CHAPTER 1

INTRODUCTION
Digital libraries and electronic publishing are here. This is not to ignore the future. The work that is in progress today will be in production soon. Not all new projects enter the mainstream, but understanding what is happening today helps comprehension of the potential that lies ahead.

A reason that predictions are so difficult is that, at present, the technology is more mature than the uses being made of it. In the past, forecasts of basic technology have proved to be reasonably accurate. Every year, semiconductors and magnetic devices are smaller, cheaper, faster, and with greater capacity. There are good engineering reasons to expect these trends to continue for the next five or ten years. Funds are already committed for the high-speed networks that will be available in a few years time.

Predictions about the new applications that will develop have always been much less accurate. Seminal applications such as spreadsheets desk-top publishing, and web browsers emerged from obscurity with little warning. Even if no such breakthrough takes place, forecasts about how the applications will be used and the social effect of new technology are even less dependable.

A possible interpretation of the current situation is that digital libraries are at the end of an initial phase and about to begin a new one. The first phase can be thought of as a movement of traditional publications and library collections to digital networks.

Online newspapers,

Electronic versions of scientific journals,

and the conversion of historic materials
All fall into this category. Fundamentally, they see new technology to enhance established types of information. If the thinking is correct, the next phase will see new types of collections and services that have no analog in traditional media.

Library is the strongest medium for human education. For the transmission of mass education and mass awareness, library is the strongest medium. In today’s age of democracy, there is a basic change in the concept, aim and in the function of library. Today, the library has become a social agency and a institute. Modern library does not believe in particular cast, creed, or society, age, state and politics. Its doors are always open for all the people of society.

The main aim of modern library is not only to preserve the knowledge but it is also concerned with its transmission. Today a public library is the perfect center for the moral and mental development. An academic library is regarded as the heart of educational institute and a specific library is regarded as its lifeline.

The term library was first used in the Oxford English dictionary. According to it, "library may be defined as the place where the preservation, study and research of books are done." This definition of library has totally changed the actual meaning of library. Now the library has regarded as the place to enhance knowledge.

Library is a social institution in which reader came to fulfill their purpose of study and research. A perfect library is that library which can cater to the requirement of its reader relating to their study material. In today’s scientific age there are many sources to obtain knowledge. The area of publication has also become very wide in which knowledge occupies a specific place. This according to the mass communication is problem oriented.
"A building, room or set of rooms containing a collection of books for use of public or some portion of it, or for the member of the society"²

In the above definition the words like “for use of public or society” have been used which means that all the members of society should use the book.

"A Library is a public institution or establishment charged with care and collection of books and duty of making them accessible to those who require to use them."³

In words of Ranganathan there are two important function of library. first is the collection of books and second is its protection from enemy (water, fire, termite, ant, human). The next importants function of library is to make the book easily available to its reader.

"A collection of materials organized to provide physical, bibliographic and its intellectual access to a target group, with a staff that is trained to provide services and programmes related to the information needs of the target groups."⁴

In the above definition of library, human, being has been given the prime position. The ALA Glossary of library and information science contains details regarding the protection of books. It also provides work and guidance to the person employed in library.

"Library is the collection of graphics, acoustic and holistic material such as book, periodicals, newspaper, manuscripts, maps, charts, filmstrips, microfilms, phonographs, records, etc, all designed for use."⁵

Mr. Carl White in his definition has used the word ‘documents’ in place of book. Documents may be of many types, Mr. Carl also gave guidance for using documents and also how to make it available for the consumers.
By analyzing the above objective of library, it is quite clear that in the present scenario, library is the institution where the consumers come to obtain information relating to their work. The main aim of library is to provide various information and study material for research on the demands of the consumer. Thus today, the entire modern library collects different documents and makes them ready for readers. The earlier concept of library was preservation and protection of books, which now has changed into the modern concept, which is the concept of public service.

Dr. Ranganathan has regarded library as an important part of the society and also takes it as a social agency for implement of the society.

