CHAPTER- 2

REVIEW OF LITERATURE

In this chapter the focus is on the scanned literature on Application of Information Technology in the Deemed University Libraries in Maharashtra.

2.1 INTRODUCTION

The desirable data was collected from different books as well as journal articles, which was treated as a basis for the study.

Review of relevant literature is an important step for any research. After formulating research problem, the process of reviewing the related literature was started.

One of the basic information sources for finding out in the subject of library and information science is a bibliography. Many bibliographies are available for this purpose. AIU (1997) (Association of Indian Universities) published the bibliography of PhDs dissertations in social sciences can be a basis material in this regard. All the bibliographies published through AIU form 1980 to till this year. In support to this, the bibliography of research in library and information science in India compiled by Vijay Pathak, L.S. Ramaiah (1986) and P.S.G. Kumar (1987) were scanned as they have covered research conducted at M.Lib.I.Sc. and Ph.D Level.

INFLIBNET website also searched for the relevant database for research, and it was found that no any research has been done on application of information technology in the deemed university libraries in Maharashtra.

In addition to this research, researcher reviewed few books and large number of research articles. Starting from definitional analysis, users study, university libraries, collection development, library services, library manpower, furniture, library building, Budget, Library automation etc. which gave guidelines of the researcher for developing questionnaire as well as for analyzing data.
2.2 DEFINITIONAL ANALYSIS

2.2.1 INFORMATION

The word “Information” was used for the first time in 1958 in place of document. It was a wide term in comparison with document. The term became very popular soon. Information is a collection of data that communicates some meaning.

Concise Oxford English Dictionary (2007) defines Information, “Facts or knowledge provided or learned”.

Krishna K.N. & Singh Neena (2006) the author stated that, the output of information has been increased much faster now, are compared to the last five decades but their retrieval is comparatively less as compared to users’ needs. There is need to bring out drastic change in their conventional print media in to digital form irrespective of time, space and cost factors.

Borse T.R. (2001). The author stated about the close relationship between information and information technology. It explains a basic mechanism of different devices of information technology and cannotes how they are useful to store, process and retrieve the information. He also states the present status of information technology in Indian universities.

Cambridge International Dictionary of English (1996) defines Information as, “Information is knowledge about something especially facts and news”.

Webster, Noah (1978) defines Information as, “an Informing or being, informed; especially, a telling or being told of something”.

2.2.2 INFORMATION TECHNOLOGY

Today, information is an essential part of every one’s daily life. In order to ensure better standards of living, people use information more intensively in their daily activities. Thus information is required in every phase and every walk of life. It is the result of human urges. Thus the availability of right information for the right users at right time and in right cost becomes all the more vital. It means that the use of information should be done properly. But the proper use of information is only possible when the information is processed in a professional way by implementation
of various new types of technologies, some can be reached easily to the needy users. Technology which is used in information handling is called Information Technology.

In its strictest sense “Information Technology” is the new science of collection, storing, processing and transmitting information.

Sharma Nishi (2011) state that the,’ information technology is a concomitant for promoting the growth and development of economy’.

Pravin K.Kumar (2011) quoted that “Information Technology has changed the mode of publication of traditional sources of information”.

Sivnumaran K.S., B Jayaprakash, S.Gopalkrishnan & V. Geetha (2011) point of view that ‘Information technology as the application of computers and other technologies to the acquisition, organization, storage, retrieval and dissemination of information.

Niran Adetoro and Christopher N Kiko (2009) stated “Information Technology utilization in academic institutions of learning can act as a catalyst for staff productivity and a means of improving institutional services. IT use has gained global prominence as one of the key tools for the actualization of organizational objectives. Further he stated that , ‘IT refers to the acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information by micro-electronic based combination of computer and telecommunication.

Sahu (2008) Librarian Glossary defines IT as “A development of information sources handled by computer and communication by electronic channels; database can thus be accessed telephone and television links and computer output can be transmitted in an electronic format directly to a remote receiver”

Sahu (2008) San Diego State University defines Information Technology as “Information Technology includes matters concerned with the furtherance of computer science and technology, design, development, installation and implementation of information systems and applications”

Sahu (2008) Kathleen Guinee Wrote, described Information Technology as “By Information Technology, I mean the tools we use to perform calculations, to store
and manipulate text, and to communicate. Some of these twentieth century tools include; the adding machine, slide rule, and calculator for performing calculations, the typewriter and word processor for processing text, and the telephone, radio and television for communication”.

