



IMPACT OF INFORMATION COMMUNICATION TECHNOLOGY IN LIBRARY SERVICES IN DIGITAL ERA

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ABSTRACT :

Notably, Information and communication technology (ICT) is an electronic means of capturing, processing, storing and disseminating information. ICT is main source of information for all people and has reduced the gap among people and places. Through, ICTs reader from anywhere in the world can get up-to-date information. ICT could use to facilitate, strengthen, replace and existing library information systems and networks. The rapid development in ICT infrastructure across the globe has led to transformation of library in the way we manage information in the digital information age. People can access digital library objects like electronic documents, and digitized pictures, sound and video on World Wide Web (WWW). Many would call this huge collection of documents on web, a "digital library" because they can read and use whatever they wish by accessing the Web. Library and Information Services (LIS) are being transformed by technology and they have adapted these changes to meet their users' changing needs and growing expectations.

Key words: Information communication technology, ICT, WWW, library services, digital library, Inflibnet.

INTRODUCTION :

Information in the modern context is considered as a strategic resource parallel in importance to land, labour, capital, and entrepreneurship – the traditional economic resources which are vital inputs for national development at all levels. Without information, the very functioning of society would come to a standstill. One institution which plays a vital role in the collection, processing, storage and dissemination of information is the library. Libraries of all types serve as information providers and aim at satisfying the information needs of their clientele. In





the present era new information technologies are used to perform library functions. The librarian of today is seen as an information resource provider, a resource centre manager, a human gateway to electronic resources. ICTs are Internet service provision, telecommunications equipment and services, information technology equipment, services, media, broadcasting, libraries and documentation centres, commercial information providers, network-based information services, and other related information and communication activities.

Technological Changes in Libraries

With the invention of Information and Communication Technology, libraries now use various types of technologies to aid the services they render. Everyday new technological advances affect the way information is handled in libraries and information centres. The impacts of new technologies are felt by libraries in every aspect. Computing technology, communication technology and mass storage technology are some of the areas of continuous development that reshape the way that libraries access, retrieve, store, manipulate and disseminate information to users. The academic library has been from its inception an integral part of institutions of higher learning, research institutions, etc.

Academic libraries as those libraries that are mainly found in institutions, they are established to support learning, teaching and research processes. In the information age, academic libraries have been affected by changes in information and communication technology. The rate of changes is still accelerating in this area. The introduction of various information communication technology trends have leads to reorganization, change in work patterns, and demand for new skills, job retraining and reclassification positions. Applications of ICT are





numerous but mainly it is used in converting the existing paper-print records in the entire process of storage, retrieval and dissemination.

ICT has impacted on every sphere of academic library activity especially in the form of the library collection development strategies, library building and consortia. Furthermore, academic libraries are also using modern ICTs to automate their core functions, implement efficient and effective library cooperation and resource sharing networks, implement management information systems, develop institutional repositories of digital local contents, digital libraries and initiate ICT based capacity building programmes for library users.

Information and Communication Technology has brought unprecedented changes and transformation to academic library and information services, conventional LIS such as OPAC, users services, reference services, bibliographic services, current awareness services, Document delivery, interlibrary loan, Audio visual services and customer relations can be provided more efficiently and effectively using ICT, as they offer convenient time, place, cost effectiveness, faster and most-up-to-date dissemination and end users involvement in the library and information services process. The impact of ICT characterized on information services by changes in format, contents and method of production and contents and method of production and delivery of information products. Emergence of internet as the largest repository of information and knowledge, changed role of library and information science professionals from intermediary to facilitator, new tools for dissemination of information and shift from physical to virtual services environment and extinction of some conventional information services and emergence of new and innovational web based.





ICT Facilities and Services Available in Libraries

ICT is an electronic means of capturing, processing, storing and disseminating information. ICT refers to systems for producing, storing, sending and retrieving digital files'. ICT can thus be described as a diverse set of technological tools and resources used for creating, storing, managing and communicating information electronically. Generally, ICT is a tool that any sector can use to deliver its services. The ICT revolution has turned the whole planet into a '*Global Village*' where communication among people has become independent of physical distance and time. ICTs, especially the Internet in which they all converge as a huge network, is transforming all human activities that depend on information, including library services. In this digital era therefore, the most appropriate technology used by libraries to enhance information provision is ICT. It has become cheaper to digitally store, process and access large amounts of information at greater speed. ICT has controlled the information explosion '*bomb*' to such an extent that it is now possible to obtain information from any library anywhere in the world regardless of the geographical position of the user and the library.