- To assemble, organize, preserve, socialize and serve all expressed thoughts embodied as manuscripts, books, periodicals, their constituent, documents, however minute and every other similar documents produced as a means, for communication and by this means,
- To help in transmission of knowledge of the earlier generation to the later once, and by this means,
- To help in communication and further building up of knowledge from generation to generation and in a similar way,
- To help in the contemporary development of knowledge without any wastage in the building of knowledge, by the unintended and purpose less repetition of effort and the consequent wastage in the research-potential of humanity; and further,
- To conserve the research time of humanity by the separation of literature search from possible research.
1. Library Science: A Historical Tour

1.1 World Scenario

Near 700 years B.C. by seeing the inscription received from Sumeria, the proof of the facts found that near about 2700, years ago from today, the library was established there the record received from there was termed as Quneiform which was made from the wet soil on the state and was prepared. Asurabnipal was the ruler of Assyria he was a learned ruler. In this rule he had started the collection of history received from Assyria and Body lone in a systematical manner. He got published the different copies of books, there were separate employees for the library. In library the books are arranged according to the subjects. In order to condition of collected books printing work was done on it. Asurabripal was called the king of Libraries.

The proof of ancient library in Alexandria can be received from the inscription found there. This library was said to be established in the year 283 B.C. The credit for the establishment of this library goes to the ruler of there Tolemi Philadeephus.

Amory ancient libraries the most important and renowned was the Skandariya library. In this library thereware near about 7 Lakh books in the form of peppyres Roles. Celimetches published the list of this library, which is known to be the first list of library. This library was dilapidated by the invasion of the foreign ruler.

There was increase in the number of primary schools in England in the 16th century along with the face that the lifestyle of the people became high. As a result of which at that time the movement of library reached new dimension and
Speed. In this way Bildayal was the first public library of London. After that two libraries were established in Warvest and Pristol. By the end of 16th century in the 50% Religious places, libraries were established and there upon they were opened for the public. Initially there were monastery libraries only. The foundation of libraries was kept in Oxford and Cambridge.8

In the 18th century by the effort of Thomas Vrelt, Vrell library was established in Paris. Here facility was provided to issue the books. Go give impetus in the rural areas to the service of libraries in the year 1817, movable libraries were started.

In the year 1850, the library movement was in full flow. As a result of which, first public library Act was passed in the same year. This was an important incident not only in the library movement in Britain but the library movement in whole world. In this year 1913 United Kingdom trust was established for the public of Ireland.

In the United Kingdom, till 17th century there was nothing sort of library movement. Here in the history of library the name of Benjamin is specially worth mentioning. He is known as the father of the American Bestwer Libraries. In 1731 he established one Library organization. In 1848 the credit of laying the foundation store of public library in Weston city goes to the government of there. Here one rich man Aendukarne gifted with both hands for the public libraries. Till 1950, the Library act was in force in all the states of there. In United States of America there are three national Libraries (I) Library of Congress (LC). (II) National Public Library of Medicine (III) Library of the Department of Agriculture.9
1.2 Indian Scenario

The progress of script in India began in the ancient period. The script of Brahmin was used to write here, which was written from left to right, apart from this, it was written in kharoshti script also. In the library of India there is no book, which has been written in Brahmi, only some epigraph has been received in this script. The religious and philosophic book like Rigveda and Upanishad, the epic like Mahabharat, Ramayana and old books like Manusmriti are also available. This proves the fact that the culture and civilization are very ancient and the people of here, took interest in reading and writing. In this way, 2000 years before the coming of argons also, the library of Indus valley civilization, from the evolution and progress point of view, till now can be divided into 6 parts.

- Pre Vedic age
- Vedic age
- Buddhist age
- Muslim age
- British age
- Freedom age.¹⁰

1.2.1 Pre Vedic age

The residents of Indus valley civilization had their own script and language. They have been expressing their views though the bark of Trees, Wooden board, Bhoj Patras and Tal Patras and in the way they also gathered written materials, which was the oldest form of modern libraries.

