CHAPTER -1
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1.1. Preamble

Honorable Dr. A.P.J. Abdul Kalam, the Ex President of India is a dreamer and great visionary of "powerful and economically leading India in 2020". This dream will certainly came into reality because India is a "Young Country" as a major mass of the population belongs to age group of 25-40 years. Present era is an era of Information Technology in which it is widely accepted that "knowledge is power". To strengthen the knowledge and hence power education plays a vital role. The library has a considerable share in acquisition, processing, organization and dissemination of knowledge.

The library is a central part of educational institute. Making different types of academic transactions to support the curriculum is one of the important activities in the library. Library also helps the students community in their personality and career developments. It also tries to give the current and up to date information to students and teachers. Rare collections in the libraries are the asset of the library to promote and propagate research activities. In the modern era of information technology different information and knowledge areas are emerging out. The continuous and consistent research of different researchers also comes up with new notations of specialization at micro level. Due to fast growing and rapidly changing need of the academician, researchers and students it becomes a challenge to furnish them the relevant information. But libraries can accept this challenge by adapting information technology techniques.
The University of Pune is an internationally reputed University in Maharashtra. Established on 10th February 1949, this University is one of the five star Universities accredited by NAAC. The University has a historical background of over fifty years. The jurisdiction of Pune University is spread over the three districts of western Maharashtra viz; Pune, Ahmednagar and Nashik. The oldest college of Engineering at Pune was established in 1854. Today there are 433 (2005-06) colleges affiliated to Pune University. The university is trying to develop and cultivate the human resources through the affiliated colleges, institutions and university departments, which will satisfy the growing needs and demands of industry, business, government and research and development organizations. In this continuous process of development and cultivation, college library play a vital role of power house of knowledge.

The present study is an attempt to conduct a survey of different college libraries affiliated to Pune University in order to investigate the contribution of Information Technology towards college libraries.

1.2. Proposed Research

The libraries are having their deep roots in the ancient period. Number of attempts have been made to enrich the libraries by different persons and institutions. Now-a-days, with a rapid increase in number of readers, various subjects and specializations has created some of the problem in library administration.

Application of information technology in almost all areas and library services in particular is a global phenomena. Due to advent of information technology the form of present library setup is expected to change through automation. Advances in many technologies facilitate to
access the information in any form of any size without any geographical barriers in fraction of seconds. Worldwide library management and administration day to day demands use of various technologies. The multidimensional technological developments should also enhance the efficient and powerful functioning and administration of the library. Due to number of reasons the implementation of these technologies in all libraries is time consuming process.

In order to face changes in the global scenario and acquire a significant position on the global map, the government of India, University Grant Commission and many other organizations are making hard efforts in all directions. The fundamental objective of all the effort is to keep pace with the time and uplift various libraries dimensions to compete in the world of knowledge.

In the changing scenario of information explosion, the academicians in Pune University are also alert and keenly interested in adopting the technological changes for the benefit of information and knowledge seekers. The great social and educational visionaries have a dream that coming generations with varied background are capable to successfully compete in the world market.

The present study has been undertaken to investigate the present scenario of library system, steps towards implementation of IT future vision with special reference to colleges affiliated to Pune University. The study also covers to accumulate various problems and difficulties encountered during the period of implementation of information technology. It is expected to prepare a draft of recommendations based on the observed problems and difficulties at the end of study.
Another motivation for the study is information explosion, changing form of information, availability of information resources and its possible sharing, quantitative and qualitative growth in the published literature specialised demands of users and urge to collect the information from various sources either at far distance or at remote place which forcibly demands the use of information technology.

Therefore, the researcher selected the area of research as “Contribution of Information Technology Towards Pune University Affiliated College Libraries: A Study”.

1.3. Statement of the Problem

The present study is stated as “Contribution of Information Technology Towards Pune University Affiliated College Libraries- A Study”.

