

A Study on Impact of ICT on Library and Information Services

Sanjay Kumar Tiwari

Amity School of Engineering and Technology Amity University, Haryana, India

Abstract— Importance of ICT in library can be realized from ICT application catalogues and audio/visual services. ICT has a great importance in each and every sphere of life; now libraries are not left apart from the impact of ICT it dependence upon the attitude of librarian and the library professional. Thus attitude of library professional have very much importance in the context of ICT application in the library. This paper explains the Impact of ICT on Library and Information Services.

Keywords—ICT

I. INTRODUCTION

The Information and Communication Technologies (ICT) have fetched radical changes in control delivering and storage of information. The conversion of traditional library pools to digital or virtual pools presented the librarian with new prospects and contests. The internet has given the librarian a new active role to play in the society and aid the new information based in better traditions than before, Because of the powerful structures of web i.e. distributed, heterogeneous, collaborative, multimedia, standards and protocols, architecture, World Wide Web has transformed the way people admittance information and has opened up new opportunities in areas such as digital libraries, virtual libraries, efficient information retrieval and dissemination.

Our world continues to become increasingly composite, interconnected, and robust. There are more individuals and institutions; they engross in more relationships and exchange of information; and the rates of information exchange linger to grow, because of enlargements in technology and the importance of information to human and technical development. We live in an information culture in which more people must achieve more information, which in turn requires more technological support, which both demands and creates more information. The general moments of the information society are threefold: bigger volumes of information, new methods and accretions of information, and new tools for operational with information.

Information technology has been creation such an influence on various segments of human activities that the present era has come to be called as information age. Introduction of revolution like networking, Internet, Intranet and video conferencing has created a

multifaceted potential for libraries. I.T. has reformed the mode of handling the book and data in such a way that along with the traditional print based sources of information, we are getting swamped with a lot of attractive electronic form of publication. The most important advantage of electronic resources is that, they can be accessed from anywhere, anytime and any numbers of people to find their desired information. Information technology is an incorporation of computer technology, statement, printing and reprography technology. In the information age academic libraries have to mobilize to meet the challenges of ever increasing volume of information, falling ability of libraries for comprehensive acquisition of document, growing demands and increasing number of users and complex and multi-faceted user requirements to over come these related problems, assistance and sharing of information resources through networks assumes importance. It plays a vital role in enhancing the capabilities of libraries & information center towards reaching approval of their client.

It is applicable to converse the dynamic role played by telecommunication in information dispensation the communication technology landline of sight and satellite communication has made the world a "Global village" fast expansion in the field of technology in recent years has paved the radical changes in different sections including libraries. Computer advancement, telecom & audio-visual technology has given the way to new potentials in information seized by the libraries.

II. LITERATURE REVIEW

Review of related literature is conducted to enable the researcher to get a clear understanding about the specific field of study. It also helps the researcher to have an insight into the tested methods, procedures and interpretations of similar studies conducted elsewhere. Considerable amount of literature is available regarding application of Information Communication Technology (ICT) in libraries, professional development and continuing education needs of library professionals. But studies are relatively few regarding the impact of ICT on professional development and educational needs of library professionals. A survey of the literature found that most of the studies are reported from foreign countries and that such studies are not given due importance by the researchers in library and information science. An attempt is made in this chapter to present a

survey of the literature available in India and abroad under the subheadings listed below. The studies are further grouped under national, international and arranged in a chronological sequence.

1. ICT in libraries
 2. ICT and library professionals
 3. Professional development and educational needs of library professionals.
 4. Thesis
 5. Reviews
- 1) Information Communication Technology in Libraries

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. Information is now published both electronically and by print making it accessible to users according to their demands. It is important to assess the ICT applications in library and information centres in the 19 context of changing user needs. This section includes studies related to the application of ICT in libraries both in India and abroad.

Vespry and Kitiyadisai (1992)¹ survey the application of information technology (IT) among academic libraries in Thailand. The survey shows that Librarians are generally aware of the role of IT in libraries and keen to automate their library services. It also shows that the speed of IT implementation in academic libraries depend to a large extent on administrators support.

