Chapter I

INTRODUCTION

1.1 Introduction

Libraries are service agencies organised in a systematic order to serve users. Libraries and information centres are creations of the slow and steady growth of modern civilization. The rate of growth of libraries and information centres and their use have been changing over the years. From the traditional services of lending books and other documents, libraries now offer various types of services. The emphasis of libraries and information centres has shifted from books to the feeding of information to the users. Information is a vital resource and essential ingredient in decision making. Technology is dominating every sphere of human activity. The computer application for various operations which is resulting in time saving and removal of drudgery is a great leap for mankind.

Information technology is a generic term used to denote activities relating to location, acquisition, processing, collection, organisation, storage, analysis, presentation, communication and dissemination of information using mechanical and electronic means such as computer, telecommunication and reprography. It involves the application of computers and communication technology in the task of information handling and information flow from the generation to the utilization levels.

It is restricted to systems dependent on microelectronics based on combination of computers and telecommunication technologies. Information technology is the boon for mankind. It gives accessibility to information at fingertips. There has been discussion on “Information Highways” and high tech libraries. The promising and diversified possibilities of information technology have reduced the space and time between the people, country, continent and ultimately have led to the emerging concepts “Global Society” and Global Village”.

1.2 Objectives, Scope and Limitations

The present work is a modest step in studying the need and importance of information technology in the present situation of information explosion. The thesis
examines the “Impact of Information Technology on Select Health Science Libraries and their Users”. Advent of information technology has changed the scenario of information storage and retrieval in today’s libraries. According to one school of thought the proliferation of ICT will make library professionals redundant, while others think that the technology will certainly assist the librarians/information scientists in the provision of effective library services specially, in Health Science Libraries.

In a developing country like India, cost of implementation of ICT in libraries is a matter of consideration. The start up costs of implementation of ICT in libraries may include hardware, software, licensing price as well as the cost of training employees in an unfamiliar environment.

In addition to that information technology systems require proper maintenance systems, which may include cost of engaging/hiring skilled technicians for making necessary customization as and when required.

The ability to store information in an electronic database facilitates quicker, more efficient communication. In the past, an individual would shift through stacks of paper records to retrieve data. With properly implemented technology, information can be recovered at the touch of a button.

Although information technology systems allow libraries to provide services at a faster pace, they are not without their flaws. Information technology systems are vulnerable to security breaches, particularly when they are accessible via the Internet. If appropriate measures are not in place, unauthorized individuals may access confidential data. Information may be altered, permanently destroyed or used for unsavoury purposes.

1.3 Statement of the Problem

In view of the afore said boons and perceived threats or disadvantages of implementation of Information Technology in libraries in general and that in Health Science Libraries in particular, the present study investigates the implementation of IT in select Health Science Libraries. As per the survey conducted by this researcher, there are more than 300 Health Science Libraries in the country. However, some of the best libraries amongst them have been selected for the purpose of the present study. These libraries are:
1. B. B. Dixit Library, All India Institute of Medical Sciences, New Delhi
3. National Medical Library, New Delhi
4. ICMR Library, Indian Council of Medical Research, New Delhi
5. Maulana Azad Medical College, New Delhi

The above libraries will serve as the representatives of the best libraries services being offered by Health Science Libraries in India.

1.3.1 Terms Used in the Statement of the Problem

1.3.1.1 Impact

The force or action of one object hitting another. A powerful effect that something, specially something new, has on a situation or person. (Cambridge Advanced Learner’s Dictionary and Thesaurus).

1.3.1.2 Information

The act of informing, intelligence communicated or gathered, a charge or accusation before a magistrate. (The Cambridge English Dictionary).

1.3.1.3 Technology

The practical use of Scientific knowledge in industry and everyday life. (Chamber’s 21st Century Dictionary).

1.3.1.4 Select

To choose a small number of things, or to choose by making careful decisions (the Cambridge English Dictionary).

1.3.1.5 Health

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. (WHO).

