

CHAPTER – 5

ICT APPLICATION IN LIBRARY AND INFORMATION CENTER: AN OVERVIEW

5.0 Introduction

ICT (Information and Communication Technology) plays an important role in changing our society. The technologies are become more sophisticated and affordable every day and the range of services that are provided also increase according on the demand of society. It has been one of the major factors of causing changes in the way people communicate, locate, retrieve and use information. The information is directly related to knowledge and skills which influence socio economic development. Information and economy are closely related and information resources developments leads to economic development, policy makers pay special attention to the development of information resources.

ICT is often used as an extended form of IT (Information Technology), but is usually a more general term that the role of unified communication and integration of telecommunication, computers, middleware, as well as necessary software, storage and audio-visual systems which enables user to create, access, store, transmit and manipulate information.

The 21st century is the age of information science and technology. Due to the development of the computer technology, and the fast advancement in space communication techniques, the new information and the advanced knowledge are spreading worldwide and penetrating into every part of world. Knowledge is power; one that is able to achieve and master the information would definitely succeed and so would the society and the country. The Internet becomes a huge treasure mountain that provides variety of information in the form of database, pictures, movies, and multimedia or the interactive displays, etc. Many academic and research institutions and leading universities in the world edit their own homepages to demonstrate their educational goals, academic activities, excellent training programmes, and the innovative and important research results.

Therefore, the functioning of academic libraries changes from time to time to be suitable to the ever-changing information environment. The change is at slow pace in school and college libraries, however in university libraries, with the support of INFLIBNET, an Inter University Centre of UGC have made steady progress in the application of ICT in their house-keeping and information retrieval activities. University libraries nowadays are making great efforts to build up their information infrastructure in order to provide a fast and efficient information highway to help their users in sharing and utilising the information all over the world. Because of providing a fast, efficient and easy way to access and search for the information, through the web pages and the resources linking with other websites, users can easily obtain new information, fresh knowledge and solutions to their problems. The revolution has changed the functioning of university libraries in India. Indeed it has added some more technology based functions to keep their users abreast of global developments.

5.1 ICT: Meaning and Definition

The ICT that relevant to libraries include *Computer technologies*: its function activities include database organisation and management, library management operation; *Telecommunication technologies*: its function and activities include library networks and information networks, etc; *Reprographic technologies*: its function and activities include photocopy, microfilms, optical and digital reprographic technology, audiovisual, etc.; *Library technologies*: its function and activities include classification, cataloguing, indexing, abstracting, database creation, CAS/SDI, etc.; *Technical communication*: its function and activities include technical writings, editing, publishing, etc. (Murthy, 2003)

Adeyoyin (2005) defines ICT as “the acquisition, processing, storage, and dissemination of information by means of computers and other telecommunication equipment.”

In Wikipedia free Internet encyclopaedia “information technology (IT) or information and communication(s) technology (ICT)” means as the term of the convergence of audio-visual and telephone networks with computer networks through a single cabling or link system to merge the telephone network with the computer network system using a single unified system of cabling, signal distribution and management.

5.2 Components of ICT

ICT is a broad term that covers wide range of technologies. It is the convergence of computers, communication and microelectronic-based techniques. The technologies and devices like;

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|-----------|----------------------|-----------------|
| ✓ Radio | ✓ Digital/Web Camera | ✓ LCD Projector |
| ✓ Servers | ✓ Security Systems/ | ✓ TV |

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|---------------------|----------------------|-------------------|
| ✓ Printers | CCTV Camers | ✓ Telephone |
| ✓ Scanners | ✓ Telephone | ✓ Mobile phone |
| ✓ Bar Code Printer | ✓ Fax | ✓ Internet |
| ✓ Bar Code Readers | ✓ VCR/VCP | ✓ Satellite |
| ✓ R/W/ Combo Drive | ✓ OHP | Communication |
| ✓ Speakers | ✓ UPS | ✓ LAN, |
| ✓ Micro-phones | ✓ Film Projector | ✓ ISDN, |
| ✓ Stabilizers | ✓ Micro film reader | ✓ Videoconference |
| ✓ Photocopy Machine | ✓ Micro fiche reader | |

Telephone and other devices play important role in library services like SDI, Inter library loan, reference services, and online information retrieval. The stabilizers, UPS and air-conditioners are included because this equipment is indispensable to maintain the servers, general computers and related ICT tools. The personal computer, printer and operating software were the initial components of ICT in the university libraries. ISDN has increased the capacity for data transmission which facilitated introduction of new services such as E-mail, Fax etc. Cheaper data storage media has increased the storage capacity of libraries.

