



VIDHYAYANA

ISSN 2454-8596
www.MyVedant.com

An International Multidisciplinary Research E-Journal

A Brief Study of the Major Impacts of ICT in Library Services

Ashishkumar Jitendrabhai Gajjar

Ph.D. Scholar,

Sabarmati University, Ahmedabad.



Abstract

The library is the main information centre which can make use of the fast development IT for the benefits of mankind as a whole. The librarian's preference of IT should include all those technologies which are expected to be used in the library activities/ operations and other library services for collection, processing, storage, retrieval and dissemination of recorded information, the fast developing information technologies have showered almost every areas of application including libraries. In case of libraries, these are good use in the following environments.

a) Library Management b) Library Automation c) Library Networking Audio-Video Technology e) Technical Communication

Library management includes the activities like Database creation, Database Indexing, Classification and Cataloguing for geared up by regular day to day work. And, library automation is the concept of reducing the human intervention in all the library services. Through this any user can receive the desired information with the maximum comfort level with minimum cost.

All computer based systems should be user friendly and should satisfy as many of the following factors as possible. Some of the advantages of information technology include: a. Easy to gather different library activities. b. Collaboration and creation of library networks c. Avoid repetition of efforts within a library d. Increase the range of services offered e-save the time of the users, etc.

Academic and Non-Academic libraries are the information centers which plays the important roles as sources of valuable records and meet the information needs of the society. Different factors that should be considered for setting up fully functional IT enabled libraries include: Technical Manpower, Availability of space, IT Infrastructure support, funding, and maintenance support. The awareness to IT resource and availability of adequate training for the library staff and users moves towards new information edge. This paper outlines a number of factors that could affect the full implementation of IT services with their possible good and adverse remarks in academic and non-academic libraries. It is therefore



VIDHYAYANA

ISSN 2454-8596
www.MyVedant.com

An International Multidisciplinary Research E-Journal

recommended that a research be carried out to determine which of these factors play the most significant roles in transiting a paper based system to a fully automated IT driven library infrastructure. This paper describes both the Impact of ICT in Library and Information Services in detail.



Academic and Non-Academic libraries are the information centers which plays the important roles as sources of valuable records and meet the information needs of the society. Different factors that should be considered for setting up fully functional IT enabled libraries include: Technical Manpower, Availability of space, IT Infrastructure support, funding, and maintenance support. The awareness to IT resource and availability of adequate training for the library staff and users moves towards new information edge. This paper outlines a number of factors that could affect the full implementation of IT services with their possible good and adverse remarks in academic and non-academic libraries. It is therefore recommended that a research be carried out to determine which of these factors play the most significant roles in transiting a paper based system to a fully automated IT driven library infrastructure.

KEYWORDS: Information Technology, Academic Library, Non-academic Library

Introduction

Information plays a very important role in human life. It is having a power to furnish revolutionary changes. Since the mid of 21st century, the role of information has increased immeasurably as a result of social progress and the energetic development in science and technology. Information is the key factor for any kind of research and its development. Information is a fundamental resource which is essential for survival in today's competitive world. The information itself and way it is accessed have undergone changes owing to the developments in information and communication technology. It is a essential ingredient for socioeconomic and cultural development of any nation. Information Technology (IT) and

Information and Communication Technology (ICT) have been variously researched by many scholars. Thus, IT and ICT are considered in the library to be concerned with acquisition, processing, storage and dissemination of data or information in different forms.

Benefits of IT and ICT in Library

- Library automation has been of tremendous help to the library workers
- Ease of stock maintenance.
- Ease of book issue process,
- Automatic notification to avoid fine.
- Universal access of information with the use of Internet.
- To retrieve and disseminate the information in user-defined format.
- Ability up-gradation of professionals.
- Long term preservation of Information without quality degradation.
- Resource sharing.
- One touch solution for Placing the orders, checking to avoid duplication of books, price, ordering etc. are done very effectively using ICT technique.
- Provide access of various national and international journals. Easy to gather different library activities.
- Collaboration and creation of library networks
- Avoid repetition of efforts within a library
- Save the time of the users
- Increases efficiency
- Speedy and easy access of information
- Improves the quality of library services
- Enhance the knowledge and experience
- Integration within the organizations.
- Improve the status of the library
- More stable
- Helps to attract the users.
- Remote access to users
- Access to unlimited information form different sources
- More up to date information
- Information flexibility to the users
- Reforming and combining of data from different sources
- Reduce the workload of the library staff
- Document digitization.



VIDHYAYANA

- Helpful to researchers for effective literature survey.
- Provide faster access to available resources.
- Provide support of huge databases in forms of CD,DVD or HDD
- To improve the efficiency of different library functions.
- Location search of book in a bulky library with the detailing of Rack information,
- Helps in the process of the serial control, preparing union list of serials and circulating via e-mail to the branch libraries at different locations.
- Reduction in terms of cost for various library operations.
- Transformation from Hard copy to Soft Copy
- Change in the philosophy of the library from being a physical structure housing books to a database for universal access of information.
- Digital library occupies less space but large storage capacity.
- Required less staff for providing better information services.

