Introduction: Scope and Methodology
Introduction

The history of libraries goes back almost to the history of man. During this old history, the man had attempted to collect his knowledge in any possible form and preserve it in a safe place. The first form of man’s knowledge was carved and written on stones and on animals’ skin. Later on, with the use of Papyrus, he was able to preserve his knowledge conveniently and finally he made the old form of books. These books were housed in temples, churches, mosques, cathedrals, etc. as well as in palaces where kings and rulers could protect them from enemies and natural phenomena. With the need of larger places and easy accessibility to books, the idea of constructing library buildings came into existence. Initially a few library buildings were constructed and the books and other preserved material pertaining to the palaces and religious places were shifted there. With increase in the number of users and the need for better library services, these buildings were not found adequate to provide satisfactory library services. Therefore, the librarians faced serious problems, especially after the invention of the printing press that resulted in production of a large number of books. Hence, librarians with the co-operation of architects made serious efforts and finally well-organized library buildings were planned.

In the recent years, functional libraries have come up as a result of proper planning with appropriate facilities within the buildings. “Modular” planning, which provides flexibility and adaptability for different library services came into existence after the Second World War. Because of vital function of library buildings in library services as well as attracting users to the libraries, library buildings were planned as functional, effective and beautiful as possible. Convenience and comfort for users was also taken into consideration. In order to provide better library services, both librarians and architects tried to provide standards for library buildings and library equipment.

Due to development of Information Technology (IT) in recent years, librarians have also committed themselves to the use of different technological media. Various kinds of IT devices and programmes from simple personal computers up to worldwide networks are now operative in libraries. Hence, while planning library buildings, sufficient space with required electronic facilities, telephone lines etc. will have to be kept
in view. With the rapid growth of knowledge and new developments in IT, there is a definite need to provide modern facilities to all the libraries so that the link and flow of information is maintained. A library, functioning in isolation and without such facilities may not be useful for the users.

In Iran, there are various types of library buildings. The people of Iran, because of their old civilization and Islamic ideas, have committed themselves to be in service of libraries. Many well-organized and famous library buildings with modern facilities have come up to facilitate the requirements of religious studies. In spite of the need for modern university library buildings, only some of these have been constructed recently. At present, especially after the Islamic Revolution of Iran in 1979, numerous administrative and educational buildings have been constructed in the universities. Hence, it is necessary to study various aspects of university library buildings in Iran and make suitable recommendations, keeping in view the information explosion, availability of IT and changing needs of the clientele.

The Important Role of Library Buildings in Providing Suitable Library Services:

Historical documents and records reveal that libraries have mostly come into being in civilized nations. During the old history of man, libraries in various types have been emerged in civilized societies. When an intellectual or a cultivated monarch or governor has been in power, libraries as well as the intellectual people have been in favor of the rulers. Famous ancient library buildings have been mostly constructed and came into being in civilized countries. It is believed that libraries have been indispensable institutions of civilized societies. However, the need for a place to keep written records of whatever sort and in whatever form, has generally been felt in civilized societies. On the other hand, in un-civilized societies, no sign of libraries can be traced. The story of libraries reflects the social, economical, cultural, and educational needs to which libraries have responded and also point out the fact that the condition which affected societies also affected the development of their libraries.

Although libraries in the ancient times were established in palaces and religious places, yet the real libraries came into being in the universities, where the need for books
was felt more than the other parts of the society. The expansion of higher education forced universities to do some fundamental rethinking about their libraries. Library buildings were mostly built after libraries faced space problems. According to historical records, ancient libraries have been the central place for learning, teaching, discussing various ideas, dissemination of knowledge, etc. Ancient libraries had a key function in bringing the learned people together. It is also reported that some intellectuals and those interested in learning had to migrate to big cities, owning famous libraries. According to numerous historical records, library buildings had a key function in bringing the learned people and books closer.