Kasirao V., Sheeladeri K. & Ramesh babu (2006). Information technology is the effective tool for compact storage, easy retrieval and speedy access to information in library and information centers. The developed country adopts quickly the new methods of information technology. The paper presents one such a study which has been carried out by surveying and IT among academic and corporate sector library and information centers in and around Chennai.

According to Ebijuwa and To Anyakoha (2005), ICT as a tool used for collection, process, storage, transmission and dissemination of Information.

Ali Amjad (2004). The term information technology is manipulated in many ways, Macmillan Dictionary of Information technology defines it as ‘acquisitions, processing, storage and dissemination of vocal, verbal, pictorial, textual and numerical information by microelectronic-based combination of computer and telecommunications’.

Jitendra Ahirrao (2003), defined the information technology as “The Information Technology is a combination of information science, computer science, communication and management science”.

Khode Subhash & Dhar Upinder (2003) in this paper author describes how information technology tools such as internet, networking and electronic publishing are helpful in successful implementation of the five lows of library science.

Kaur Amritpal & Nandan Naresh (2000) they discuss the impact of new and emerging information technologies on Bhai Gurudas library Gurunanak Dev University, Amritsar, provides current status of Computerization of library activities. Again they mention about future plans of BGL regarding library automation.

R.Vohra and Davarpanah .M.R. (2000) discussed current status of IT Application in Punjab University Library and described the information technology
infrastructure and areas of IT application in library. Also the various problems the library is facing in the IT application have been emphasized.

Nithyanandam K (2000) defined the work information technology, its components, potentials, advantages and problems of IT. Further R.Vengan, S.Ganesan, T. Anandan (2000) they have discussed the re-organization of these automation of research documents, networking campus libraries, proposals to digitize by using the available information technology and finally to create virtual reality situation.

Mallikarjun Angadi & Mattaya Koganuramath (2001). Stated that the recent great strides in technology present tremendous opportunities for human development, but achieving that potential depends on now technology is being used. The fusion of computing and communications, especially through Internet, has broken the bound of cost, time and distances launching an era of global information networking that led to exponential growth of literature in all fields and social work is no exception to it.

Ojha (1995). Basically ‘Information Technology’ is tools and applications support through which or by means of which information is transferred, recorded, edited, stored manipulated and disseminated.

Ishvari Corea (1993) Stated about the Information Technology as “Covering all aspects of the art or science of processing data to produce of information”.

According to Gopinaath (1984). Information Technology connotes an ensemble of technologies. They particularly cover the computer capability to store and process information known as information processing and telecommunication technology which are capable of transmitting information to distance.

Kulesh Kumar state in his article the meaning of Information Technology “The Information Technology term is consisted of by two separate terms, i.e. Information and Technology. These two terms used together have acquired special meaning and interpretation during 1990’s. It is only recently that the term has been used as a collective term for the whole spectrum of technologies providing the ways and means to acquire, store, transmit, retrieve and process information in library and information service field.
According to ALA Glossary, Information technology is the application of computer and other technologies to the acquisition, organization, storage, retrieval and dissemination in information. In fact fusion of information science and technology has given birth to a new discipline called Information Technology.

In the Encyclopedia of Information and Library science, which is edited by Ishvari Corea, the Information technology is stated as, ‘Covering all aspects of the art or science of processing data to produce of information’.

San Diego State University defines Information technology as, ‘Information technology includes matter concerned with the furtherance of computer science and technology, design, development, installation and implementation of information systems and applications’.

The Webster’s New Encyclopedia, describe IT, “The Information technology is the collective term for the various technologies involved in the processing and transmission of information. They include computing, telecommunication and microelectronics.

According to Rowley Opines “Information technology means the collection, storage, processing, dissemination and use of information. Thus we can define information technology as those processes and technologies which are used in acquisition and dissemination of information based on some electronic technology.

Somewhere has stated “Information technology has resulted from a convergence of computing technology and communication technology. Thus information technology is the application of a wide variety of electronic technologies to the information handling activities.

In the Domain of Library and Information services, Information technology is meant for the use or application of various technologies such as computer, telecommunications, word processing, micrographic, reprographics, video recording and other electronic devices for the storage, retrieval, reproduction and dissemination of information in a library environment.

According to UNESCO, IT is ‘ Scientific technology and engineering disciplines and the management techniques used in information handling and
processing their application, computer and their interaction with men and machines associated social, economic and cultural matters’.

Thus the term Information Technology is the collective term for the various technologies involved in processing and transmission of information. They include computing, telecommunication and microelectronics. Whereas Information Technology is a development of information sources handled by computers and communicated by electronic channels, databases can thus be accessed by telephone and television channels and computer output can be transmitted in a electronic format directly to a remote receiver.