1.3.1.6 Science

The intellectual and practical activity encompassing the systematic study of the structure and behavior of the physical and natural world through observation and experiment. (Concise Oxford English Dictionary)
1.3.1.7 Libraries

(Plural of Library) A building or room containing collection of books, periodicals, and sometimes films and recorded music for use or borrowing by the public or the members of an institution. (Oxford English Dictionary).

1.3.1.8 Users

Entity that has authority to use an application, equipment, facility, process, or employs a good or service to obtain a benefit or to solve a problem, and who may or may not be the actual purchaser of the item. (www.businessdictionary.com).

1.4 Hypothesis

The following hypotheses were formulated for the study

1. Health Science Libraries being most important amongst all types are fully satisfied.

2. In view of the advent of Information & Communication Technologies (ICT), Health Science Libraries are equipped with the latest techniques of ICT.

3. Health Science appear in the priority list of the Govt. of India, it is therefore expected that most important area in the society, there should be no shortage of budget for HSLs.

4. As the subject is directly concerned with the human life, libraries make every effort to make all the resources (print and non print) available to the users of the library.

5. Users of the library (students/ faculty) being the elite class, are well aware of the information communication technologies to know what is available where.

6. The libraries somehow make the users aware of their resources through computer aided instructions (CAI), workshops etc.

1.5 Methodology

The most common research methods of data collection are: literature searches, focus groups, personal interviews, telephone surveys, mail surveys, email surveys and internet surveys. However in the present study, the following method has been employed for collection of authentic information:

1. Information provided in brochures of Health Science Libraries.
2. The information collected through the websites of the libraries.
3. Through a questionnaire designed for the purpose.
4. Personal interviews with users and library staff.
5. The bulletins, proceedings and reports published by the libraries.

1.6 Data Analysis and Presentation
The data collected was analyzed and presented into tabular form. The main purpose was to draw inferences and prove/disprove the hypotheses and fulfill the objectives of the study.

1.7 Standard Used for Bibliographic References
For providing the bibliographic references, American Psychological Association (APA, 2001) format has been followed. Some examples are given as under.


1.8 Outline of the Study
The present study has been presented in seven chapters. The first chapter is the introduction entailing the preamble, objectives, scope and limitations, statement of the problem, terms used in the statement of the problem, hypotheses, methodology, data analysis and presentation, standard used for bibliographic references and outline of the study. The second chapter deals with the review of related literature.

The third chapter deals with definition, need, importance and historical developments of computers and information technology. Objectives and components of information technology has been discussed in this chapter. The application of information technology in libraries specially, in the areas of in house operations such as acquisition, management, classification and cataloguing, circulation and in services like OPAC and information services has also been the part of this chapter. Security devices used in libraries has also been included in this chapter.
Chapter fourth covers the various library software packages that are available for automation. The chapter also provides the details of the modules of each software package and their utilities for different kinds of libraries.

Chapter V deals with the health science libraries using information technology in information processing and its retrieval. Here some of the specialised health science libraries have been covered. The libraries of AIIMS, NIHFW, ICMR, NML and Maulana Azad Medical College make the contents of this chapter.

Chapter VI interprets the data, which was collected from health science libraries for the study. This chapter also provide tables and graphs for further study.

Chapter VII provides major findings and recommendations needed for improving the library services. This chapter also provide the conclusion and discusses the future of health science libraries and information processing and its dissemination.
References


Chapter-II

Review of Related Literature
2.1 Introduction

A literature review provides a glimpse of the already published materials on the research topic under purview and gives a literal revisit to the pertinent studies that have been under taken so far. It is a coherent aggregation of different studies usually having an organisational pattern and accumulates summary, methodology and finding/conclusion of the studies. A literature review recapitulates the important issues concerning or confronting a research scholar during his/her research journey. It may give a new interpretation of old research materials or combine old with the new findings or it may trace out the intellectual progression in a given field. The literature review may evaluate the sources used and advise the researcher to take emphasis on the fruitful and pertinent resources on the topic of his/her research. The review of pertinent studies is a major constituent of almost all projects and research work, acting as a foundation for whole building of their progression.