Muirhead (1993)² reports the results of a survey, funded by the British Library, Research and Development Department, of systems librarian posts in UK libraries. Survey include 503 UK public, academic and other libraries to determine the activities of systems librarians and the nature of the employing organizations. The survey findings concern what systems librarians actually do, the kinds of stress they are exposed to, and the rewards of the job. As IT penetrates further into LIS the extent to which the applications of IT fall within the systems librarians' purview was an objective of the survey. This survey indicates that for a considerable majority there has been a widening of their role. Majority said they were involved in IT developments additional to managing their library housekeeping system. standard office automation, CD-ROM, PC-based

applications, and network management were among the most frequently mentioned areas.

Shiao-Feng(1993)³ reports the results of a questionnaire survey to determine the attitudes of professional academic library staff in Taiwan towards computerized library systems. Responses were collected from university libraries known to have installed computerized library systems and follow up telephone interviews were conducted. Results on comparison with those of an earlier study in the USA which related to professional academic library staff in 13 academic libraries in the Midwest, shows very little difference between the attitudes of librarians in the two countries. One of the hypotheses guiding the study was that no significant differences exist between the attitudes of librarians in Taiwan and the USA. „Student t tests of the categorizations of attitudes indicate that librarians in Taiwan are significantly more negative towards computers in general than they are about the effects on people and services. Results suggest that there is scope for improvement in the overall computerized systems environment in academic libraries in Taiwan.

Siddiqui (1997)⁴ reports the use of information technology in seven university libraries of Saudi Arabia. Questionnaires to deans of academic libraries and interviews of individual library professionals was used to get information about availability and use of information technology like computers, networks, electronic mail, online information retrieval, CD-ROMs, facsimile transmission, personal computers (PCs) and the Internet in the academic libraries. The survey also tries to determine computerized library systems, databases and services used in the libraries, the most widely used automation systems (DOBIS and MINISIS) and the numbers of online and CD-ROM databases acquired by specific libraries. The survey results show that information technologies used by the academic libraries are: automation, networks, electronic mail, online searching, CD-ROM searching, telefacsimile, and personal computers. The academic libraries are using these information technologies to provide excellent services to library users. In addition all seven academic libraries are using IT in performing their day-to-day work of processing and services.

Srivastava (1997)⁵ reports results of a questionnaire survey conducted in 22 R & D institutions in India to determine the extent of usage of IT components by library professionals and the coverage of IT in their graduate and post graduate library science programmes. IT components form an integral part of library operations and services. DOS/UNIX databases, library applications software, CDROM databases, word processing, bar coding, multimedia etc are important to library professional. The study reveals that library and information science courses must expose students and

practicing library professional to various components of IT, regularly redesigning the syllabus of LIS course to include the advancements in technology.

O'Neill (1998)⁶ examines the current status of continuing education courses in American schools of Library & Information science with special emphasis on Librarians working in collection development and acquisitions. A survey of American library schools reveals that only a small percentage of the continuing education workshops deal with technical services. Most of the continuing education workshops are technology oriented. A number of LIS schools offer semester long courses through various technologies, world wide web, satellite, videotape etc. The author suggests that LIS professionals must be more actively involved in the continuing education programmes at schools of library and information science. Tran and Gorman (1999) reports results of a survey questionnaire survey administered to 36 information professionals in Vietnamese libraries, which explores progress in the implementation of information technology (IT) in the library and information sector. It intends to discover what librarians have been doing with computers and to describe current electronic resources available in libraries. It also identifies knowledge and skills needed for the provision of electronic services. Most librarians indicate that they need to be trained in the use of computers, new IT, CD-ROMs, Internet services, etc.

Chisenga (1999)⁷ surveys the use of internet for professional development by library professionals in Sub-Saharan Africa. A survey of 47 librarians through mailed questionnaire reveals that internet and electronic mail facilities are mainly accessed at workplaces. The use of facilities for accessing E-journals, discussion groups and other web resources was quite low and in some cases nonexistent due to the shortage of computers, poor telecommunication lines and inadequate internet use skills. The study finds that the library professionals have the opinion that internet could play an important part in facilitating professional networking and sharing of information.

Ramesh Babu and Parameswaran (1999)⁸ evaluates the automation of public library and information services in and around Chennai and the attitudes of library professionals towards the application of information technology. A survey among 50 staff members in the public libraries of Chennai using questionnaires, shows their keen interest in professional development to keep pace with the trends of electronic information era. Results show that IT applications improve communication facilities and helps in enhancing technical knowledge, providing better services, improving library status, change information handling methods and reduce workload.