1.4 Information Technology

The present age is the age of information technology. In this modern age, information is rightly regarded as a major resource for any constructive activity. At present the information technology has become a potent force in bringing about a radical transformation in social, economic and political environment all over the world. Today society is living in a ‘cyber culture’, which is unique in itself in many ways.

Information can be defined as the recorded or communicated stock of knowledge gained by human beings through experience, observation, experimentation and other possible ways. Information has been utilised by human beings for their developments and prosperity because it is the basic ingredient to knowledge.
Due to economic liberalisation and speedy globalisation, the necessity and significance of information has increased rapidly. Liberalised economic policies have made it unavoidable to exchange idea, thoughts and products freely. As a result of globalisation, there is a uniformity all over the world either in information or in production. It has reduced the space between two places and established a connection between two nations, two continents and even two remotest parts of the globe. Previously a village was marked by the virtue of quick spread of information like wildfire. In the modern age the world is called "global village" only because of this similarity of instant transfer of information. It is possible due to highly advanced information technology.

The importance of any technology is rightly pointed out by Manfred Kochen. According to him any technology develops in three stages. In the first stage, technology enables us to do things, that we have been doing, but to do them better, cheaper and faster. In the second stage, technology provides new capabilities and enables us to do things that we had not been able to do previously and in the third stage, technology becomes an integral part of our activities, if affects the way we do things and changes our lifestyle.” (Sooryanarayana and Mudhol, 2000).

If we cast a glance upon the current global scenario, we find that the information technology has made a tremendous impact on society. The social structure has been deeply affected due to the advent of information technology. The source of power is in the hands of those who have better access to information technology. It is not an exaggeration to state that the worldwide society has been largely divided in to two sections at present those who have a ready access to information technology and those who do not have such access.
Of course, the immense growth of the information technology has made the overall situation more complex and critical. Thus there are so many challenges to be faced by every individual on all major fronts-cultural, social and even ethical. The process of globalisation has gathered greater momentum than ever before.

Economic activities have been revolutionised in the wake of information technology, which has emerged out to be a major economic resource. All financial operations have now become more transparent, more speedy and more easy. The internet has totally changed the earlier concept of business. Internet is a network of interconnected computers. The percentage of internet connectivity and the number of internet users is rising day by day. Thus it has proved itself to be one of the most powerful tools for global communication and exchange of information. No wonder, it is called a “boon for mankind”.

The telecommunication technology has thoroughly revolutionised the field of library and information services. The information technology gives accessibility to information at fingertips. It is truly a miraculous invention. In the context of libraries, the internet in particular has a key role to perform. Modern users need more and more information in the minimum possible duration. Accordingly, modern libraries are trying to provide timely access to relevant information by introducing new techniques to provide quick access to precise information.

1.5 Comprehensive definition of the key terms

Comprehensive definition of the key terms used in the title of the thesis.
1.5.1 Information

Harrods Librarian Glossary and Reference Book (2005), defines information as "An assemblage of data in a comprehensible form capable of communication. This may range from content in any format written or printed on paper, stored in electronic databases, collected on the internet etc. to the personal knowledge of the staff of an organization. As terms below demonstrate especially information engineering, information management, information science, information is a term that covers many inter-related activities, which use the skill of librarianship. Content management and knowledge management are recent manifestations of the extent of the value and power of information".

1.5.2 Technology

The Random House Dictionary of the English language (1966), defines technology as "The branch of knowledge that deals with the creation and use of technical means and their interrelation with life, society and the environment, drawing upon such subjects as industrial arts, engineering, applied science and pure science".

1.5.3 Study

The Compact Oxford Reference Dictionary (2003), defines study as "A detailed investigation and analysis of a subject or situation which requires sufficient time, attention and devotion".

1.5.4 Definition of Information Technology

UNESCO defines information technology as "The scientific, technological and engineering disciplines and the management techniques used in information handling and processing; their applications;
computers and their interaction with men and machines and associated social, economic and cultural matters” (Stokes, 1985).