1.2.2 Vedic age

In the Vedic period, the Aryans had invented basic script of Brahmin and being under progress, its alphabet was prepared which was the complete form of Devanagri alphabet. The original language of Aryans was Sanskrit and Veda was their
religious book. During that period, a teacher used to have many disciples. Along with education, they used to assist their teacher in copying the books. In this way, the library of the teacher could be saved from being destroyed. The teacher of the books used to have his own library. The tradition of private library in Vedic period is still found in the houses of Vedic Brahmins.11

1.2.3 Buddhist age

The education during the Buddhist period was not the method of any public education. It was mainly confined to viharas and monasteries. The Buddhist mendicant used to stay and propagate their religion and therefore library was constructed in the monasteries. They had started keeping the documents safely, which was called as monastery library. This library was related to monasteries, temples and schools. The book was written on the Tad Patras or was inscribed on it. The remains of few ancient universities are found in India. Many travellers have written in their traclognes.

• The Library of Takshila

In the North-west province of India, Takshila was one of the famous cities today also it is famous as Takshila. This city was the capital of Gandhar province. Here, there was a famous university and along with the university there was a beautiful library. The collections of precious books of this library were spread allover. In this library, good collection of Veda, Ayurveda, Dhanurveda, Astrology, Reasoning, Magic, Grammar, Painting art, Material art, Agriculture, Trade, and Animal husbandry. In the foreign invasion towards the north-west, this library was destroyed for ever.12
• **The library of Nalanda**

The name of the huge library of Nalanda was Dharma ganj. The huge amount of collection of philosophic and religious books was divided into three parts, for the arrangement point of view. The first part was called “Ratnodadhi” and the second part was called “Ratnasagar’ and the third part was called “ratnaranjak”. The “ratnodadhi “ library of Nalanda was big center, which included up to 9 sections. There were 300 study rooms. The collected books were arranged subject wise by stone pieces in the almirah. The first person to destroy the library of Nalanda was the captain of Hunas called Mahirkul. In the year 1205 A.D. the invasion of Bakhtiar Khilji had dilapidated the condition of the library. His soldier’s burn the remaining books in order to warm the water. In this manner the knowledge preserved since 100 years was turned to ashes.

• **The library of Vikramashila**

The king of Magadha called Dharampal established this library. The got constructed the monastery of Vikamsshila on the hill. Here there were 108 small monasteries. The invaders praised this library himself. Their rooms were adorned with the art of painting. Bakthiar Khilji also destroyed this library. All these monasteries used to work as a university.

1.2.4 **Muslim age**

During the rule of Muslim rulers also the mention of many libraries have been found. In the powerful state of Ahmadnagar there was the library of Mahmud Gava. Both Mughal Emperors Babar and Humayun were the lovers of
education. It is said that Humayun fell down from the stairs of his library and died. Akbar also possessed a library in which there were near about 2500 books. Hindu kings also used to have their personal libraries.

### 1.2.5 British Age

The British rule the Britishness established Imperial library in the year 1835, in which the personal books and the collection of books received from the Ford William College by the order of Governor General. This was opened in one side of the Ford William College in the year 1841. When the “Metcalf house” was constructed in the year 1844, this library was shifted to the upper part of this building.

Lord Curzon united this library and the Calcutta library and it was named as “Imperial library”. This library has kept the most expensive book ‘Quaran’ it was printed on the gold pages in which 800 precious stones are studded. This bears 67 pearls, 132 precious stones and 109 diamonds in it. The price of it was estimated near about 6 lakh at that time. The year 1935 late Shri Asilla opened a library-training center. Late Shri Asilla was the librarian of Imperial library. In this library, there are nearly 30 lakh books at present. After independence, this library was turned into a National library. Apart from this, there is one more library of national level, which was established in the year, 1935. This library is in the Hindi Literary Conference office itself. The Father of the Nation inaugurated this library in the Year 1936.