2.2 Review of Related Literature

PAL (1980) states the present position of medical libraries in Uttar Pradesh with staff and financial position and existing library facilities with special reference to K.G. Medical College Library, Lucknow. Point out unsatisfactory services due to inadequate library staff and finance. Suggest different essential services and measures to give satisfactory library services to the medical community in the state.

Agarwal (1980) surveys the existing biomedical libraries and their services in India. Refers to the role of National Medical Library in India and suggests that a network of biomedical libraries should be formed with National Medical Library taking the leading role. He also examines existing medical libraries in USA. Refers to the various services of National Library of Medicine (NLM), the network operating there, various databases like MEDLINE, TOXLINE, CHEMLINE etc. Also mentions various services of NLM which can be availed by the developing countries without any charge. He also describes recent developments in the biomedical librarianship in India.
Khan (1980) describes MEDLARS which is world’s most heavily used biomedical bibliographical database. Also mentions about MeSH, its indexing vocabulary. Lancaster’s evaluation study of the MEDLARS has been extensively referred which lead to the revision of the indexing vocabulary and introduction of many more changes in MEDLARS. Compare MeSH, a controlled vocabulary, with the natural language, based on titles of papers. Mention that the system was working at 58% recall and 50% precision ratio during 1966-67.

Rangachar (1981), attempts to present the efforts in bibliographical control of scientific literature output in India with particular reference to Medical literature. He presents findings of the medical literature analysis in the Indian Science Abstract (ISA) for the year 1978.

Kumar (1982) describes the term involved. Mention the objectives, importance and types of health science libraries. He identified the categories of users. Describe the methods to determine information needs. He describes the information needs of physicians. He makes a plea for developing expertise in the area of users in the area of user’s survey.

Jotwani and Mehta (1996) highlight the need for a national information network which could contribute significantly to the national effort of achieving health for all by 2000 AD. They describe the role of National Medical Library (NML), World Health Organisation - Southeast Asia Regional Office (WHO SEARO), and Medical Library Association of India in setting up of a network of Health Science Literature. The support provided by NML with the help of WHO SEARO in the form of equipment and training to HELLIS network into a computer communication network a future plan of action is outlined.

Saxena and Srivastava (1998) Highlight some of the important library software packages. These software packages have been evaluated by the authors. Parameters selected for evaluation of software packages include facilities provided, hardware requirements, operating systems and language of software development. The authors conclude that selection of software be made according to the size of libraries.

Shariful Islam and Nazmul Islam (2006) Describe that the effectiveness of library services depend upon the ICT. Attempts to explore the gradual advancement
of modern technologies in libraries, Identifies various components of ICT which are being used in libraries. Indicate reasons to use computer technologies in libraries. Highlight the functions, impact and challenges of ICT based library system.

Gulam Rasul and Sahu (2011) Measures the impact of information technology on quality of service. Determines how far the library has succeeded in delivering such service to users. Understands the status of information technology supported resources and services. Highlight the impact of IT on library services. Also identifies the user expectations of quality services and gaps in perceived quality services. Recommend how to improve the level of quality services.

Singh and Garg (2002) Provides an overview of reprography as an inseparable part of information centres and libraries. Provide a brief historical development of reprography. Show the increase in use of reprographic service in Indian libraries. The awareness, use and impact of photocopying facility is discussed. Highlight the selection of photocopying machine as per the requirement of library. Also finds the role of Government and institutional policies for use and awareness of Xerox technology. Mention the problems and impact of Xerox technology on users. Recommends global resource sharing using IT based digital Xeroxing and interactive communication network.

Har kaur and Sharda (2010) Elaborate how technological innovations have led to the improved information management and library services. ICT have changed the information seeking behaviour of the users and services being provided by the librarians. Describe the changing pattern from print document to electronic form. Identifies how information needs have been changed during different interval of time. Highlight the changes in information seeking behaviour and needs of medical professionals and librarians. Discuss the problem faced by users in electronic information system. Also emphasises the role of technological innovations in improving library services.