Fig.1: ICT. Source: <http://www.ruyterweb.nl/>





ICT has changed the traditional methods of library activities and services providing new dimensions for teaching, learning and research in higher educational institutions. With the help of ICT tools, it is possible to store, retrieve, disseminate and organize information by creating websites and databases. ICT facilities and services available in libraries include servers, computers, access to the Internet and Intranet (WAN), and its resources, Local Area Networks (LANs), Compact Disc-Read Only Memory (CD-ROM) databases, online databases, Online Public Access Catalogues (OPACs), e-journals, e-theses, fax machines, photocopiers, Inter Library Lending and Document Delivery (ILL/DD) services, computer laboratories, scanners, printers, micro-fiche readers and telephones, among many others.

ICT as Excellence Services in Libraries

Information Communication Technology not only affects the technical services of libraries but also shapes of the library services that are being offered to the public. It has offered better solutions to achieve greater level of efficiency, productivity and excellence services in libraries. One of the most relevant outcomes of ICT is the introduction of advanced communication network or the internet, which has necessitated a major shift in the role of academic libraries from ownership model to access model, from print to electronic media, from libraries as archives to libraries as access points, and from information collection to information analysis and repackaging. The change from print to digital information has a high impact on libraries, information centres and other institutions directly involved in processing information. The ability of computers to perform high volume error-free repetitive tasks at speeds much faster than human beings, along with the emerging developments in the area of computing; telecommunications, networking and resource sharing, has





made access to information anytime, anywhere possible. Now, Librarian in an academic environment has the role of mediator between the vast network of resources and its users, and library, an access point providing access to different types of information resources.



Fig.2: Digital or e-Library. Source: <http://dev.cpdbd.com/techbd/?p=409>

UGC-Infonet

UGC-Infonet is one of the biggest and ambitious programs has initiated by UGC for the development and improvement of the higher educational system in India. This is the Wide Area Network (WAN) connecting more than 170 universities and R&D Institutes etc. The main objective of this program is to share the library resources, qualitative and collaborative research, distance learning, multimedia application and accessibility of Intranet and Internet to the member institutions. The program is a joint venture of University Grants Commission (UGC), Information and Library Network (INFLIBNET) and, Education and Research Network (ERNET). Here UGC is the main funding body, ERNET India is responsible for infrastructural part and, INFLIBNET is the nodal agency to manage, supervise and execute the whole program.





UGC Virtual Library: INFLIBNET

The internet, especially WWW has given the librarian a new dynamic role to play in the society and serve the new information based in better ways than ever before, because of the powerful features of web i.e. distributed, heterogeneous, collaborative, multimedia, Standards and Protocols, architecture, world wide web has revolutionized the way people access information and has opened up new possibilities in areas such as digital libraries, Virtual libraries, efficient information retrieval and dissemination. INFLIBNET has played major role in bringing IT culture and establishing IT infrastructure in Indian Universities. It is involved in modernizing university libraries in India. To create awareness about library automation and spread IT culture among library professionals, INFLIBNET organizing INFLIBNET Regional Training Programme on Library Automation (IRTPLA) in different regions of the country. Recently it has initiated subscription of the E-Journals for academic libraries in India. INFLIBNET has played major role in library automation. SOUL designed and developed by INFLIBNET, which is cost effective and user friendly software has been installed in many universities/institutions.

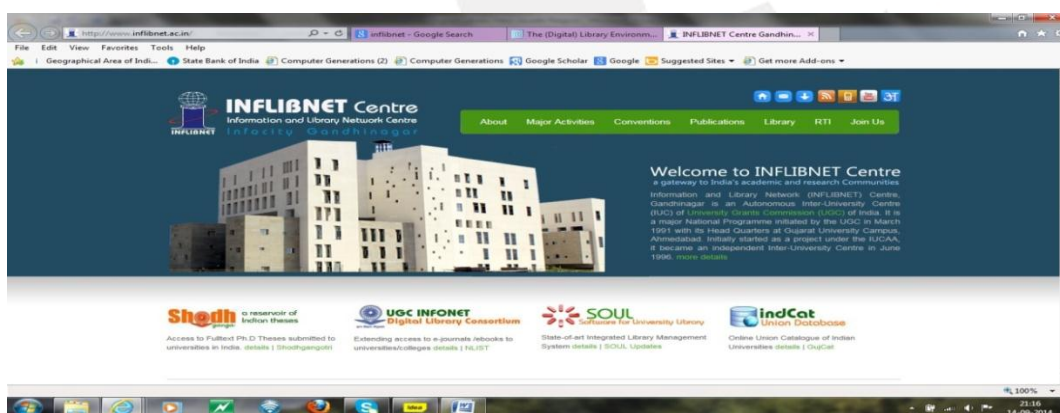


Fig.3: Home page of Inlibnet. Source: <http://www.inflibnet.ac.in/>





ShodhGangotri

Under the initiative called “**ShodhGangotri**”, research scholars / research supervisors in universities are requested to deposit electronic version of approved synopsis submitted by research scholars to the universities for registering themselves for the Ph.D programme. 1803 synopsis of 40 top universities have been uploaded to ShodhGangotri.