The software plays an important role in the success of ICT in libraries. The computer operating system and networking software indicate the quality and performance of technology being used by the library. Efficient library application software performs the effective operations and procedures of the library, while multi-functional, integrated, modular, and multi-user, multi-security, and user-friendly library software are found more useful to the libraries.

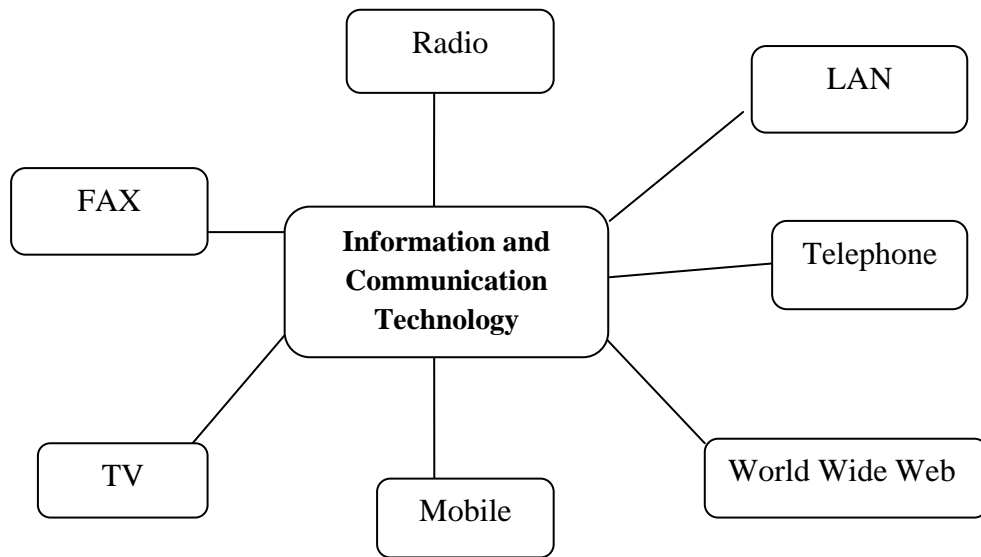


Figure - 4: Components of Information and Communication Technology

5.3 ICT Enabled Services

ICT have a direct impact on collection development, services and functions of university libraries. The collection development policy becomes complex as it includes conventional print and modern electronic resources. The ICT facilitates a wide range of services in addition to traditional lending, references, ILL, CAS, SDI etc. The Consortia based services and Internet facility offer global access to information at a great speed without much cost.

Information Technology enhances easy information retrieval of documents. Retrieval of information from electronic resources and Internet is simpler, easier and faster in comparison to manual systems.

5.4. ICT Enabled Services Offered by the Library in the Higher Educational Institutions

The libraries of the higher education institution are providing the following services;

- ❖ Loan service
- ❖ CD ROM Search
- ❖ Compilation of Bibliographies
- ❖ Inter-Library
- ❖ Loan Literature Search
- ❖ Document Delivery Service
- ❖ Reference Service Developing local databases
- ❖ Conference Alert Service
- ❖ Proficiency Corner
- ❖ Internet Service
- ❖ New Addition Alert Service
- ❖ Patent Information Consultancy Service
- ❖ Reprographic service

5.5 Uses of ICT in Modernisation of Libraries

In the academic library ICT application is used in the major sections for the smooth and efficient operation.

5.5.1 Acquisition Section

The impact of ICT in collection development is very prominent in higher education library. With the help of web, acquisition work has become very much simplified. Order placing, duplication checking, price checking etc are done very effectively

using ICT technique. Online bookshops and publisher's website save the time of the librarians. For the procurement of journals, order is placed in the prescribed format to the publishers through Internet. Invoices can be downloaded from the websites that makes service faster and avoid delay. E-mail helps in sending reminders to the publishers, vendors and even to the borrowers of the books. ICT also helps in the process of the serial control in the university library. It helps in preparing union list of serials and helps in circulating via e-mail to the branch libraries.

5.5.2 Technical Section

Establishing links to the most frequently used library catalogues help the librarians for authority work. With the help of OPAC, it is now very convenient for the technical staff to assign call numbers to the newly added books. IT has reduced the volume of work done in catalogue card preparation. With the help of software library created a central bibliographic record for the library management system.

5.5.3 OPAC

ICT has revolutionized the practice of cataloguing in the library. With the help of OPAC users access the holdings of the library catalogue at their desktop across the campus. It reduces the cost of maintaining a catalogue. Elimination of many paper files and decentralization is possible.