2.2.3 INFORMATION TECHNOLOGY AND ITS APPLICATIONS

The application of information technology in libraries has brought tremendous changes in the library services. The library provides information access to its users through its print and electronic resources; routine and computer aided services, resources, sharing and document delivery.

Rupali S. Sharnangat, Shinde P. A., Ingale R.N. (2013) stated that “the present era is predominantly called information age or era of knowledge explosion”. Information technology has come to say as an indefensible tool for library operations and services. In the present era, information arena is witness to an exciting, overabundance of technological advances which have to a great extent been responsible for immeasurable enhancement in human knowledge. Again they defined the term of information technology as, “information technology is the use of computers and software to manage information.

In the research Sinha Kamla (2005) state that, future challenges in the field of library and information science. Again he wrote, the LIS education which is the child of the modern library, now face the challenge of a new environment which is itself a product of new roots appearing new information technologies, new information professions and service, again the author state that reference librarians need to examine these changes, trying to understand how they affect the relationship between librarian and client, and the client’s interaction with sources of information.
Munshi (2006) she states that, a computerized library offers new challenges to an emerging breed of digital librarians, as well as it is used for several purposes in academic libraries.

Vyas, K.N. Grover and V.K.Kawatra P.S. (2005) explained, the information technology will play a vital role in the 21st century. There is a sure indication that the conventional paper based document. Again they state, new technology will encourage the advent of research project wider in scope than at present, a trend towards more collaborative research, and greater cumulation of research findings than at present innovations such an electronic mail or computerized library catalogues make information available at low cost and over great distance.

S.Seetharaman (2003) has stated the same reason of why libraries apply technology? In coping with the present atmosphere.

R.Vora and M.R. Davarpanah (2000) discussed current status of IT application in Punjab University Library and described the information technology infrastructure and areas of IT application in library. Also the various problems the library is facing in the IT application have been emphasized.

N. Suryanarayana (1999) , C.Pradeep, P Ganesh and E Rama Reddy (1999) raised the issues related to the role of academic libraries also offers few IT applications in academic libraries also offers few things to manage the IT use in academic libraries and noted the change in academic libraries.

In another research work K.Tata Rao and others (1997) and Nithyanandam (2000) have noted the influence of emerging technology on academic libraries and how technology can be adopted in academic libraries and its impact and some suggestions have been made for future academic library services.

N.Suryanarayana (1999) and C.Pradeep, P Ganesh, E. Rama Reddy (1999) raised the issues related to the role of academic libraries also offers few IT applications in academic libraries also offers few things to manage the IT use in academic libraries and noted the change in academic libraries.

Mukesh Saikia (1997) extended his study and noted the impact of information technology in Tezpur University library and drawn some suggestions.

J. Arora and Sharanpal Kaur (1992) explore that intermediator including librarians and information and information scientists should channelize their resources to promote the direct interaction between the users and information bank. T.Viswanathan (1991) has suggested the technology to implement emerging technologies in library. He has further suggested that libraries and IT to cope with the rapidly multiplying literature and its demand all over the world.

Haravu and others (1991) was reported that computer application for library and information work in a corporate R &D centre in India.


2.2.4 LIBRARIES AND COMPUTERS

The entries of computer in libraries were in the decade of 1950s. At that time the cost of software is very high. After the decade of 1950s the prices of hardware and software are reduced as a result computerized services started. In the year 1960 first time ‘American Chemical Society’ published a journal of chemical citation with the help of computer. In the 1980 computer communication network started, with the help of micro computer.

The different studies which have been carried out, very few studies can be termed as critical analysis of computerized libraries in India. Sharma Prahlad (2005) state that, the role of computer in library automation and needs of computer use in library. Mrs. Dalve Daya (2003) examined the nature and pattern of e- resources on digital libraries and its related aspects.

According to EFY report (2003) by the electronic media we can one set to replace paper book in near future. Suzie Allard (2002) stated in the research work the
digital library as the new way of carrying out the functions of libraries encompassing new types of information resources.

Mrs. Kamble Veena (2003) in her research work defines the process of digitization and digital library. Kamaiah and Anuradha (2000) have explained the significance of the concept and birth of virtual library. It has proved to be a great help in the virtual library of 21st century academic library. R.P.S. Dhaka and Kamlesh Aroara (1995) they both have mentioned that the importance of computers in library field and they describe the picture of a modern library. Dr.Seva Singh (1990) describe that, in India the library and information field and some libraries and research organizations have introduced computer system to automate their functions.

In the other research work J.N. Sharma (1989) pointed out the importance of electronic computers and also the other items of the new information technology. It has revolutionized library operations and services. S. Dutt (1987) has mentioned that the advent of computers have changed the librarians attitude towards libraries day to day routine. He explained the basic of computers for librarians and the need of computers.