Ondari-Okemwa (2000)⁹ reports a study undertaken to examine the specific training needs of practising professional librarians in the Kenyan public university libraries. Two methods were used for the study. One was observing library staff in the Kenyan public university libraries at their places of work over a period of two years; the second was the use of personal interviews with the librarians. The author examines the need for continuous training of library staff in Kenya because of the rapid changes in information technology (IT). Library staff must be equipped with new techniques of handling and managing information. The training needs as evaluated from the study are Information and telecommunication technologies, evaluating and using computer hardware and software, understanding computer and information concepts, understanding systems analysis, and accessing information via the Internet, self-management skills, teamwork skills, verbal, non-verbal, and interpersonal communication skills, marketing skills, training in virtual librarianship and total quality management training.

Biddiscombe (2001)¹⁰ illustrate the Internet and IT skills that are required by information professionals in their support for learning, teaching and research within the changing context of the higher education sector in the UK and the development of managed (or virtual) learning environments. The author stresses that though IT skills, particularly in relation to the Internet are essential, some of the more basic skills that are important to the information professional should not be abandoned.

III. OBJECTIVES SCOPE AND HYPOTHESIS

1) Objectives of the Study

Investigate and calculate the impact of ICT on library and other information in reference of electronic resources, academic productivity of teachers and problems faced by researchers and Students while using electronic resources in the Amity School of Engineering & Technology Library in Amity University Haryana.

2) Scope and Limitation of Study

The proposed study will cover the impact of IT in libraries from its basic level. In other words the endeavor to study all electromechanical equipments tools and techniques in various housekeeping activities and user services, which are being applied in automation of the libraries of Amity School of Engineering & Technology-Amity University, Haryana for study.

3) Hypotheses

Hypothesis design deals with the establishment a relationship between variables and set up a basis of

measurement. The major hypotheses of the proposed dissertation are:

- To Find out E-Resources are available in the Amity School of Engineering & Technology Library.
- To Find out E-Resources are available in the Amity School of Engineering & Technology Library.
- E-Database are available in the Amity School of Engineering & Technology Library

IV. RESEARCH METHODOLOGY

The questionnaire method was used for the present study to Amity School of Engineering and Technology-Amity University Haryana collect the necessary primary data for evaluation and assessment. The questionnaire method has some limitation to collect the data, hence the investigator adopted interview and observation methods were used to collect required information to supplement to the questionnaire method and to bring more clarity to the data. It is not feasible to collect large of number data all department of Amity School of Engineering and Technology-Amity University Haryana library user in their study; therefore samples were selected by using stratified random sampling method. Hence Investigator has selected seven departments of Amity School of Engineering and Technology Library fully automated by e-granthalaya library automation software of Amity School of Engineering & Technology-Amity University Haryana, have Web-OPAC facility and each Library has their own Library Blog/Website. The questionnaires were distributed personally among librarians and user.

V. WHY I.T. REQUIRED FOR LIBRARIES

After 1950, large data in the form of books and other printed material has been shaped, which has resulted into exponential evolution of information. There is now information pollution instead of information Explosion. The libraries have found it very hard to acquire, organize and circulate the information in traditional ways. So libraries are forced to plan, organize and communicate the huge information according to the needs of users with the help of I.T the information is no longer confined to books and document in the custody of individual or educational institutions, now it has embraced audio-visual, multimedia with color motion and three dimensions features etc. Application of modern technology viz computer and communication are bringing all these to the doorstep of the people. Creation of database is the foremost step in application of IT in libraries. For creation of the database, library has to select suitable software package, keeping in mind the day to day activities of libraries viz, acquisition, Online Public Access Catalogue (OPAC), administration, indexing, abstracting, current activities

services,(CAS) and selective dissemination of information (SDI) 'etc.

To scope up with the current development, and rewarding the thirst of the users. The various issues has contributed the application of information technology in libraries are exponential growth in the information output and its usage has made it incredible to store and organize information using conservative methods. Now a day's most of the documents are available in machine-readable format therefore the application of Information technologies is necessary.

It is no longer thinkable for any library to assemble all the published information. So with the help of IT, resource sharing can be done easily. By using contemporary Information technology in the libraries, competence of the staff can be increase and better advanced services may be provided to the users.