The beginning of the library movement was from the State of Baroda and the credit goes to Sayji Rao Gaikwad. He opened a department of library in his state in the year 1910 including district library, Taluka Library, City Library and Village library.
1.2.6 Freedom age

In the First five-year plan (1951-1956) a proposal was made to set up a National Central Library at New Delhi. This was to be based on nine state libraries. This would have some sort of Networking. This plan period included a scheme for improvement of library service where in each state was to have a Central or Apex library, with district libraries and within each district. There were to be circulating libraries. The Delhi Public library with Indo UNESCO collaboration emerged during this period.

The second plans [1956-1961] suggested forming a Network and (a hierarchy) of all libraries in 320 districts of the country. The new copyrights law (or the delivery of book Act 1954) and amendment 1956 to include news papers prescribed, so that every India Publisher will gift a copy of a publication to each of the there libraries in Calcutta, Bombay and Madras. Yet another scheme was added in the plan to amal gamate Public library service in rural areas with Adult Education Program An advisory committee for libraries was set up under K.P. Sinha in 1957 to Enquire and recommend matters related of reading needs, users and public library structure in India during the third Plan (1961-1966) The Government agreed on having four National libraries in New Delhi, Calcutta, Madras and Bombay. Accordingly Delhi become the fourth depository in 1982. In the fourth Plan (1969-1947) a working group was set up under Dr. V.K.R.V. Rao to prepare programme for library development. It was in this period that the Raja Ram Mohan Roy library Foundation emerged in 1972. For the development and up liftmen of Public libraries in India. In this plan, period working group were called upon to present proposals for each five years.
Then have been the Fifth Plan (1974-1978), Sixth (1980-1985), Seventh (1985-1990), and eight (1990-1995) is on the way. Making progress during the fifth plan, the National Science library was developed as a part of INSDOC. In 1976, it was enacted. The National Library of India Act based on the Recommendation of V.S. Jha who chaired the Reviewing committee for the National library, defined the basic features of a National Library and included in its recommendations. Measures to improve working of this apex library began in 1985. A committee to draft a National Policy on library and information system worked under D.P. Chattoughdy. Under the 8 plans there is a proposal to setup a National commission on Library and Information services. It is also proposed that to stabilize An Institute of Information Science and to link, this institute with NISSAT NICNET INDONET and INFLIBNET.

Looking back on any period of time, trends and key events become apparent that were not obvious at the time. Those of us who work in digital libraries can only have a myopic view of the field, but here are some observations about how the field of digital libraries appears to an insider.

The Internet and the web mature, many organizations are making these long-term investments in library collections, electronic publications, and online services.

Consider these two years, 1997 and 1998, as typical. During this short period, many developments matured that had been in progress for several years. Online versions of newspapers reached a high quality and the level of readership of some of them began to rival the readership of printed editions. In 1997 and 1998, major scientific publications first became available online, from both commercial and society publishers.
On the technical front, products for automatic mirroring and caching reached the market, tools for web security became available, and the Java language at last became widely used. These developments were all begun in earlier years; none can be considered research, yet in aggregate they represent tremendous progress.

Electronic commerce on the Internet grew rapidly. It has become widely accepted to buy books, airline tickets, stock market investments, and automobiles through Internet transactions. The Internal Revenue Service now urges people to pay their income tax online.

No year is perfect and pessimists can point out a few worrying events. During 1997, junk electronic mail reached an annoying level. For the next few years, incremental developments similar to those in 1997 in 1998 can be expected. They can be summarized succinctly. Large numbers of energetic people are exploiting the opportunities provided by the Internet to provide new products and services.

2. Types Of Libraries

The division of library can be done in two ways

2.1 Traditional or conventional types of library

This classification of libraries is based on the available material found in library, which are traditionally arranged.

- Public Libraries
- Academic Libraries
- Special libraries
- National Libraries

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2.1.1 Public Libraries

It provides all sorts of study materials and information for all kinds of the readers belonging to different groups of society. These public libraries provide means of entertainment, knowledge and information for the local residents of the society. Its readers belong to all the groups of society. They may be students, teachers, researchers, businessmen, or housewives, it also includes people who are not much educated. Public libraries can be divided into following types.