2.2.5 UNIVERSITY LIBRARY

A University library is the heart of a University. Dr.Shankar Dayal Sharma, late President of India, while inaugurating the Eight World Book Fair on 5th February 1988 in New Delhi, said, “A library is more important than a University, because a library can function without a university whereas a university cannot function without a library”.

The University Library serves as a vital link in the chain between research and practice. It remains the centre of all academic activities of the university. It remains more than a library, a laboratory or a workshop. The well organized and properly administered university library serves as an invaluable aid in the conservation of knowledge and ideas by acquiring and processing reading material. It serves as an active force in the teaching and research programmes through direct assistance to the faculty members, research scholars and students. A quality education is impossible without a good library. So the university libraries have a varied role in higher education.
The value of libraries in higher education has been emphasized in various commission reports.

Calcutta University Commission (1917-19) told that “It is right and proper that the university should provide great libraries and great laboratories for research with great scholars to direct them”.

The University Grant Committee (United Kingdom) report (1921) stressed about the university library as, “The character and efficiency of a university may be gauged by its treatment of its central organ the library. We regard the fullest provision for library maintenance as the primary and most vital need in the equipment of a university is mainly a question of learning how to use the tools and if the library tools are not there how can the students learn to use them”.

Thomas Parry (1967) the University Grants Committee Report of United Kingdom (1921) by adding a statement that, ‘this is as true today after forty five years as it was when it was written”.

University Education Commission (1948-49) Realizing the efficiency of libraries in higher education programmes, the education commission of India, under the Chairmanship of Dr.S.R.Ranganathan report aptly describes the place of library in higher education. The library is the heart of all the university’s work, directly so as regards its research work and indirectly as regards its educational work which derives its life from research work. Scientific research needs a library as well as its laboratories while for humanities research, the library is both library and laboratory.

Both for humanistic and scientific studies, a first class library is essential in a university.

Truman’s Commission (1948-49) says about the University libraries as, “the library is second only to the instructional staff in its importance for higher quality instructions and research.

Kothari Commission Report (1964-66) suggested that, “No new university, college or department should be set up without taking into account its library needs in terms of staff, books, journals, space etc. Nothing could be more damaging to a growing department than to neglect its library or to give it a low priority. On the
contrary, the library should be an important centre of attraction on the college or university campus”.

Paul Buck’s (1964) famous observations about the university library referred to as his ‘credo’ are worth mentioning here-

a. The library is the heart of education.

b. Methods and fashion in education change from generation to generation, but each generation uses the library as a means of realizing its terms, hence the library remains the great conservator of learning.

c. A quality education is impossible without a quality library.

d. You can’t have quality faculty without a quality library.

e. A library is vital to proper exploitation of our intellectual resources.

f. The library is essential to maintenance of free access to ideas, and to the functioning of the untrammeled mind.

According the Gelfand (1968) “the fundamental role of the library is educational. It should not be operated as a mere store house of books attached to a reading room, but as a dynamic instrument of education. It should feed the intellect of the student, encourage the researches of the faculty, and invite all who enter its house to partake fully of its intellectual and cultural fare”.

To quote Line (1968) “the foundation of the university library is to bring together information or knowledge on the one hand and human beings on the other”.

It is understood that no system of higher education can produce better result without a strong library at its centre. Educational requirements and methods have greatly changed and broadened and both faculty and students are becoming more and more dependent on libraries.

2.2.6 DEEMED UNIVERSITIES

The UGC Act 1956 doesn’t seem to provide any clear definition of a deemed university, then also this university is different from regular universities.

The status allows full autonomy in courses, syllabus, admission and fees.
According to websites (deemeduniversitiesinindia) (2013) Deemed University is as follows.

- It is autonomous in the sense of setting its own educational agenda. (Courses, Syllabus, Teaching methodologies etc.).

- It is administratively autonomous in the sense that it does not need to abide by the rules and regulations of any other university on administrative matter.

- It can award degrees under its own name, instead of that of a university to which it is affiliated.

- It cannot be an affiliating university of the sense of allowing other institutions to affiliate themselves to it.

- It cannot be a purely teaching institution. Research has to be an integral part of its activities.

**a) Difference between Deemed and Autonomous University**

Every University will be autonomous under its constitutions subject to certain rules and regulations to be followed internally. Deemed status is granted by external legal body to each university subject to compliance of certain rule and regulations imposed by such body. Autonomous is internal and deemed is external factor.