Operations of IT and ICT in Library

The library is the main information centre which can make use of the fast development IT for the benefits of mankind as a whole. The librarian's preference of IT and ICT should include all following library activities or operations for collection, processing, storage, retrieval and dissemination of recorded data and information.

a) **Library Management:** Library management includes the activities like Database creation, Database Indexing, Classification and Cataloguing for geared up by regular day to day work.

b) **Library Automation:** Library automation is the concept of reducing the human intervention in all the library services. Through this any user can receive the desired information with the maximum comfort level with minimum cost.

c) **Technical Communication:** Technical Communication consisting of technical writing, editing and publishing.

d) **Audio-Video Technology:** It includes enrich database with audio, images and video. Adoption of audio/video will enhance the capabilities of library.

e) **Library Networking:** One or more information center or Library can be connected to gather and create a group of resource center. Exchange of such information will enhance the overall efficiency.

Road blocker in adoption of IT and ICT in Library

- Insufficient funds
- Operational costs

- Non-Adaptive nature towards new technology
- Inadequate trained staff
- Unemployment
- Lack of trained Information Technology (IT) Manpower
- Encountering technical problems in the course of usage
- The conversion of analogue information into digital format and its storage capacity place a high demand on the bandwidth of the University.
- Crashing of a computer due to virus, malware, hackers etc can have a large negative effect of loss of data and exposure of information to non-users.
- Availability of funds
- Maintenance Culture

Classification of IT and ICT based Library

We can categories in three types: Based on Resource Availability, Based on Services Availability, Based on Availability of Electronic backbones.

Based on Resource Availability:

Computer Systems: Computer-based technologies are having dominant forces to shape and reshape the products and services of the academic and non Academic library. The success of the IT and ICT enabled services in the library is based on the efficient equipment provided in the library with the present technology, not on the basis of large number of equipments.

RFID: Radio frequency identification device is a term used for technologies utilizing radio waves for identifying individual objects. Active and Passive RFID tag can be used at different places of Library. It is similar to bar codes system.

Barcode: A barcode scanner or reader is an electronic device for reading printed barcodes. It consists of a light source through which scanning is done. Through the scan image barcode can be decoded.

OPAC: An Online Public Access Catalog (OPAC) is an online database of materials held by a library. Users search a library catalog mainly to locate books which is physically located at a library.

CD/DVD-ROM: Many libraries having information in a set of CD and DVD. User can search CD or DVD based on its content from the available set of CD or DVD.

Printing technology: In computing, a printer is a peripheral which produces a text and/or graphics of documents stored in electronic form, usually on physical print media such as paper or transparencies.



Scanner: It is a device that optically scans images, printed text, handwriting, or an object, and converts it to a digital form. Through such scanning we can keep and preserve data for long period of time.

Facsimile: A facsimile is a copy or reproduction of an old book, manuscript, map, art, or other item of historical value that is as true to the original source. It differs from other forms of reproduction by attempting to replicate the source as accurately as possible in terms of scale, color, condition, and other material qualities.

Photocopy: A photocopier is a machine that makes paper copies of documents and other visual images quickly and cheaply. Most current photocopiers use a technology called xerography, a dry process using heat. Photocopying is widely used in library.

Based on Available Services:

Document delivery services: The Document Delivery Service (DDS) delivers copies of journal articles and book chapters from participating Libraries. Fees apply for most Document Delivery Services. To fulfill the information needs of the end user through information/document supply is a document delivery service. This service is provided on No Profit - No Loss Basis and Expected to be prompt.

Interlibrary loan: Inter library loan means a cooperative arrangement among libraries by which one library may borrow material from another library. In other words a loan of library materials by one library to another library.

Indexing and abstracting services: a method which is used to retrieve information from a table in memory or a file on a direct access store or the art of compiling an index. The preparation of abstracts, usually in a limited field, by an individual, an industrial organization or a restricted use or a commercial organization; the abstracts being published and supplied regularly to subscribers. Also the organization producing the abstracts. Such services may be either comprehensive or selective.

Chat services: Online chat may refer to any kind of communication over the Internet, that offers an instantaneous transmission of text-based messages from sender to receiver, hence the delay for visual access to the sent message shall not hamper the flow of communications in any of the directions. Online chat may address as well point-to-point communications as well as multicast communications from one sender to many receivers.

CAS: The purpose of a current-awareness service is to inform the users about new acquisitions in their libraries. Public libraries in particular have used display boards and shelves to draw attention to recent additions, and many libraries produce complete or selective lists for circulation to patrons. Some libraries have adopted a practice of selective dissemination of information.

SDI: Selective dissemination of information ("SDI") was originally a phrase related to library and information science. SDI refers to tools and resources used to keep a user informed of



new resources on specified topics. Selective Dissemination of Information (SDI) was a concept first described by Hans Peter Luhn of IBM in the 1950's.