It is said that libraries are the heart of institutions, as well as the mind of every society. Thus, library buildings are to be the heart of every university campus. Hence, university library buildings should be placed centrally in the university campus. Sociologically, people like and use to live together. Hence, the best place for the students to communicate with one another, transfer their knowledge, discuss their educational problems etc., is the library building. Moreover, library buildings can be encouraging for the students. Psychologically, students are generally encouraged to study more, while sitting in a reading hall occupied with too many students reading their textbooks. Thus, library buildings are of the immediate needs for the university students.

Generally speaking, a well-planned library building, in comparison to an ordinary non-original one, is more attractive and provides a congenial atmosphere for the library users. Various essential needs of the library users can be fulfilled in such library buildings. Users can read in isolation in carrels, read the newspapers while having a short rest, enjoy the facilities provided for them, save their time in using the suitable library services etc. Providing well-planned library buildings can also contribute to the intellectual health of the universities. On the other hand, a poor building can seriously handicap the library users. Thus, university authorities as well as the librarians and the architects should keep this in view while planning new library buildings.

Libraries have also a key function in promoting the educational level of the universities. As a matter of fact, libraries have become an integral part of the education. Providing well-planned library buildings is also very helpful to meet the educational
needs of the universities. Without libraries the process of knowledge dissemination is not efficient. It is proved that the strengths and weaknesses of the university students depend mostly on the amount of their exposure to libraries, their resources and services. Moreover, for scholars and students in the humanities and social sciences, libraries serve as basic laboratories. Libraries are also equally essential to the students of other subjects. Hence, university libraries must act as a dynamic living organism, fully responsive to changes and always provide the future needs of the users.

Being efficient, a complete and up-to-date library collection should be housed in a large and well-planned library building. Likewise, various other library services such as audiovisual services, book exhibitions, seminars, information dissemination etc., can be provided in well-planned library buildings. Planning and designing audio visual sections, computer sections, text book sections, carrels, browsing lounges, seminar rooms, group study rooms, rooms for studying private books etc., as well as the required equipment and facilities within the library buildings can provide a welcoming and attractive place for the users. On the other hand, the neglect is likely to affect the entire academic community and the educational system of the university. It is believed that there can hardly be a single university where the shortage of books and the library building, does not seriously handicap students in their courses and frustrate the teachers and scholars in their research work.

Generally speaking, universities are mostly evaluated by their libraries. Famous universities have owned large, functional library buildings too. Library buildings of famous universities of the world are as important as their universities. Providing suitable required space for the users within the library buildings has been considered as primary needs of the users in such universities. Providing libraries, as well as planning library buildings is as important as the educational system of the universities. This should be kept in view very seriously by the university authorities.

Although well-planned library buildings are helpful and have a crucial role in reaching educational objectives of the universities, yet students hesitate to visit library buildings that do not provide a convenience, congenial atmosphere and suitable library services for them. Library buildings, which contain noise and dust pollution, ventilation
and temperature problems, etc. handicap the users and they normally avoid to visit such libraries. Likewise, a library user who has to spend too much time in order to find his required library material by walking up, and coming down the floors in a poorly planned library building will lose his interest for using the library services.

Similarly when users have to spend too much time, standing in various queues for using library services they may prefer not to use the libraries any more. However, since the universities have constantly been growing in book collection and the number of students increases every year, providing the required space for the present as well as the future university libraries is a must, which should be kept in view by the library planners.

**Statement of the problem:**

Libraries have been considered as an important part of the educational system in universities. Therefore, numerous attempts have been made to provide functional libraries in the world. But in some of the Iranian universities, libraries are facing many problems. These problems are generally related to their library buildings. In other words, most of the unsatisfactory library services are usually due to non-functional library buildings. In some universities an attempt for planning functional and modern library buildings started from 1960s. Some of the present university libraries are the result of such an attempt. In spite of these attempts, because of rapid improvement of knowledge and increase in the number of publications every year, libraries have not been able to cope with their space problem. Users of such libraries are not satisfied with the library services as well as the library building facilities provided to them. Problems of the present university library buildings in Iran, as studied by the investigator of the present work, are given in the subsequent paragraphs.