**b) Difference between Deemed and Regular University**

The Deemed University status enables not just fully autonomy in setting course work and syllabus of those institutions and research centre, but also allows it to set its own guidelines for the admissions, fees, and instructions of the students.

The parents universities of these deemed university cannot control its administration, though the degree of deemed universities are awarded by the parent university. However may deemed universities are allowed to award degrees under their own name.

The Radhakrishnan Commission (1948) devoted a chapter on deemed university it say’s ‘During the earlier years of the nationalist movement a number of institutions of higher education’s were established independent of the government and
its support, determine to work out their own destinies in the spirit of free India. Though their difficulties and discouragement were great and the morality among them high, a few of them survived and have justified the heroic struggle they made.

The commission suggested that in order to give these institutions university status the government may consider adapting the method of creating universities by charter.

### 2.2.7 MAHARASHTRA STATE

Maharashtra is a part of western India. It is India’s third largest state by area and second largest by population. The state covers an area of 307,731 sq. kilometers. (118,816 sq m.) or 9.84 % of the total geographical area of India. It is bordered by the state of Madhya Pradesh to the north, Chhattisgarh to the east, Andhra Pradesh to the southeast, Karnataka to the south, and Goa to the southwest. The state of Gujarat lies to the northwest, with the Union territory of Dadra and Nagar Haveli sandwiched in between. The Arabian Sea makes up Maharashtra’s west coast.

Ambala Yellosa .Ed. (2009) Mumbai, the capital city of the state, is India’s largest city and the financial capital of the nation. Marathi is the official and most widely spoken language. Maharashtra is the richest state in India, contributing to 15 % of the country’s industrial output.

#### 2.2.7.1 History

In the 17 th Century, the Marathas rose under the leadership of Chhatrapati Shivaji against the Mughals who were ruling a large part of India. After the third Anglo-Maratha war, the empire ended and most of Maharashtra became part of Bombay state under a British Raj. After Indian independence, Maharashtra Samyukta Maharashtra samiti demanded unification of all Marathi speaking regions under one state. The first state reorganization committee created the current Maharashtra state on May 1, 1960. The Marathi speaking areas of Bombay state, Deccan states and Vidarbha united to form the current state.

The Nasik Gazetteer state that in 246 B.C. Maharashtra is mentioned as one of the places to which Asoka sent as embassy, and Maharashtra is recorded in a Chalukyan inscription of A.D. 580 as including three provinces and 99,000 villages.
The name Maharashtra also appeared in a 7th century inscription and in the account of a Chinese traveler, Hiuen-Tsang. In 90 A.D. Vedishri, son of the Satavahana king Satakarni, the “Lord of Dakshinapatha, wielder of the unchecked wheel of Sovereignty”, made Junnar, thirty miles north of Pune, the capital of his kingdom. In the early fourteenth century the Devgiri Yadavs were overthrown by the northern Muslim powers. Then on, the region was administered by various kingdoms called Deccan Sultanates.

2.3 USERS’ SURVEY

Bare (1966) views “Periodically it is necessary to canvas the user’s population of a library to determine whether the objectives of library are being met”.

Coover, Robert (1969) States “A determination of the needs of users is absolutely essential to the management of an information center.”

Kawatra (1985) describes in his article attitude of users, reasons for conducting user studies and findings of user studies, he gave major findings as,

- The study carried out by Kennedy, to explore the attitudes of academic librarians towards older adult users of the library. It was found that age is not necessarily a debilitative to learn in older adults.

- Chruchlands & Nedlands carried out surveys of student attitudes to their respective libraries.

UGC describes ways for promotion of reading habits and Library Association emphasizes on user education. D.N. Dutta has given practical hints for using libraries, S.R. Ranganathan has given annotation on user’s survey in his article he has further given stress on book selection, organization, function, inter-library loan, catalogue, circulation, reference service, library administration, documentation etc. It can be concluded that users are prime factor of library. Therefore, for full satisfaction of users, their requirements of needs should always be considered.

2.4 COLLECTION DEVELOPMENT

Osborn (1980) State about collection development as, “The concept of collection development, which is relatively recent terminology in library science, makes explicit that there has to be planning behind the
growth or maintenance of collections, and the collections at any given time in the future should be the result of development rather than evolution. The concept implies that collection response to changing conditions is to be a part of a predetermined, definable system of relating the collection to the community, managed by the librarian”.

Osborn further states about collection management that, it has been used synonymously with “collection development” as a comprehensive term including selection, maintenance, and the planning and policy-making functions.

Hannaford’s (1980) assertion is that “Collection development is one of the most discussed and still least well-known areas within librarianship”.