Peter Zorkoczy has discussed information technology from four different view points, such as “Society, economics, technology and the individual. He says that common element of information technology is the concept and volume information. Further he mentioned the four features, which affects the quality of information, such as accuracy, content, regency, frequency of presentation” (Sooryanarayana and Mudhol, 2000).

According to ALA Glossary of Library and Information Science (1983), “Information Technology is the application of the computers and other technologies to the acquisition, organization, storage, retrieval and dissemination of information”.

According to the British Department of Industry, information technology is defined as “The acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information by a microelectronics based combination of computing and telecommunication” (Singh, 2004).

It is very clear that information technology means application of various technologies such as computer, communication, telecommunication and multimedia. Information technology is used to keep free flow of information through out the world and share the information. Hence, it is required to study the use of information technology in the area of college libraries and how the best it can be adopted to perform better services.
1.6 Importance of Information Technology

Information technology is used in industry, business, trade, transport, banking, education, entertainment, medical and other fields. Information technology has created a revolution in the transmission of messages. According to Matson and Bonski “Technology by itself, however marvelous or powerful, whatever be its potential, is cold or sterile, it will remain so, unless someone adds the ability to bring the right information to the right user at the right time. If technology is a force multiplier, the librarian can be a great force” (Rajalakshmi, 2003). Along with other developed countries of the world, developing countries like India has made significant progress in this field. The 21st century is known as the Information Technology century. Computer has become a part parcel of our daily routine. Internet has made it possible for man to easily maintain contact with the whole world. Any person in the world can use the World Wide Web. The use of modern telecommunication like telex, fax, e-mail, teleconferencing and videoconferencing has accelerated speed of man’s life. A message can be sent from one end of the earth to the other in few seconds. This kind of satellite communication has brought the countries of the world closer. The effect of information technology in man’s economic, social, political and cultural life is prominent.

According to Hanna and Harris “Information technology, if properly deployed, offers the potential to enhance the professional opportunities for librarians and the quality of service offered to clients” (Rajalakshmi, 2003).
1.7 Information Technology in Libraries

It is observed that more than last thirty years use of computers and application of information technology attracted almost all areas. In these areas high degree of efficiency with less cost is achieved through application of computer and information technology. Blaise (1986) designates the future society as “Information Society”, in which labour has been intellectualised and where employment is growing apace in the information sector of the society. These developments are due to impact of phenomenon known as “Information Explosion”. There is a need to provide fast, efficient and reliable information services through automation. On the similar line library is another potential area having impact of information technology. Since library functions are classified in two categories namely service oriented and administrated oriented. Due to increasing the large number of users, number of books, periodicals and other non printed material, demands the use of information technology for fast and less cost functioning of library. Blaise (1986) rightly pointed out that there is a need to go for automation and provide better services to users in the era of information explosion. In the present day situation, application of information technology is needed in libraries and information centres because the main reasons are information explosion, limited budget and varied needs of user community.

The computers are being used in the library house-keeping operations like acquisition, cataloguing, serial control and circulation. The use of computers in information storage and retrieval, online information retrieval, offline information retrieval, use of internet accessing global information, bar coding and resource sharing and networking reduce both time and cost. The curious knowledge seekers,
students and researchers are using e-books and e-journals. The fifth law of library science is library is a growing organism. The reading material in a library goes on increasing constantly. Modern technology has replaced the traditional catalogue by online public access catalogue. The use of this technology has made the transmission of information through various media faster.

The three elements of library are books, users and staff. The application of information technology in the process of library work makes the job of library staff easy, interesting and pleasurable. On the other hand new form of information like e-book and e-journals are being added in the collection. Information technology had created a new sensation in data handling system, which forces computerisation of libraries in our country. Next section deals with components of information technology.

1.8 Components of Information Technology

Information technology developed throughout the ages. During the period of development a continuous change has been observed in the material and techniques used for various forms of information like recording, storage, processing and communication. The present section deals with the components of information technology which are most relevant in library applications.
1.8.1 Computer Technology

The evolution of computer since last more than fifty years propagated in five generations.

