CHAPTER - I

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1.1 Introduction:

Eversince man started to record information and store it for future use, the form of information recording, storage and maintenance and channel for its usage underwent drastic challenges. The invention of paper and printing multiplied the diffusion of information. The present technological developments have made a great impact on information recording, storage and usage. Further, telecommunication has made tremendous revolution in information handling. These changes are influencing the very structure of library and Information Centers. To recall the words of Veilex Robert a French Philosopher of the future "Electronic technology is on the verge of changing Society as profoundly as the invention of printing. Printing multiplied the diffusion of information in society, electronics makes possible a great diffusion in real time." He further states it takes a couple of decades for people to get accustomed to a major invention but by the turn of the century. "Telematique will have taken hold, consumption of paper fall drastically as people communicate electronically; books will become deluxe items that people buy to show, they are cultivated, much as leather bound edition are to-day".
Seligman Lawrence said "I can see the technology improving to the point where in twenty years something the size of a book, perhaps could be inserted in a small video disks and read from the display".

F.W.Lanchaster uses the term "Paperless Society" and he foresees that the present hard copies of book will be replaced totally by the electronic media.

Landau described a "library in desk" as the executive type of desk that incorporates two modules, one a computer terminal and micro film reader. The terminal is potentially connectable to any on-line retrieval system through a normal telephone system.

Thus, from the time invention of printing to the present age of electronics, variety of information storage and transmission media have found their ways and have helped to preserve and transfer the culture, tradition, wisdom and knowledge from generation to generation.

University Libraries acquired different types of information sources for conservation and preservation of knowledge. They are primarily categorised primarily non-print and non print media. The print medias includes books, pamphlets, manuscripts, maps, prints and plans. Non-print
media includes microfilms microfiche, microcards, slides, films, filmstrips, video discs video tapes, audiodiscs, audio tapes, magnetic tapes and discs, micro, mini and mainframe computers and all the electronic and optical technology based equipment. These information technologies have made greater impact on libraries and Information centers. Also these have influenced and improved the library systems. It is true that the technological advances have made greater impact on libraries and have changed the total scenario of libraries drastically, particularly in developed countries, but developing countries like India have their own limitations in harnessing the use of Information Technology. The Investigator therefore contended to know the state of art of the use of various information technologies in University Libraries in our country.

1.2 Need for the Present Study:

India as a developing country is striving to march towards progress. It has its place in the world map and has made commendable progress in certain areas like food, space technology, atomic energy and so on.

Several agencies including World Bank have recognized the way that the country is moving. In the field of education and research too, India has achieved tremendously.
Many universities and institutions of higher learning not only entered into collaboration at national level but also at international level. Information transfer in these sectors has indeed cut across the geographical boundary. Many libraries in universities and other institutions of higher learning and research have equipped with good libraries. Some have good collection; some are attempting to modernize their operations. Some of the libraries in universities and other institutions of higher learning transition from traditional to modernization. In the process, many libraries are facing different kinds of problems. There exists no detailed account of the state of university libraries and their problems in modernizing their collection and services. Though some studies have been made by few scholars they are either restricted to particular region or few selected libraries attached to research oriented institutions. Hence, the need is felt to study in detail the technologies used in University libraries in information collection, storages and dissemination and the problems relating to their acquisition, use and maintenance.
1.3 The Statement of the Problem.

The present problem of study is envisaged under the title "Use of Information Technology in University Libraries in India: a study".

1.4 Definition of Concepts.

i) Information Technology.

According to Avram, Information technology means the collection, storage, processing, dissemination and use of information. It is not confined to hardware and software but acknowledges the importance of man and the goals he sets for this technology, the volumes employed in making these choices, the assessment criterion used to technology and he is being enriched by it.

According to Burns Information technology connates an assemblage of technologies. They particularly cover the computer’s capability to store and process information, known as information processing and telecommunication technology, it is capable of transmitting information to distances.

Zorkoczy, peter has discussed information technology from four different view points, viz; of society, economics, technology and the individual first and says that common
element of information technology is the concept and volume of information. Further he mentions the four features which affect the quality of information. These are:

1. Accuracy
2. Content (the breadth/scope)
3. Recency (updateness); and
4. Frequency of presentation.

Among these 'content' ranks first followed by 'accuracy' and 'recency'. However, in the present context the term information technology is used to include three important segments of technologies viz - (i) Information storage technologies; (ii) Information transmission technologies; (iii) Both information storage technologies and information transmission technologies. The information storage technologies include printed documents, microforms and audio-visual materials. The transmission technologies include - radio, telephone, television (cable and broadcasting), telex, Fax, E-mail, on-line etc. Both information storage and transmission technologies include video, video-discs, video text and computer.
(ii) University Library

In ancient times, universities were unitary and residential institutions of study in limited fields and subjects. In the medieval period, universities covered a few more subjects. Today, the modern universities have developed vast multitudes of subjects of study and research. The modern university is a place where it is not merely education that is imparted to the student; an all-round moulding of the student's character is attempted at the modern university.

According to K.S. Deshapande\textsuperscript{33} University Libraries serve as resources for teaching, learning, publication and research programmes of institutions of higher learning.

According to Srivasatava and Verma\textsuperscript{123} "A University library is a heart of the university which circulates the life blood through the arteries of the university body by dissemination of knowledge through improved method of communication of information to its clientele".

In the present context, the term university libraries refers to the libraries attached to universities established under central, provincial state Act and recognized by the University Grant Commission under Section 2 (f) and 12 (B),
and Deemed-to-be-Universities recognized by the UGC under section 3.