Veer (2010), State as about collection development as “Care should to taken at the time of planning of collection development policy with regards to requirements of users” Further he can be concluded that the “collection development comprises various activities such as selection, acquisition, collection management etc.”

2.4.1 BOOK SELECTION


Ranganathan (1966). Had given golden rules for book selection, which covers, “the idea is to select a book only after inspection and perusal, high character and integrity on the part of the library profession, it should be the joint responsibility of the library staff and teaching staff, save the time of the staff by eliminating time lag in book selection, judge not hastily or light-heartedly, reject not easily err on the side of selection rather than rejection”.

Dr. Ranganathan and Gopinath (1966) stated about the book selection procedure as, “In some libraries, book selection work is done at the end of financial year”. While as per UGC standards, it should be scattered throughout the year.
On the view of book selection, another most important article of Pankake (1994). It is very informative and useful. He describes the function & responsibilities of collection development, management of collection development and new issues and old ideals of collection development. It us concluded that, considering the importance and increasing cost o books, selection of proper books in existing situation is essential.

2.4.2 LIBRARY COLLECTION

Library collection contains books as well as non-book materials.

Kaula (1983) indicates about the collection development i.e. “uniform policy for building the collection including subject, scope, depth of coverage and types of materials should be enforced”.

However, R.G. Prasher (1993) describe in detailed about developing library collection form selection and acquisition of books and non-book materials to problems created in collection development in India.

2.5 LIBRARY SERVICES

In the electronic age the emergence of the Internet, particularly the WWW as a new medium of information storage and delivery, represents revolution, which would have a lasting impact on the information delivery system in the 21 century. Increasing number of publishers are using the Internet as a global way to offer their publications to the international community of scientists and technologies.

According to Singh Rupinder. (2011). providing borderless and boundless information services is called Globalization of library services. Further he states that in the context of library and information science and services, globalization signifies the application of information and communication technologies in reaching the general masses even in the remotest area of the world.

Kawatra (2005) stated that the role of a library is to provide access to its carefully planned collection. If electronic resources on the Web and Internet are treated as new media of information access and its delivery, the libraries have to play their role for selecting, evaluating, describing, annotating and providing intelligent access to electronic information available on the Web.
Chandran D. and Patil S.K.(2000). Both have discussed the use of internet resources and infrastructural requirement for networking and network based services in S.V. University and Pune University respectively.

Gaddagimath and Jange Suresh (2000). Both have concluded the future plans of the Gulbarga University Library for extending its services in a networked environment for resource sharing.

Jajoo B.H. and Ashok Jambhekar (2000). have mentioned the library services of Vikram Sarabhai Library at IIM, Ahmedabad on IAN. Further B. Ramesh Babu (2000) highlighted the recent development in OPACs namely OPAC in the west, described the features of web OPAC, its advantages, disadvantages and the system requirements for the design and development of web OPAC. In another research Satish K. Mariyappagondar and S. Jayashree (2000) both have discussed a model for implementation by way of creating profile based SDI services by e-mail also the possibilities and mechanisms for archiving the information.

Maheshwarappa B.S., N. Vijayalaxmi and P.G. Tadsad (2000). Examined the issue to be addressed and strategies to be followed for exploiting networks information resources for providing information services in Indian Libraries.

Chopra Y.L. and Bhaskar Mukherjee (2000) both have analyzed the use of IT application in the library services at the university library of RDVLL, Jabalpur analysis was based on the user profiles maintained by the university library.

In another research Shanmugam (2000) briefly discussed the idea of internet rather than the technology part of it and its advantages application to information services environments.

Shridhan S. (2000) provided an overview of the reference sources and services available in the internet. It critically examines the merits and demerits of internet based reference services. Anuradha K.T. (2000) discussed the different types of CAS available on the net and tried to provide a holistic view on offering CAS via internet by making users aware of such kind of services.
2.6 LIBRARY MANPOWER

In the AIU published bibliography, it was observed that 146 Ph.D theses accepted by different universities in India, 15 (10.24 %) were related to manpower problems in libraries. However these theses deal with the areas of the subject about job satisfaction, placement, work environment or professional manpower needs etc. further these theses consider different types of libraries.

In the state of Maharashtra, Karnataka and Himachal Pradesh Government and AICTE and NCTE the staff pattern is based on strength of students while Kerala Government and UGC guidelines are based on workload.

Further, Sewa Sing and A. Amudhavalli stated that “Academic libraries ought to be staffed with user –oriented professionals who not only understand their user community and its need, but also know learning resources. Again he stated that, manpower development is professional development i.e. the development of new competencies and skills and appropriate knowledge among the working librarians to cope up with the new situations. On this front, general and advanced level continuing education programmes should be launched on a large scale.