1. First Generation

The computers during the period 1949-1955 were first generation computers. The first electronic computer called Electronic Numerical Integrator and Calculator (ENIAC) was designed by Eckert and Mauchly of the University of Pennsylvania in USA. The main component of the computer was Vaccum tubes. Due to which the size of the machine was very large occupied a lot of space, less reliable, slow speed, limited capacity, short life and produced a lot of heat creating maintenance problem.

2. Second Generation

The computers developed during the period 1956 to 1965 were second generation computers. It uses smaller, more reliable and faster electronic components such as transistors. They occupied less space, faster in operation, having larger storage capacity. This generation of computers also used magnetic cores for representing data in computer. The examples of second generation computers are IBM- 1401, Honey well 200 etc.

3. Third Generation

The computers developed during the period 1966 to 1975 were third generation computers. It uses Integrated Circuits due to which size of the computer was reduced, power dissipation factor was reduced. These computers were more compact, fast, less expensive, higher
memory. The best examples of this generation computers are IBM-350, IBM-370.

4. Fourth Generation

The fourth generation of computers was developed during the period 1976 to 1984. It uses Large Scale Integrated Circuits and Very Large Scale Integrated Circuits technology. The microprocessor chips like 80386, 80486 were used. The advantages of these computers were smaller in size, reduced cost, increased memory unit capacity and high speed. The example of this generation computers are super computer XMP-2, CRAY-1, SX-2 and PARAM developed by C-DAC Pune.

5. Fifth Generation

The computers developed after the year 1985 are the fifth generation computers. It uses artificial intelligence technology. This generation computers are having very high speed, different memory and hard disk storage capacities. The very advanced works viz; processing large databases, printing, desk top publications can be carried out using these computers.

1.8.1.1 Type of Computers

Computers are also classified according to the CPU speed, memory capacity, types and variety of peripherals, input, output storage device which can be attached to it, software supporting to system and cost of system. Considering the above points the types of computers are Microcomputers, Mini computers, Main frame computers, Super computers and Laptops.
In the course of generation development a significant change was observed in various characteristics of computers as discussed below.

1. Speed

It has a capacity of performing millions of instructions per second. The expression of speed now-a-days may take place in per microsecond, per nanosecond, or per pico second. Today the powerful computer can perform 8-12 millions simple arithmetic operations per second.

2. Accuracy

The another salient feature of computer is error free computational capacity. A great degree of accuracy as expected in the field of engineering, medical sciences, space science, defence, and banking etc. can easily be achieved with the help of computer.

3. Storage and Recall Capacity

The backbone for revolution through digitisation in almost all field is possible due to very large storing capacity of computer. A long period storing capacity and fast retrieval are the dignified characteristics of computers.

4. Diligence

Unlike human beings, computer has tireless computational capacity. The computer is popular for performing a task millions of times with stable speed and no delay.

5. Automation

Without human intervention, computer can perform a set of instruction till to execute stop instruction. The security, privacy and individuality are the added futures of the computers.
6. Versatility

Another reason for computer popularity is its capacity to perform a task from any field. Users can give a series of applications from a largely diversified field yet the computer can execute each application with same speed, accuracy and other future.

7. Communicability and Reliability

Computer can also provide the facility to share the information with the help of number of external devices like telephone, fax, xerox, modem etc. either Local Area Network (LAN) or Wide Area Network (WAN) or through current wi-fi technology, communication and information sharing is possible at any distance.

8. Sensitivity to Environmental Changes

The electronic technology made a great revolution in the development of computers. Computers of today are flexible and sensitive to cope up with the changes in physical, logical and environmental development.