Scanned copies: A scanning service for material not available electronically, which is held by the Library. This includes articles from journals and chapters from books. Users of the service should be aware that we operate within the restrictions of the Copyright Act.

Bulletin board services: A Bulletin Board System, or BBS, is a computer system running software that allows users to connect and log in to the system using a terminal. Once logged in, a user can perform functions such as uploading and downloading software and data, reading news and bulletins, and exchanging messages with other users, either through electronic mail or in public message boards.

Electronic services and e- resources: The important fact is convincing many libraries to move towards digital e-resources, which are found to be less expensive and more useful for easy access. This is especially helpful to distant learners who have limited time to access the libraries from outside by internet access to commonly available electronic resources, mainly CD-ROM, OPACs, E-Journals, E-Books, ETD and Internet, which are replacing the print media.

Digital library: A digital library is a library in which collections are stored in digital formats and accessible by computers. The digital content may be stored locally, or accessed remotely via computer networks. A digital library is a type of information retrieval system.

Based on Electronic backbones

a) **Audiovisual materials:** The Audiovisual Collection contains a wide range of audiovisual material to support the research and study needs of staff and students.

b) **Internet:** With the advent of digital revolution, communication has become easier and faster and decision are mad instantaneously. The internet which is the latest among the superhighways has cut down the distance and made it easier to have access to information to all people at all places and at all the times.

c) **Library website:** Library website helps to recognize the facilities and information sources available in the library. In most of the library website online catalogue is included. Online catalogue helps to ascertain a client whether the information is available in the library.

d) **Database:** A database is an organized collection of data for one or more purposes, usually in digital form. The data are typically organized to model relevant aspects of reality, in a way that supports processes requiring the information.

CONCLUSION

It could be concluded that organization of knowledge represent an important intellectual pillar on which the practice of the library profession rests. Utilization of Information Technology in present libraries is optimistic to gain right information at the right time in the right place and at the right cost. Application of IT and ICT in library services in the academic libraries raises the question of the depth of organization of knowledge. Adequate and availability of ICT facilities and peripherals have the impact of reducing distance, increasing the volume and scope of information that can be handled or processed within a given time and increasing the ease of searching by patrons. IT and ICT helps to progress the rank of the library and it condense the work stack of the library professions. IT and ICT has broken the worldwide boundaries, new apparatus and methods help to provide better services to our clients.

References

1. Kochtanek, Thomas R. (2002). "1 - The Evolution of LIS and Enabling Technologies". Library Information Systems: From Library Automation to Distributed Information Access Solutions. Westport, CT: Libraries Unlimited. p. 4. ISBN 1-59158-018-8.
2. Widerhold. (1995). Understanding information technology usage: A test of competing models. Information Systems Research, 6:2, 144-76.
3. Jones, R., Abels, E. R., Latham, J., Magnoni, D., & Marshal, J.G. (1999). Competencies for information professionals of the 21st century. Revised edition.
4. Chandrasekhar, C. P., and J. Ghosh. "Information and Communication Technologies and Health in Low Income Countries: The Potential and the Constraints." Bulletin of the World Health Organization 79, no. 9 (2001): 850-55.
5. Spacey, R., Goulding, A., & Murray, I. (2003). ICT and change in UK public libraries: Does training matter? Library Management 24: 1&2, 61-69.
6. Arunachalam, S. (2006) "Open access: current development in India". Digital Library of Information and Technology. Available <http://dlist.sir.arizona.edu/1255/> (Last Accessed on 14.11.2007).
7. Ithaca College Information Technology Services. "2011 Ithaca College Faculty Survey on Instructional Technology." 2011.
8. Chandrasekhar, C. P., and J. Ghosh. "Information and Communication Technologies and Health in Low Income Countries: The Potential and the Constraints."
9. Okoli, C., and S. D. Pawlowski. "The Delphi Method as a Research Tool: An Example, Design Considerations and Applications." Information & Management 42, no. 1 (2004): 15-29.
10. Munshi N (1998). Assessing of Information Technology and its impact on libraries and information centers in Bangladesh. Bangladesh J. Lib. Inf. Sci. Dhaka: University of Dhaka, 1(1): 77-78.



VIDHYAYANA

ISSN 2454-8596
www.MyVedant.com

An International Multidisciplinary Research E-Journal

11. Kochtanek, Thomas R. (2002). "1 - The Evolution of LIS and Enabling Technologies". Library Information Systems: From Library Automation to Distributed Information Access Solutions. Westport, CT: Libraries Unlimited. p. 4. ISBN 1-59158-018-8.
12. Widerhold . (1995). Understanding information technology usage: A test of competing models. Information Systems Research, 6:2, 144-76.
13. Jones, R ., Abels, E. R., Latham,J., Magnoni , D., & Marshal, J.G. (1999).Competencies for information professionals of the 21st century. Revised edition.
14. Chandrasekhar, C. P., and J. Ghosh. "Information and Communication Technologies and Health in Low Income Countries: The Potential and the Constraints." *Bulletin of the World Health Organization* 79, no. 9 (2001): 850–55.



VIDHYAYANA