1.5 Objectives of the study:

Following are the objectives of the present study:

1. To know different technologies available in university libraries in India;

2. To find out variety of technologies used for information storage, viz, microforms, audio visual materials and such other storage technologies;

3. To know the availability of different types of computers in university libraries;

4. To find out different library software packages used in libraries - in house, commercial or otherwise other softwares from different agencies;

5. To know CD-ROM databases, Fax, E-Mail and Internet facilitates available in libraries;

6. To assess the use of different technologies in libraries;

7. To identify problems related to procurement and use of various technologies;
8. To identify the type of users using these technologies and their performance about the usage of these technologies;

9. To assess the acceptance of the use of technologies in libraries by library staff;

10. To know the training and orientation facilities provided to library staff and users of these technologies;

11. To find out the promotional activities if any for use of technologies both by users and library staff;

12. To know the charges if any levied by the libraries for services provided to users using modern technologies, such as Fax, e-mail, on-line search etc.; and

13. To find out special incentives introduced if any to motivate the staff and users to promote adoption and use of information technologies.

1.6. Hypotheses

Following are some of the hypotheses of the present study:
1) Higher education set up in our country is largely restricted to class room lectures and hence libraries have not got the importance what they deserve;

2) Inadequate financial resources have slowed down the move to switch over from traditional methods and the techniques to modern equipment and methods;

3) Large number of libraries suffer from inadequate trained staff to handle, to maintain and to put the available technologies into proper use;

4) Hardly any library has initiated in house training for its staff, so as to enable them to handle available technologies properly;

5) There are very few opportunities for librarians to move outside and undergo training programs conducted by outside agencies and institutions. Further, such training programs organized by outside agencies hardly suit to the requirements of parent institution and hence the rare opportunity sought by librarians goes without proper use;

6) Hardly any library has continuous orientation programs for users made them familiarized with the newer technologies and to accomplish fullest use of technologies made available in libraries.
7) Hardly any promotional activity is initiated by libraries to create an environment of awareness both among users and library staff;

8) There exists inadequate physical facilities such as - proper space, furniture and such other materials providing necessary and conducive environment for maintaining available technologies; and

9) Different university libraries have different computer configurations and softwares and hence it is hard to adopt a uniform system/procedure.

1.7. Scope of the Study:

The present study attempts to cover the use of information technologies in all university libraries in India. It includes Central Universities, State Universities, Agriculture Universities, Deemed to be Universities and Institution of National Importance. The scope of the study limits to information technologies of three kinds, viz - information storage technologies, information transmission technologies and both information storage and transmission technologies.
1.8 Methodology:

To start with, the researcher began literature search and collected select documents on the topic of research and related fields. For this purpose, LISA database was used as primary source of information. Other reference sources consulted include 'Bibliography of Doctoral Dissertations accepted by Indian Universities' published by Association of Indian Universities, 'Bibliography of Research in Library and Information science in India. Comp by Pathak and L.S. Ramaih, 'Research in Library and Information Science in India: A Bibliography of Ph.D, M.Phil and M.L.I.Sc Dissertations' comp by P.S.G. Kumar et al. and 'University News' published by Association of Indian Universities. Having studied the literature on computer application to libraries/library automation, information technologies and such other related topics, a state of art of current developments was prepared. This helped the researcher to understand the concept in the problem area and its related fields.

In the next step, primary data relating to the problem were collected from University Libraries in India. For this purpose a questionnaire was designed. After a pre-test, these questionnaires were sent to 213 University Libraries. Necessary follow up was done and in response 112 libraries
sent back the filled in questionnaires. The data in these 112 filled in questionnaires was analyzed and presented in the form of report. In designing questionnaire and in interpreting the data analysed, the objectives of the study were always kept in mind. Based on the primary data and the analysis, certain findings were drawn. A brief summary of these findings are given in the succeeding sections. In analyzing the data and in presentation, suitable statistical techniques have been followed. To make the presentation simple and clear, statistical graphs, tables and figures have been used.

1.9. Organisation of Study.

Chapter-1 introduces the topic of research, explains its need and significance. It gives meaning and definition of concepts related to topic of research. It also includes objectives of the study, its hypotheses, the scope and limitations and methodologies adopted for collection, analysis and the presentation of data.

Chapter 2 gives a state of art of the studies carried on by scholars in the field and related fields. It covers different aspects of information technologies, automation of library operation such as acquisition, circulation, serial control, computerized catalogue, on-line services etc. It
also includes studies on different technologies such as FAX, E-Mail etc and their use in libraries. The emphasis is given on the studies carried on in India. However, attempts are made to include few selected studies relating to libraries in other countries too.

Chapter 3 presents an overview of the growth and development of university libraries in India. It also presents the present status of libraries and their collection and services.

Chapter 4 gives an account of various information technologies. These are grouped into three categories - viz, information storage technologies, information transmission technologies, and both information storage and information transmission technologies. These include microforms, audiovisual materials, CD-ROM, radio, telephone, television (cable and broadcasting), video, video text, video recordings, E-mail, video disc, the computer floppy, computer discs and computers themselves. It also gives a brief information about different library softwares available in India as well as in other countries.

Chapter 5 presents results of primary data relating to various information technologies used in different libraries
in India. The data presented is analysed and interpreted in the light of objectives and hypotheses.

**Chapter 6** being a conclusion chapter, important findings of the study are listed. It also gives some constructive suggestions in the form of recommendations for harnessing the use of information technologies in all libraries to meet the forthcoming challenges.

Bibliography of references is listed at the end.