- State Central Library
- District Library
- City Library
- Village Library

2.1.2 Special Libraries

Special libraries which came into trend due to the industrial, scientific and technical progress. During the beginning of 20 the century, all the public and educational libraries satisfied only the common readers of the society whereas special libraries provide special study material and information for special group of readers. Thus the special libraries may be defined as the libraries, which provide special short of study material and information relating to special subject matter for the particular group of readers concern to that subject matter. Special libraries may be defined under the following types.

- Govt. Library
- Libraries relating to industrial and business institutes
- Libraries relating to social institutes
2.1.3 Academic Libraries

Dr. S. Radhakrishnan, describing the ability of educational library in the report of university education commission in 1948-49, has said that Academic library is the heart of all educational institutes. As we all know that without heart, human body is dead. Similarly all educational institutes without a library are useless and thus every educational institute should have a library of its own. From which the students, teachers and researchers of the concerned institute obtained the required study materials of their subject the following are the types of academic libraries.

- School Library
- College Library
- University Library.

2.1.4 National Library

In national library, all the publication of nation are collected. It sometimes also acts as the national library. It also edits important works for information of national bibliography, collection of text and literally materials of other countries. Collection of such publications, which contain important information about that particular country including this. It also publishes information of a national importance. The establishment of this type of libraries & its branches and its work are governed by the central govt. of the country. It also acts as the copyright depository of country.

2.2 Modern age Library

Those libraries are included in the group of modern age library, which works, by adopting at least 2 modern technologies.
2.2.1 Digital Library

Digital Library is a relatively new concept. The term digital library explains the nature of its collection. Digital libraries are electronic libraries in which a large number of geographically distributed users can access the contents of large and diverse repositories of electronic objects. Electronic objects include networked Text Images, maps, sounds, videos, catalogues of merchandise, scientific, business and government datasets. A digital library is understood to have the information stored predominantly in electronic or digital medium. Digital library is expected to provide access to the digital information and collections.

The important characteristics of digital libraries are the storage of information in digital form or direct form, direct usage of communication network for accessing and obtaining information and copying by either downloading or on-line/off-line printing from a master file. 21

The main function of the librarian of a digital library is similar to that of the librarian of a conventional library that can identify select, procure, process, organize, provide access preserve and manage. 2 2 2 Virtual Libraries

Digital library and virtual libraries are not one and the same. All virtual libraries must by their very nature be electronic, but not all electronic libraries are necessary virtual libraries. Customarily, the conceded definition of a virtual library involves a set of information resources conceivable made attainable over one or more computer networks. These information resources incorporate a fusion of technologies that duly accommodate and promote the new kinds of information-seeking and information-providing behaviors that are evolving.
The earliest focal point of the virtual library was envisioned as the library's online public access catalogue (OPAC). Through the development of the Internet as the network provider, the OPAC supplied access to other libraries and in some cases to other databases, through telnet or Lynx or by using Z39.50 client/server architecture. In some academic libraries an Internet gopher was used as a front end to these "virtual reference shelves", dispensing access to library resources or to specific information resources such as dictionaries, fact books and electronic resources to anyone with access to the Internet.

Today, the World Wide Web is superceding these early implementations of the virtual library, to provide answers to basic and common library services through a virtual library. The virtual library in a public library setting is a fast paced flow of sometimes-endless amounts of information via the Internet. The key word is Internet. We probably would not be talking about this subject if not for the explosion and access to all kinds of information. Thanks to the net. Here is where the public library and the librarian have come into play. With this tidal wave of information, librarians have been called upon to make some sense of this revolution, and organize all of these options people have to access. Now because of this need for organization, the virtual library has been born. 22

References to virtual libraries, virtual technology, virtual reality and the Information Superhighway fill technology and library journals. There have been numerous speculations as to the future of libraries in light of the new technology called virtual libraries. The present problems that plague the Internet, concerning slow retrieval, costs, and content will someday be resolved in one way or another, but even then the Internet is
unlikely to pose a threat to libraries. The library will most likely remain a place where print and electronic resources remain in coexistence and depend on the intermediary role of the librarian.

