the most recent computer technology to enter the library community. The CD ROM, a laser optical disk storing of 780 MB, has become increasingly important as a medium of storage and dissemination of information. CD ROM has ability to represent various media such as text, graphics, and animation, video clips and sound files into a digital environment. Digital video disk or digital versatile disk (DVD) is the next generation of CD. The main feature of DVD is the compression technology and storing data on multi-layer sides, stores 17 GB data is currently the only credible true multimedia format. CD's and DVD's has become ultimate storage devise due to high density storage, low cost, inexpensive hardware requirement.

### I. Scanning technology:

Scanner is important equipment in modernization of library. It is useful for scanning text, image and content pages of books for display in the OPAC (Online Public Access Catalogue) and also used in optical character (OCR) applications. Scanned document may be circulated and accessed easily. Scanner is providing great help for establishing digital and virtual library.

### J. Bar-coding technology:

Bar-coding is compulsory activity in a modern library, almost all the library automation software packages are compatible with barcode readers and are capable for generating barcodes for library materials. Using barcode equipment's for circulation and stock verification is becoming more common, efficient and time saver.

### K. Digital and virtual libraries:

The basic concept of digital and virtual libraries is the sharing of information and resources globally for providing right and nascent information to the right user at the right time.

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It is the computing terminals having linkage to different sources of information in electronic or digital form. Digital library is a collection of information that is both digitalized and organized and which offer capabilities beyond those of the traditional libraries. Larson defined a digital library as a "global virtual library- the library of thousands of networked electronic libraries". Digital libraries generate new types of information resources, new approaches to acquisitions, classification and cataloguing and ensure intensive use of electronic systems, networks, dramatic shifts in intellectual, organizational and electronic practices. Virtual library is a library with little or no physical collection of books, periodicals, reading space and support staff, but one that disseminates selective information directly to distributed library, usually electronically. The virtual library resources are better than one might find through a regular search engines; we have to come into the virtual library to search research. Virtual and digital library provide a rapid access to electronically stored information that lead the modern library services.

**L. RFID technology:**

**RFID** (Radio Frequency Identification) is the latest technology being used in modern library's theft detection system. Unlike EM (Electro Mechanical) and RF (Radio Frequency) systems which have been used in libraries for decades, RFID – based systems moved beyond security to become tracking system that combines security with more efficient tracking of materials throughout the library, including easier and faster charge and discharge, inventorying and material handling. RFID is a combination of radio frequency based technology and microchip technology. The information contained on microchips in the tag affixed to library materials is read using radio frequency technology regardless of item orientation or alignment and distant from the item is not a critical factor except in the case of extra wide exit gates. The corridors at the building exits can be as wide as four feet because the tag can be read at a distance of up to two feet by each of two parallel exit sensors. The target used in RFID systems can replace both EM or RF theft detection targets and barcodes. RFID is necessary requirement for modernization of college libraries.

**CONCLUSION**

Application of information communication technologies in the college libraries are erupting and moving faster than ones imagination resulting in information explosion crossing

geographical boundaries. Information communication technologies will help to remove barriers of distance and time. There will be no limit of variety of ways in which modern technology is applied in speedy retrieval of information most consistently. It is the power and capacity of modern technologies that helps every reader to get the information he or she seeks.

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