5.5.4 New Addition Alert Service

Technical section can provide new additions alert service to the users including the staff. List of new additions in the library is compiled and e-mailed to user community regularly. This service is the major impact of ICT in technical section.

5.5.5 Circulation Section

The use of technological devices such as computers, barcode scanners and its software in circulation helps in performing the routine operations easily and quickly. Transaction processes of the collections in the library become faster. In ICT environment the library heavily depends upon telephone, Internet and E-mail for checking availability, reservation and renewal of books.

5.5.6 Reference Service

Reference section has both, printed and multimedia reference sources. In the reference section, queries are answered through telephone. For ready reference services library staff uses Internet and E-mail facility.

5.5.7 Electronic Information Service

Electronic services are also provided very efficiently with the application of ICT. This section offers following services to the user community:

(i) Online Search / Literature Search

The implementation of ICT has created an environment for searching and retrieving the documents from the databases. The advantages of online searching over manual include speed, accuracy, convenience, accessibility to combine concepts, specific search, modification of search strategy etc.

(ii) CD ROM Search

CD-ROMs are another outcome of ICT. In library CD-ROM databases are increasingly used as an important medium for storage and dissemination of information.

(iii) Developing Local Databases

Computerized databases provide easy and user friendly access to the information resources. Library utilizes ICT for creating and sharing databases of its holdings through CD-ROMs, VCDs and other multimedia resources.

(iv) Internet Search:

Library may provide free Internet service to its users.

(v) Document Delivery Service

No library can afford to procure every piece of information published across the world because of financial and other constraints. Data exchange between different systems and media such as coaxial cables, satellite communication etc. have promoted the resource sharing among the libraries. ICT has helped in the emergence of various networks in the LIS field.

5.6 ICT Advantages

ICT reduces labour and saves a lot of time of the staff and users too. LAN is used to link a variety of different communication devices. LAN provides cost effectiveness in various services. It allows secured resource sharing in the library. Internet and E-mail system enable the students and scholars to remote access, worldwide communication. Professional communication among library and Information Science societies has become easy with the help of E-mail.

5.7 ICT Disadvantages/ Limitations

Impact of ICT made various problems in online publishing. In case of e-journals and online databases, the library loses its access after stopping the subscription. The

publishers do not give access to the issues which were subscribed. Besides these ICT has following general disadvantages:-

- ❖ Expensive
- ❖ Need Expertise
- ❖ Socio technical issues
- ❖ Information insecurity
- ❖ More technology dependence
- ❖ Less use of human brain

5.8 Role of INFLIBNET for Modernisation of Higher Educational Libraries

The higher education institutions consisting 310 Universities and academic institutions 16,000 affiliated colleges were networked with the help of INFLIBNET, an Inter-University Centre of UGC. In 28th December 2003, UGC-INFONET Electronic Journal Consortia was started by INFLIBNET and it present it is providing 4000+ Research Journals to 100 + Universities in India online. The INFLIBNET conducting regular training programmes in different applications of ICT to the information professionals. The new functions by use of ICT are:

- ❖ Provide Internet facility to all users to access global information in their specific discipline.
- ❖ Creating and maintaining library website.
- ❖ Maintaining OPAC of their library to provide access to its collection not only to its users through campus networks but also to user's world over.
- ❖ Taking part in establishment of e-journals consortia to share journal resources through a central agency. i.e; UGC-Infonet

- ❖ Providing access to wide variety of information resources including reference sources, indexes, full text articles and complete journals.
- ❖ Building specific electronic collections of the library with CD-ROM collections and in-house databases.
- ❖ Promoting the use of information technology, and speeding up the document retrieval.
- ❖ Taking up digitisation projects to preserve the manuscripts and other rare documents.

5.8 Conclusion

In the chapter brief meaning of ICT, components of information communication technology, use of the applications in libraries in different section and services. The faces of Libraries are changing to the paperless society by the use of ICT Applications. The Internet becomes a huge treasure of mountains that provides variety of information in the form of database, pictures, movies, and multimedia or the interactive displays, etc all these are due to ICT Application tools in human life. Many academic and research institutions and leading universities in the world edit their own homepages to demonstrate their educational goals, academic activities, excellent training programmes, and the innovative and important research results. In the libraries and information centres the use of ICT application helps better administration, management and services to its users community. These applications are important tools for accessing the information from different parts of the world and communicating each others. It helps the library professional day to day activities in each and every section of the library administration, management and services.