1.8.1.2 Hardware

The physical parts of the computer is called hardware. Hardware includes Central Processing Unit (CPU), memory unit, input and output devices. With the new technological development in the hardware device of computer it is possible to enter the data through keyboard, mouse, scanner, bar code reader or verbal. The important part of the computer namely central processing unit is a powerful device in terms of speed, accuracy, memory capacity, diligence, sensitivity to environmental changes and communicability and reliability. Apart from these, CPU is flexible to share with either floppies, CDs, CD-ROM, pen drives like
other secondary storage devices. Finished and processed information can 
be made available in neat, clean and structure form with the help of 
different types of printing devices including colour printers.

1.8.1.3 Software

The softwares are classified into two parts viz; system softwares 
and application softwares. A program or set of instructions with the help 
of which we can make the hardware active is called system software. The 
system software includes operating systems i.e. MSDOS, Windows, 
UNIX, LINUX etc. and programming languages i.e. BASIC, FORTRAN, 
COBOL, PASCAL, C, C++, VISUAL BASIC, HTML, DHTML, JAVA, 
DBA, SAP and many more. A program or set of instructions with the 
help of which user can perform the desired work is called application 
software i.e. MS-OFFICE, TALLY, CORELDRAW, PHOTO SHOP etc.

1.8.2 Communication Technology

The word communication has been derived from the Latin word 
either ‘communicare’ and ‘communico’. Communication means 
exchange of information, which requires languages as well as channel. 
The primitive modes of communication were drumbeats, smoke signals, 
carrier pigeons, horse riders, light beams, lauding signals, morse code, 
brail lippy etc. Later on telegraph, telephone are used. While, now-a-days 
due to advancement in electronics the means for communication ideas 
have improved and via satellite communication i.e. internet, cellular 
phone, video conferencing etc. take place.

In the science and technology, communication means sending, 
receiving and processing of the information by electronic means. Any 
general communication systems comprises of five parts namely
information source, transmitter, channel, receiver and noise source. Communication systems are broadly classified as follows.

1. Radio Communication

   It is wireless mass communication audio media which requires antennas both at transmitting and receiving end. The messages from quite long distance can be transmitted in few seconds with the help of electromagnetic waves. HAM radio technology is another important communication technology which performs number of applications in natural disasters when all other communication technologies collapse.

2. Television

   This is an audio visual technology based on the same principle of radio technology. Live telecast and world wide broadcasting are the added features of these technologies.

3. Coaxial Cable

   Coaxial cable are usually use in connecting number of T.V. sets or computers. Due to coaxial cable transmission of very high frequency without any leakages with single cable is possible.

4. Microwave Transmission

   Microwave beams travel in a straight line and use space as transmission media. The capacity of microwave transmission is to carry 600-1800 voice channel. Now-a-days broadband transmission is affordable due to application of microwave transmission.

5. Satellite Transmission

   As the name indicates this type of communication is possible with the help of satellite. Since 1950 great revolution in communication took
place due to satellite. Microwave frequency are used, signals are received, amplified and broadcasted. The communication satellite are geo-stationery and are revolving around the earth with the speed competing to the speed of earth. Satellite based networks are more reliable, greater flexibility, providing multiple signals and 1000's of voice channels for telephone systems. It can be used for many applications like information retrieval from online database, co-operative cataloguing, teleconferencing, broadcasting on films and document transmission by fax.

6. Optical Fiber Cable

Fiber optics is light weight technology currently being used for long distance communications with a great speed. It communicates data in a digital form and is very reliable channel for communication of huge quantity of data. Fiber optic technology is a cutting edge method of transmitting information using pulses of light over great distance about 150 km. with out using repeater. The application of optical fiber communication has increased at a rapid rate since 1970. Today telephone company use optical fiber throughout there system as a backbone architecture and as the long distance connection between city phone system. Cable television companies have also began integrating fiber optic into their cable system. Local area networks, collective group of computers or computer systems connected to each other allowing for shared programmes software database uses optical fiber communication system.

The main advantage of optical fiber cable over conventional cables is that it can carry large information having widest bandwidth, attenuation of the signal is very less, smaller size, light weight, small diameter, it is
free from electrical interference resulting in noiseless communication, shock proof communication and less cost are the important feature of optical fiber.