Satija (2013) Describe the nature, importance and functions of information. Identify the properties of information. Enumerate various physical, economic, political and social properties and functions. Information has become a great and inexhaustible resource in national development. Discuss the role of information in living. Information needs knowledge for its effective application. Emphasise information literacy is instrumental in empowering citizens in this complex and sophisticated social world.
Singh and Nazim (2008) Highlights the impact of information technology and role of libraries in the age of information and knowledge societies. Discuss the problems faced by library and information centres and achievements over the years using modern information technologies. Identify the emergence of information and knowledge societies. Point out the problems and opportunities facing libraries in India. Discuss the different stages of development of information society. Emphasise the role of Indian Government in using the information technology in information society.

Talab and Tajafari (2012) Describes the impact of information and communication technology on library staff training. Identify and compare the impact of ICT on training of library human resources. Identify that library staff believe that introduction of ICT in libraries has created a need for training. Library staff has perceived the effect of ICT on their training needs more than their Indian counterparts. Concludes that university libraries have to get their library staff trained in ICT. Emphasise the effect of ICT on training needs.

Munnolli (2009) Discuss the advent of computer and communication technologies, particularly with regards to biomedical and health science information systems in India. New publishing models, open access concepts and institutional repositories in the delivery of biological and health science information have also been discussed. Highlight the usage trend towards electronic information formats. Identify various challenges of medical librarians and the organisations that are specialised in training individuals for medical librarianship. Summarizes on few resources those are providing health science information and overall scenario of health science librarianship in India.

Ramana and Rao (2003) Study the use of information technology in central university libraries of India. Identify that the central university libraries in India are currently at various stages of advancement in the use of information technology. Presents the results of a research study conducted through a questionnaire the use of information technology in central university libraries. Describe the library collection, current periodicals, library staff, users, budget and infrastructural facilities available in central university libraries in India. Discuss planning approaches adopted for IT implementation, persons involved, selection criteria of library automation software
and problems faced in library automation. Summarize the current trends and future planning related to IT application in central university libraries in India.

Narang and Kailash: Study the creation of health sciences thesis institutional model at AIIMS, New Delhi. Discuss the major concerns to put raw information into useful knowledge. Theses and dissertations largely constitute unrevealed and hidden information. Highlight the infusion of the technology the contents are reaching the global recipient. Summarize that it is enhancing readership, quality research, minimizing duplication of efforts and much more. All the theses and dissertation are created electronically. It is essential to device such an information system model through which information flows everywhere with just a click of button. Health science demands real time delivery of information to the right sources at right places.

Munnolli (2013) Study the health science information system in India through librarian’s point of view. Discuss the advent of computer and communication technologies, particularly with regards to biomedical and health science information have opened up exciting possibilities to intervene and influence the control of several diseases. New publishing models, open access concepts and institutional repositories in delivery of biological and health science information have been discussed. Access to quality health information for clinicians and scientists, have become more strenuous because of enormous growth of information gateways. An attempt has been made to identify various challenges of medical librarians and the organisations that are specialized in training individuals for medical librarianship. Summarises on few resources those are providing health science information and overall scenario of health science librarianship in India.

Singh and Chand (2011) Study the use of e-resources in B. B. Dixit library (AIIMS). Traditional library resources are being replaced by electronic resources at a very fast pace. Libraries have no option without adopting these e-resources to meet the requirements of information seekers. Highlight the various electronic resources like OPAC, CD-ROM databases, e-journals, Cochrane database, pubmed and ERMED. The study show that the users are aware of e-resources. Maximum users shown their preference to use only e-resources and also found the fast, positive and better results. Deals with evolution and implication of e-resources, specially e-journals in medical sciences. Also highlights the emerging trends of digital resources available in B. B. Dixit library and their users.
References