**Characteristics of a virtual Library**

- *There is no corresponding physical collection*
- *Documents will be available in electronic form*
- *Documents are not stored in any one location*
- *Documents can be accessed from any workstation*
- *Documents are retrieved and delivered as and when required*
- *Effective search and browsing are available.*

3. **Development of Library science Education in India**

3.1 **Before Independence**

Baroda School: *The first ever library school was started in 1887 in U.S.A. by Melvil Dewey W.A. Baroden a disciple of Dewey initiated training in librarian in India in 1911. at Baroda to produce a cadre of professionals to man the newly established libraries in the state of Baroda.*

Panjab University: *Systematic training programme was initiated by another American librarian Asa don Dickerson at Punjab university Lahore (Now in Pakistan) He had part time apprenticeship programme in librarian ship in 1915.*

Mysore State: *A course for the training of librarians was Library development initiated by Dewan of Mysore Sir M. Vishweswaraih in 1920.*

Madras University: *The Madras University introduced a postgraduate Diploma Course in 1936.*

Banaras Hindu University: *The Banaras Hindu University Introduced a Post Graduate Diploma Course in 1942.*
3.2 After Independence

The first department of library science after independence was started in Delhi University to conduct the Post Graduate Diploma course in Library Science. An Institute of library science was established in the Delhi University in 1959.24

The Alighar Muslim University was Started First Time in the country BLSC Course in 1957.

The Government Polytechnic for Women at Ambala, Bangalore, Chandigarh, Delhi, Jullunder and Rourkela have started Post Matric Diploma Courses of Two-Year Duration in the Late 1960.

4. Objective of the present study

The present study is aimed to achieve following objectives

- To study various accessing techniques already existing.
- To study various classification and cataloguing schemes.
- To study the application of computers in libraries and study the relevant available software package.
- To study the performance and status of academic libraries in the states. & Chhattisgarh.
- To analyze the data collection and suggest some better solution.
- To suggest novel approach for preparing digital library in States of M.P. & Chhattisgarh.

5. Scope of study

The present study focuses two-way approach. Firstly, the existing techniques will be summarized for a comparison. In the secondly approach, the computerization and Internet, aspect is realized. As the study will cover many frontier areas, the scope is quite extensive. More over the research cannot be confined to a particular region; the study is quite comprehensive to benefit any
individual. The study in general includes the schemes and practices used throughout the country, but will have in depth study of those in M.P. & Chhattisgarh in particular. The academic libraries of these states will be particularly covers and the suggestions have to be offered in the light of these libraries to benefit the students, academicians and people of this state.

6. **Methodology**

   He flow of actions to be adopted will be normally as follows.

- **Literature Survey**

   The relevant literature is the backbone of the over all research. The literature is collected in consultation with experts in this area. Researchers and academicians engaged in this field will be approached for discussion. The data is searched and colleted through various libraries, books, journals, magazines etc. With the help of Internet, it will be handy to communicate with the experts at other places for their views and recommendations. The data so collected has been analyzed for comparative study.

- **Analysis of Data**

   The data colleted has been analyzed. The trades among the existing techniques will be summarized.

- **Research tools**

   Various tools for efficient research have been used. Interviews have been arranged with the library staff to collect various problems and suggestions. Questionnaire has been formed with the help of the interview.
• Study of Computer applications in libraries

The study of computer applications in the academic libraries will be an important aspect of the work. Computer professionals will be consulted and operation of packages will be exercised. Internet options will also be used whenever and wherever applicable.

• Presentation of data

Data collected and analyzed have been presented in such a manner so that any one can understand it easily.

7. Hypothesis

In order to make the study meaningful the following hypothesis has been formed to investigate the problems

(i) Library is a regarded as one of the important resource for the proper development of quality research.

(ii) Academic library at M.P. and Chhattisgarh level should be improved in digital age.
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