1.8.3 Telecommunication Technology

Telecommunication refers to long distance communication. The Greek word Tele means "far off". Telecommunication can also be defined as transmission of information between remote locations by electronic means. The milestone developments in telecommunication technology includes telegraph in 1837 by American scientist Morse, telephone in 1876 by Scotish scientist Alexander Graham Bell, Radio in 1895 by Italian scientist G. Marconi, Television in 1925 by Scotman John Lagi Baired, LASER in 1960 by American Theodore Maiman.

Due to advances in telecommunication technology it's a time to call a world by global village. Some of the important telecommunication technologies having wide range of applications are as follows.

1. Telephone

It is most preferred and widely used communication system.

2. Telex

Telex is the text communication technology through which at the receiving end messages are printed. Low transmission rate is the limitation of this technology.

3. Videotext and Teletext

With the use of telecommunication link computer and software controlling system message in the video text form can be transmitted. Teletext is an improved tele type service operating at higher speed and
with more extensive character set. BBC developed this system in the year 1972.

4. Fax

   It is a text communication technology invented by Alexander Bain. Text transmitted into electrical signals through telephone received at the end. Fax machine decode the incoming signal and print it as an image on a special paper.

5. E-mail

   E-mail means electronic mail services referring to all forms of electronic transmission of letters and other textual matter. The message sent through e-mail is in the digital form. Messages type into computer is transmitted over the telephone network with the aid of mode E-mail is a paper less, faster and efficient service hence valuable in a worldwide network environment.

6. Teleconference

   The principle of teleconference is to here the subject and topic to be discussed in conference on telephone and see it in television screen. Teleconference facilitated to participate in the conference and seminar at national and international level from remote place.

7. Voice in the Free Network

   It is a newer technology that has been originated to transmit voice over data networks.

8. E-learning

   Due to e-learning it is possible to make same training and learning content for every one at different places at the same time. E-learning
technology is time and cost saving technology. It also provides room for each individual according to his learning style and space leading to better retention and comprehension.

1.8.4 Multimedia Technology

The origin of multimedia can be traced to the article “As we may think” by visionary Dr. Vannevar Bush in 1945. It was reported in this article that new kind of computer tool that should enable the user to link documents, notes, drawing, text, sketches, photograph etc. according to their needs. The mile stoning revolution in multimedia in 1985 as described by Microsoft is “the new papyrus” or “information super highway”.

Multimedia is a method of instruction that uses the computer to present the information with text, graphic, audio and video. Multimedia instructions can be delivered through Internet, CD-ROM, diskettes, LAN or company intranet. The salient advantages of multimedia are, inter active, cost effective, efficient and effective, easy to revise and update and tailored to learner needs.

1.9 Objectives of the Study

The present study has been made with certain specific well defined objectives. These objectives are related to the implementation of information technology in library. The objectives of the proposed study are as follows:

1. To identify availability of information resources and the number of library users.
2. To study various funding sources to library.
3. To examine the availability of physical and information technology related infrastructure.

4. To investigate the feasibility of information technology implementation in college libraries.

5. To ascertain the information technology skills of library staff, technical processing and identify Information Technology based library services.

6. To compare the availability and performance of different library softwares.

7. To study in detail the library house-keeping operations and the possibility of resource sharing.

8. To study the facility of internet service in the college libraries.

9. To investigate the impact of information technology on existing library services.

10. To study the attitude towards acceptability of information technology applications by librarian, library staff, users and authorities.

11. To identify the effect of information technology on management of library.

12. To point out the problems and difficulties in implementation of information technology.

1.10 Hypotheses

The present study is an attempt to examine the validity of following hypotheses:

H₀₁: Availability of information resources is same in all college libraries classified according to type of colleges, district and year of establishment.
H_{02}. Number of library users is same in all colleges classified according to type of colleges, district and year of establishment.

H_{03}. Budgetary provision, sources of funds for library development are same in all colleges classified according to type of colleges, district and year of establishment.