Application of barcodes and RFID based services; libraries can satisfy maximum no of users in very short span of time. Now in libraries, it is very hard to offer, inter library credit, conversion, and preemptive services, including preparation and glossed lists, abstract bulletin board, news summaries and other information retrieval services by hand. Whereas by the help of modern Information Technology above mentioned services can be provided in a very less time

It is recognized datum that IT has brought the revolt in the field of library and information science, as we have already mentioned that all library house-keeping deeds like finding, dispensation, organization and dissemination of information services are based on computer, communication and reprographic technologies, which has facilitated the following services being provided to the users more effectively wizards.

References services, Bibliographic Services, Referral Services, Online Public Access Catalogue (OPAC), Current Awareness Services, Document Delivery Services, Selective Dissemination of Information (SDI), Barcode Base /RFID Based Services, User orientation program, In- house personal training, Resources sharing and other services.

Such facilities, being extended to the academics and library users to find their required information without any barriers, are possible only because of I.T application in library and Information centers.

VI. STATEMENTS OF THE PROBLEM

The vast quantity of information in the form of books and other printed material has been so immensely produced that the libraries find it very difficult to

acquire, arrange and process the document by the manual method to satisfy the need of students, researchers and teachers for their in depth studies in various fields of knowledge. Librarians feel the lack of staff-space and time for the better presentation communication and dissemination of information to their users. But there is a proverb that "Necessity is the mother of invention" with the invention of new technology, the problem of data collection, processing, storage and dissemination of information is properly solved. I.T has brought revolutionary changes in the concept of organization of libraries by mechanizing their house keeping activities and services.

Automation comprise of mechanization of various processes and their operation and the use of all art of mechanized devices through computer is a great gift to all kind of libraries and their users in reducing their worries and deficiencies. The different types of libraries related to higher education and research provides a wide range of information services so that it is interesting and dispensable to study how professional libraries are interacting with the factors responsible for strengthen their service and what is the future of library using information technology. In view of above situation the research problem selected for the proposed investigation is "Impact of ICT on Library and Information Services : A Case Study of Amity School of Engineering & Technology-Amity University Haryana".

VII. SUGGESTIONS

- The study shows that internet surfing is most important for user in Library so that the libraries should be well equipped with enough numbers of computer.
- Proper ICT training should be given to the library.
- Librarian should be well trained. Time duration of using ICT activity should be increased.
- Librarian should be more responsive and helpful. Printing facility should be available in the library to get print out of the articles of e journals and databases.
- As the survey has shown, In addition to access infrastructure and content having requisite skills, teachers' motivation is a critical factor in ICT adoption.
- Seminar and conferences on ICT should be held at least twice in a year to create awareness about recent advancement in Library and Information Science among the librarian.

- Librarian should be given the chance to work with ICT in library.
- In digital era library should be well equipped that all the functions can run smoothly and user can get used all enriched resources of the library.
- Library should install much faster machines for faster access.
- More online journals should be incorporated. Training and knowledge must include to spreading of awareness of students as well as faculties.
- Amity School of Engineering & Technology can motivate their staffs by providing proper salary structure.
- The last but not least there should be a promotion policy for Librarian/Assistant librarian in Amity School of Engineering & Technology-Amity University Haryana. It will boost up the moral of Librarian/Asst. Librarians and they can use and utilize their knowledge and potential towards strengthening the library system well.

VIII. CONCLUSION

This paper explains the Impact of ICT on Library and Information Services. Most of the objectives are met within the results. It is clear from the study that most of the respondents are aware and use ICT application in computer, internet surfing, laptop etc. Majority of the respondents are experienced user frequently use ICT applications in computer centre. Most common ICT activities of the respondents are surfing internet, email, chat and preparing presentations etc, main purpose of using ICT applications is to look up information, prepare presentation and electronic communication. ICT help them to better informed and stay ahead. Importance of ICT in library can be realized from ICT application catalogues and audio/visual services. ICT has a great importance in each and every sphere of life; now libraries are not left apart from the impact of ICT it dependence upon the attitude of librarian and the library professional. Thus attitude of library professional have very much importance in the context of ICT application in the library. The attitude and skill of library professional can be

REFERENCES

- [1] Vespry, H. A., & Kitiyadisai, K. (1992). Information technology in Thai academic libraries: report on a survey. *Information Development* , 8 (3), 164-171.