According to Geisler (2002) & Pandey Ravidra (2002) “HR planning is the process-including forecasting, developing and controlling by which a firm insures that it has the right number of people and the right kind of people at the right places at the right time doing work for which they are economically most useful”.

Wendell Frech (2002) & Pandey Ravindra (2002) Human Resource Planning may be defined, “as the process of assessing the organizations human resources needs in the light of organizational goals and making plans to ensure that a competent, stable work force is employed”.

According to E.M.Vetter, & Pandey Ravindra (2002) Human Resource Planning (2002) is “a process by which an organization should move from its current manpower position to its desired manpower position. Through planning, management strives to have the right number and right kind of people at the right places at the right time, doing things which result in both the organization and the individual receiving maximum long run benefit”.

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Leon C Megginson (2002) is the opinion that, human resource planning is “an integrated approach to performing the planning aspects of the personnel function in order to have a sufficient supply of adequately developed and motivated people to perform the duties and tasks required to meet organizational objectives and satisfy the individual needs and goals of organizational members”.

Jaya Kumar Jammalamdaka (1995) has conducted a research on Professional attitudes towards library computerization; a study of university and special libraries in Andhra Pradesh. He suggested that the staff attitude towards library computerization is not encouraging.

It can be concluded that, Human resources plan must incorporate the human resources needs in the light of organizational goals. That means, there should be uniform staffing pattern for university libraries in general and deemed university libraries in particular.

2.7 LIBRARY FURNITURE AND EQUIPMENT

Seetharama (1990) given guidelines for planning of furniture and equipments which covers factors of planning, items of furniture and its selection, library and office furniture, office equipments, reprography equipment, Audio-Visual aids, computer / data processing equipments etc.

AICTE (1990) has given essential and desirable norms for reader’s tables and chairs, book racks, reference shelves, periodicals stands, furniture for librarian etc.

It can be summarized that, attractive and well furnished library be helpful to attract the readers towards the library.

2.8 LIBRARY BUILDING

Seetharama (1990) given planning and guidelines about the construction of library Building. These guidelines are about space planning, internal planning, planning of library building, criteria and designing and has also given Indian standards etc. This is supposed to be significant contribution of S.Seetharama. AICTE, NCTE and UGC also had given guidelines about University Library Buildings.
Devarajan (1999) described “the library building, furniture and equipment are very important, so far as preservation of reading material and providing effective services are concerned”.

It can be summarized that, comfortable and adequate space is necessary for University Library Building.

2.9 FINANCE

Banki (1974) “Budget is a comprehensive document, containing the detailed estimates and the plans for the financial transaction to carry out its programme effectively during a fiscal period”

Wilson and Tauber suggested three ways in which librarian can prepare budgetary estimates. They are i). by comparison with past expenditure; ii) by budgeting in accordance with the work programme; and iii) by using arbitrary standards and rules.

Bavakutty (1985) states “Finance is another serious hindrance to the growth and proper functioning of libraries. The funds are quite often inadequate but unfortunately the available funds are also not always spent.

University Education commission (1948-49) The Education commission as early as 1948-49 had suggested that “there is no doubt that in most of our universities the annual grants for libraries are very inadequate.

Devarajan (1999) Emphasized in his article that “it is often found that college and University libraries continued to suffer from lack of proper financial support. Increased financial support is needed not only to meet the varied demands of their increasing users but also to meet the increase in the cost of documents.

2.9.1 BUDGETARY NORMS AND STANDARDS

Kothari commission (1964-66) Report on Education has recommended that “There is no formula for estimating with precision how much money a University should invest in its libraries.

It has been found that the expenditure on library in relation to total educational expenditure of the university has gone up from 1.88 % in 1951-52 to 4.04
% in 1960-61, by which time the grants provided by the UGC had begun to make an impact.

The University Education Commission has suggested about 6.5 % of educational budget as reasonable expenditure on libraries. But this could vary say from 6.5 % to 10 % depending on the state of development of each university library.

It may also be suggested that, as a norm, a University should spend each year about Rs. 25 for each student registered and Rs. 300 per teacher.

Khurshid Anis (1972) the recommendations of the Hunter Commission (1972) about special grants to libraries were actually the first official statement stressing the need for assistance to libraries attached to institutions of higher learning.

Indian University Commission (1902) under the chairmanship of Sir Thomas Raleigh was appointed by Lord Curzon in 1902. The commission paid special attention to the University libraries and found that, “of the present University libraries there is not much to be said. The library at Madras appears to be entirely neglected. Bombay has good collection of oriental and other books, but the library is little used by graduates and hardly at all by students. Calcutta has a library and money has been granted for the purpose of making it supplementary to other libraries in Calcutta. It is open to fellows and to persons permitted by the syndicate to use it for the purpose of library research. The Allahabad University has no library; Lahore has not a very large University Library.