While planning and designing a library building, there is an imperative requirement of close co-ordination and co-operation between the librarian and the architect. This interaction between the two will culminate into the proper functional library. But in most of the universities, the librarians have never been asked to participate as an active member of the planning and designing team of the library buildings. Moreover, some of the library consultants are neither well qualified nor experienced in
planning library buildings. In most of the cases, consultants were not even involved in the planning, designing and constructing the library buildings.

Location of the library in the university campus should be within the reach of the users. In a university campus, the central library building should be located in the heart of the campus as it would provide an easy access to the teachers as well as the students from the teaching departments and the students' hostels. But in some cases, library buildings have been constructed after the construction of administrative and teaching departments. In the cases where location of central library buildings had not been predicted in the general plan of the universities, site problems exist. Therefore, most of these libraries are not conveniently accessible to all the users.

Due to the important role of library buildings in attracting users to libraries, the external architecture of the library buildings should be made attractive. Library buildings should convey the noble thoughts of the users and the library material. These should be attractive from the aesthetic point of view also. Cultural, religious and historical background of the people and the country should also be kept in view. But these have been neglected in most of the cases in the university library buildings in Iran.

While planning university library buildings, future expansion should be kept in view. Due to increasing interests for joining the universities in Iran, increase in the number of publications and high cost of library constructions, etc. library buildings should be planned for at least 50 years. Moreover, most of the existing university library buildings in Iran were constructed more than 20 years ago. Therefore, these are not in a position to cope with the present day needs of the libraries. As a result, renovation or remodeling of the existing buildings or new constructions should be undertaken for these libraries.

Adequate lighting, air-conditioning, noise and humidity control systems are not only necessary but also very vital for university library buildings. Humidity can damage library material. Inadequate light is harmful for both users and library material. Users generally prefer to be comfortable with least noise pollution. Excessive cold, hot and dry weather is harmful for library material. Ventilation is also necessary for library buildings.
There are numerous problems pertaining to the facilities provided in the university library buildings in Iran, which have been investigated in the present study.

A well-designed and standard university library building provide a quiet, congenial, convenient, comfortable and an attractive area for users. On the other hand, standard library buildings enable the librarians to provide suitable library services for the users. But in most of the existing university library buildings, the users are not satisfied with the library services and the space allocated to them.

“Modular” planning in library buildings, because of their flexibility, adaptability and simplicity, has been carried out in many modern library buildings in the world. But some of the old university library buildings in Iran are constructed on “fixed-function” planning. With the changing circumstances, librarians in these libraries are facing numerous problems and most of the time they are confronted with space problems for new library material and users.

According to standards, space management for a smooth functioning of a library is considered very essential in every library building. These standard space and area have been reduced to the most essential space and sometimes to a stack room for library material, a reading hall and a staff room in some of the university library buildings. In the present study, space problem in the university library buildings in Iran has been examined in details.

Due to worthwhile, unique and expensive material, which is housed in university library buildings, suitable security and safety systems should be employed to protect the libraries. Library buildings are susceptible to earthquakes, floods, typhoons, fires as well as theft, etc. There have been cases of book theft and even fire in university library buildings in Iran. Protection of library material against destroying phenomena needs to be kept in view, while planning and designing library buildings. Therefore, in order to plan and design functional and safe university library buildings, the above mentioned problems have been taken care of in the present study.

An evaluation of the existing university library buildings is very necessary in order to ascertain the merits and demerits of the libraries so that suitable suggestions can be offered for planning new library buildings. Likewise, if the data about the existing
library buildings is available, then an intelligent plan, suitable for the local needs, can be
developed conveniently. For proper evaluation, most of the original university library
buildings of Iran have been examined, evaluated and investigated critically in the present
study.

**Review of the Literature:**

The review of the literature has been dealt within a chronological sequence,
wherein, first of all, literature pertaining to the library buildings has been introduced,
followed by the works pertaining to Ph.D. researches. Finally, Persian works related to
Iranian library buildings have been discussed.