- [2] Muirhead, G. A. (1993). The role of the systems librarian in libraries in the United Kingdom. *Journal of Librarianship and Information Science* , 25 (3), 123-135.
- [3] Shiau, S.-Feng. (1993). Attitudes of academic library professionals towards computer-based systems in Taiwan. *Journal of Librarianship and Information Science* , 25 (3), 143-152.
- [4] Siddiqui, M. A. (1997). The use of information technology in academic libraries in Saudi Arabia. *Journal of librarianship and Information Science* , 29 (4), 195-203.
- [5] Srivastava, A. K. (1997). Survey of use of information technology by library and information professionals and its implications in library science education. In R. G. Prasher, & P. B. Mangla (Eds.), *Library and Information science: Parameters and perspectives* (Vol. I, pp. 228-239). New Delhi: Concept.
- [6] O'Neill, A. L. (1998). What's for dinner ? Continuing education after the MLIS. *Library Acquisitions : Practice and Theory* , 22 (1), 35-40.
- [7] Chisenga, J. (1999). A study of use of the Internet among library professionals in Sub-Saharan Africa. *Internet Reference Services Quarterly* , 4 (1), 37-50.
- [8] Ramesh Babu, B., & Parameswaran, R. (1999). Automation of Public Library and Information Services iin the Context of Electronic Information Era: Public Library Staff Opinion Survey. *ILA Bulletin* , 35 (1-2), 1-4.
- [9] Ondari-Okemwa, E. (2000). Training needs of practising professional librarians in the Kenyan public university libraries: a critical analysis. *Library Management* , 21 (5), 257-268.
- [10] Biddiscombe, R. (2001). The development of information professionals' needs for Internet and IT skills: experiences at the University of Birmingham. *Program* , 35 (2), 157 - 166.
- [11] Al-Qallaf, C., & Al-Azmi, H. M. (2002). Information Technology in Public Libraries in Kuwait: A First Study. *International Information and Library Review* , 289-308.
- [12] Temjen, T., & Saraf, V. (2003). Attitudes towards IT adoption : A study of library professionals in North East India. In T. A. Murthy (Ed.), *Proceedings of PLANNER 2003* (pp. 81-94). Shillong: INFLIBNET Centre, Ahmedabad
- [13] Edwards, C. V. (2004, April). How Has the Role of the Reference Librarian in Academic Libraries Changed Due to the Advancements of Electronic Media? A Master's paper for the M.S. in L.S. degree. Retrieved June15, 2009, from <http://etd.ils.unc.edu/dspace/bitstream/1901/25/1/carlaedwards.pdf>
- [14] Obioha, J. (2005). The role of ICT in information seeking and use amongst research officers in research institutes in Nigeria : The nigerian institute for oceanography & marine research institute experience. *International Information and Library Review* , 37 (4), 303-314.
- [15] Ramesh Babu, B. P., Vinayagamoorthy, & Gopalakrishnan, S. (2007). ICT Skills among Librarians in Engineering Educational Institutions in Tamil Nadu . *DESIDOC Bulletin of Information Technology* , 27 (6), 55-64.
- [16] Walmiki, R. H., & Ramakrishnegowda, C. K. (2009). ICT infrastructure in university libraries in Karnataka. *Annals of Library and information studies* , 56, 236-241.
- [17] Sivakumaren, K.S; Geetha, V.; and jeyaprakash, B., "ICT Facilities in university Libraries: A Study" (2011). *Library philosophy and Practice* (e-journal). Paper 628. <http://digitalcommons.unl.edu/libphilprac/628>
- [18] Satapthy S K and Maharana R K , ICT skills of LIS professionals in engineering institutions of Orissa, India: a case study, *Library Philosophy and Practice* (e journal, (2012), paper 627, Available at <http://digitalcommons.unl.edu/libphilprac/627> (Accessed on 26 Jun 2013).
- [19] D. T. Ademodi and E. O. Adepoju, "Computer skill among librarians in Ugo academic libraries in Ondo and Ekiti States Nigeria library philosophy and practice June 2009(1-7)." Available from www.webpages.uidaho.edu/~mbolin/ademodi-adepoju.htm. [Accessed 21st July 2014].
- [20] C. O. Ajidahun, "The training, development and education of library Manpower in information in Technology in universities in Nigeria," *World Libraries*, Vol 17, Available: <http://llojsserv.dom.edu/ojsindex.Php/worldlib/issue/view/5> [Accessed 21st July 2014], 2007.