H_{04}. Availability of physical infrastructure for library is same for all colleges classified according to type of colleges, district and year of establishment.

H_{05}. Computer literacy, I.T. skills and Service awareness of library staff is same in all colleges classified according to type of colleges, district and year of establishment.

H_{06}. Availability of information technology infrastructure including, computer hardware, communication and telecommunication facilities are same in all college libraries classified according to type of colleges, district and year of establishment.

H_{07}. Adopted technical processing techniques and library services rendered are same in all college libraries classified according to type of colleges, district and year of establishment.

H_{08}. The availability of hardware, software, library automation in different areas, feasibility of I.T. implementation is parallel in all colleges classified according to type of colleges, district and year of establishment.

H_{09}. Availability of internet facility its use, importance and internet service providers are same in all college libraries classified according to type of colleges, district and year of establishment.
\(H_{10}\). Attitude of library users, staff and authorities regarding information technology applications is common in all colleges classified according to type of colleges, district and year of establishment.

\(H_{11}\). Impact of information technology applications in library services and management is same in all college libraries classified according to type of colleges, district and year of establishment.

\(H_{12}\). Problems faced during application of information technology are same in all college libraries classified according to type of colleges, district and year of establishment.

1.11 Scope and Limitations of the Study

The Pune University jurisdiction includes three districts viz; Pune, Ahmednagar and Nashik. In these districts various types of colleges including multi-faculty colleges are scattered in urban and rural area. The present study has wide scope covering all the aspects as above.

Out of 433 (2005-06) colleges, 224 colleges were established up to the year 2000 and those were considered for the study. The questionnaire was distributed to all the college librarians of respective colleges with a request for filling and sending the same. The 185 colleges have actually responded to the survey. The present study gives focus on college libraries of Arts, Commerce, Science, Engineering, Law, Education, Physical Education, Pharmacy and Architecture. The Management institutes are not covered in the study as this study is restricted to the affiliated colleges and not any type of institutes in Pune University.
1.12 Brief Outline of the Thesis

The thesis is organised into seven chapters. The brief outline of each chapter is as follows.

Chapter 1- Introduction

This chapter gives brief account of information technology and its components. The chapter also covers the discussion on need and significance of the study, statement of the problem, objectives, hypotheses, scope and limitations of the study.

Chapter 2- Review of Literature

The large number of researchers and academicians have so far contributed in the area of application of IT in libraries. The research articles of nationally and internationally reputed researchers are reviewed in this chapter. Large number of articles are reviewed under different groups viz; IT in academic libraries, problems in using IT in academic libraries, library management, library technology, library staff training, library professional, user training, electronic media and internet.

Chapter 3- College Library at a Glance

The present chapter includes the discussion on the concept and definition of education as well as library. It also takes into account the expansion of higher education in India. The chapter also deals with importance of college library, objectives, functions, services, user community and library staff. A discussion on national policies for development of libraries, role of UGC, need of automation and facilities in different library softwares is also included in this chapter.
Chapter 4- Influence of Information Technology on Library Automation and Networking

The discussion on history of library automation, steps and areas of automation, library networking scenario is given in this chapter. This chapter also deals with the application of recent technologies and their benefits.

Chapter 5- Research Methodology

The chapter gives detailed description about scientific approaches used in data collection, presentation and analysis.

Chapter 6- Results and Discussion

The analysis of the data collected through 185 questionnaires was carried out as overall percentage analysis of each question and sub question. The 127 cross tables of all questions and sub questions with the type of colleges, district and year of establishment were derived and the chi-square test of independence was also carried out at 5% level of significance. The analysis was carried out to test 12 hypotheses. The hypothesis wise results are discussed in this chapter. Various graphical and diagrammatical approaches are used to present the important tables.

Chapter 7- Findings, Conclusions and Suggestions

The chapter presents indepth discussion on facts findings and conclusions their on. To overcome the existing problems a list of practically feasible suggestions are also given in the chapter.