Shodhganga@INFLIBNET Centre

The Shodhganga@INFLIBNET Centre provides a platform for research students to deposit their Ph.D. theses and make it available to the entire scholarly community in open access. The repository has the ability to capture, index, store, disseminate and preserve ETDs submitted by the researchers. 33430 theses of many universities in India have been uploaded till date.

Integrated e-Content Portal

The INFLIBNET Centre is developing a web-based interface called "Integrated e-Content Portal" for all e-content projects, developed / funded under the National Mission of Education through ICT. There are around 80 projects on e-content under NME-ICT which are developed / being developed in various subject disciplines (science, arts, engineering, social science, etc) through various Indian institutes / universities / colleges. The portal would provide facility to search and browse all hosted content wherein a learner can easily access the desired material including audio/video learning material, textual material, etc., through a single interface.





Challenges of Modern Librarian

In a fast-changing, expanding diverse global digital information environment, libraries are facing a variety of complex challenges from multiple sectors of knowledge society in the modern age. The major challenges are:

- Poor communication networks
- High costs of maintaining ICT infrastructure
- Limited access to ICT hardware and software
- Lack of funding to provide ICT infrastructure
- Digital and information divide
- Neglect of ICT resources
- Computer /Information illiteracy
- Technological obsolescence
- Poor Policy guidelines
- Technological dependency as technology begets more technology
- Utilizing technology to promote indigenous knowledge
- Information explosion.
- Information and Communication Technology (ICT).
- Growth and usage of web resources.
- Use of digital resources.
- User's expectations.
- Virtual learning environment.
- Virtual educational institutions.
- Development of digital, virtual, and hybrid libraries.
- Online bookshops and information services.

These challenges can also be solved by orientation, reengineering, transformation, and great changes in the information environment,





library functions, and the roles of library and information service professionals.

Functions of a Modern Library

Functions of modern library include:

- Application of new technologies in libraries.
- Computerization and networking of all library operations, resources and services.
- Build both print and electronic information resources.
- Providing an access to the content of local and global resources and services.
- Provide guidance and training in the usage of digital resources.
- Provide responsive products and services to meet the user needs and expectations.

Advantages of Digital Library

In summary the paradigm shifts from the traditional libraries to embrace ICT's in both libraries has brought the following advantages:

- 1) Transformation of traditional libraries to digital libraries,
- 2) Print on paper to digital information,
- 3) Card catalogs to Web OPACs,
- 4) Print journals to online or electronic journals,
- 5) Ownership to access,
- 6) Provision of access to library resources to remote and desktop access.
- 7) Continuous availability of Information from different libraries.
- 8) Photocopies to digital copies
- 9) Standalone libraries to Information networks
- 10) Real to Virtual libraries.





CONCLUSION :

Libraries of all types serve as information providers and aim at satisfying the information needs of their clientele. In the present era new information technologies are used to perform library functions. The librarian of today is seen as an information resource provider, a resource centre manager, a human gateway to electronic resources. Computing technology, communication technology and mass storage technology are some of the areas of continuous development that reshape the way that libraries access, retrieve, store, manipulate and disseminate information to users. Information and Communication Technology (ICT) has brought unprecedented changes and transformation to academic library and information services. The ICT revolution has turned the whole planet into a 'Global Village' where communication among people has become independent of physical distance and time. ICT has offered better solutions to achieve greater level of efficiency, productivity and excellence services in libraries. UGC Infonet and Inlibnet programs are to share the library resources, qualitative and collaborative research, distance learning, multimedia application and accessibility of Intranet and Internet to the member institutions. World wide web has revolutionized the way people access information and has opened up new possibilities in areas such as digital libraries, virtual libraries, efficient information retrieval and dissemination. There is remarkable rise in the use of ICT, many of the libraries activities are now ICT driven. Library information resources and services are available 24x7, throughout the year from any computer connected to the Internet from any place around the world.





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