Calcutta University Commission (1917-19) the commission pointed out that the majority of academic libraries did not provide open access to their collection and books could not be borrowed for home use. The general observation of the commission about the university and college libraries is that in general the libraries are quite inadequate for the needs of the students and still more for those of the teachers.

The commission was of the view that “one of the greatest weaknesses of the existing systems is the extraordinarily unimportant part which is played by the library.

Raj Committee (1982) Karnataka University suggested 20 % of university budget for libraries.
AIU Report (1986) on National policy on University libraries 10 % of total budget of university libraries.

ICAR and Agricultural University Libraries Commission (1967) headed by Dr. Dorothy Parker, suggested that “it is recommended that at least 6 % of the total annual budget of each institute or university be allowed to the library for its annual operation”.

Ranganathan (4th plan) advocated for 10 % of total university budget as library expenditure. He further stated that “per capita expenditure on university and college libraries should be Rs. 20 per student and Rs. 300 per teacher or Rs. 50 per student.

The University Education Commission (1948-49) offers strongly emphasizing the important role of libraries in education.

The commission suggested Rs 40 per student as the normal expenditure to be incurred on libraries. It this recommendation is adopted by all the Universities and the affiliated colleges the expenditure will be, in addition to what is being incurred at present, 4 % of the total budget.

The UGC (1957) appointed a library Committee in 1957, under the chairmanship of Dr. S.R.Ranganathan to look in to the conditions of the University and college libraries in India.

It is seen from the reviewed literature that, library expenditure should be in the range of 4 % to 10 % of the total institutions budget. However, with regards to library budget it should be allocated on the basis and in the range of Rs. 20 per student and 300 per teacher of Rs 50 per student.

2.10 LIBRARY AUTOMATION

Extensive use of computers in University Libraries of India is now a well known fact. Computerizing university library is a changing phenomenon to revolutionize the traditional libraries. Different studies has been carried out to analyses the status of computerization in India.

(2012) with the introduction of technology, the scenario has totally changed as today they can provide information 24 *7, crossing all the geographical boundaries. This was possible because of the use of computers and accessing the networking and consortia. Again they stated that with the fast technological developments, user’s information requirements are becoming more and more personalized so libraries are entering into a new era of using newer technology.

Reddy Y. Nagi, Ali Yakub (2006) Indira Gandhi Memorial Library, University of Hyderabad, has computerized all its in house operations and provides information technology based services over the networks to the users. In this paper author attempts to evaluate the services provided by the library in the IT environment and also find out the user satisfaction based on a questionnaire survey.

Tripathi, C.Lal and Kumar (2002) describe library automation,”Principally the use of computers, associated with magnetic tapes, disks optical disks, etc, computer based products and services I library work. Further he stated that, library automation is the- Computerization of all the housekeeping operations of the library, Operate a computerized library management system, Ingrate needs information technologies, Offer new services based on the technologies and also integrate the traditional library operation in the era, and Improve control over increased volume of work load of the library.

Shibu Ray S. and Shynu Ray S.(1999) , Devarajan (1999), Udofiaion Udofia (2001) describe library automation in cataloguing and serial control along with present scenario and the applications of information technology in the college and University libraries along with merits of application of computer to library.

Library automation can influence in various manners. Some of the areas are as fallows.

- To improve the level of information service and quality of information products.

- To fulfill such needs that cannot be achieved by manual system.

Saha Anant Lal (2002) has conducted a study on ‘Information and library network (INFLIBNET) a case study of university libraries and information centres in
Gujrat’ in Sambalpur University. He mentioned the importance of INFLIBNET center and the role of this center in automation of university libraries of India.

Amjad Ali (1995) observed that the computer has provided to be the most powerful tool for management of information. But in the Indian universities its potential has not been realized properly. Further they stated that the universities libraries have to face the challenge of computer the gap in library profession will adversely affect the overall processes of education.

In this context Haravu L.J (1993) felt that there was very little activity in the libraries of the country and that library automation in fact was conspicuous by its absence. He described library automation efforts in the country and on software development in the country for library automation and the library and information networking scene in the country.

In the same way TAV Murthy, V.S.Cholin, J.Chandraiah, Yogendra Singh, K.C. Dabas, Sew Singh, Nasib Gilli and Sheela Dabas (2003) all have discussed the library automation scene in university libraries of India discussed the problems and prospectus.

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