Before the Second World War, architects were confronted with the use of classical
“fixed-functional” plans for constructing library buildings. But after that, a struggle for
planning functional and flexible library buildings started. Many library buildings were
constructed on modular plans, especially in the developed countries. At the same time,
many researches were undertaken for evaluating the library buildings. Selection of the
related literature, especially those pertaining to the researches carried out about university
library buildings have been enumerated in the succeeding paragraphs.

1. **Developed Countries:**

   Although, with the advances in IT equipment, new demands for planning
   university library buildings emerged, yet some of the classics in the literature are still
   useful. Although old, yet there are a number of landmarks in the literature, which are still
   useful for planning library buildings. Some of the significant literature available on the
   subject has been discussed in the following paragraphs.

   In 1911 “The American Public Library Building”, was published by Wheeler and
   Githens. It is considered as one of the first useful books on planning library buildings.
   This work is still useful for library builders. “Library Buildings for Library Service”,
   which covers broadly and competently many topics of library buildings, was also
   published by Herman H. Fussler after a few years. This work was concentrated on
   functional aspects of library buildings. In 1949 “Planning the University Library
   Buildings”, which was the result of some years of discussions by librarians, architect and
engineers, was published by John Bruchard, Charles David, and Julian Boyd. This work, which scientifically examines and explains various steps of planning library buildings, is still valuable for library planners.

In 1952 the first “Library Building Plans Institute”, was established by the Association of College and Reference Libraries’ Building Committee. The proceedings of this institute were of great value and helped the architects to plan more functional library buildings. The Second Conference of this Association was held in 1953. In the third chapter of the proceedings of the said conference entitled “A New Fangled Word for an Old Principle : Modular”, different viewpoints, of architects, and librarians about modular library buildings were discussed. Yet, according to numerous documents, Angus Snead McDonald was the originator of modular concept. He advocated the change from fixed-function to modular buildings for the first time. In 1930s he provided modules in the Library of Congress Annex. Modular library planning began in the United States just before the Second World War and then other European countries followed this new type of library planning.

In 1960, Ralph W. Ellsworth also published his worthwhile book entitled, “Planning the College and University Library Building: A Book for Campus Planners and Architects”. This book also helped the library planners to provide more functional library buildings.

In 1963 “Library Buildings of Britain and Europe: An International Study”, was published by Anthony Thompson. This book, which covers theoretical aspects of the literature, explains the details of various space of numerous library buildings as well.

In 1965 “Planning Academic and Research Library Buildings”, was published by keyes D. Metcalf. Although the book is comprehensive, detailed and scientific, yet recent technological advances in libraries have not been covered fully. The book is very heavily in use by the library planners, and considered as a reference book for theoretical studies.

Ernest J. Recce, Verner W. Clapp, Ralph Ellsworth, Robert Sommer, Alvin Toffler and some other library planners also provided a competent review of trends in library buildings later. Psychological and sociological aspects of the library users, which
can affect planning library buildings were studied by the said experts. The impact of IT on library services as well as the future library buildings has also been studied by them.

Ralph E. Ellsworth (1973) made a survey of a few academic library buildings. He explained the merits and demerits of the buildings and highlighted the functional area and space. Ellsworth wrote his experiences and research findings in his book entitled, "Academic Library Buildings: A Guide to Architectural Issue and Solutions". The book that is accompanied with numerous photographs from different parts of the library buildings is one of the best works about university library buildings.

T. John Metz (1987), in collaboration with some other collaborators, in a study entitled, "Library Design Revisited: What Works-What Does Not", studied the facilities provided by planning and constructing some new library buildings in the United States of America. They investigated merits and demerits of the newly constructed library buildings and highlighted those design features that have worked well. They also studied six library renovation projects and suggested methods facilitate the design process. Experiences of the said investigators and also the findings of the study are quite worthwhile for library planners.

While some librarians believe that library consultants do not play an important role in planning and constructing library buildings, other librarians and university authorities believe that an experienced library consultant can reduce the time and cost of construction; and also improve the quality of the library building. L. A. Brock (1988) believes that a good consultant is very effective in planning a well-planned library building. He has explained in details the criteria and process for choosing an efficient library consultant.

Well-planned and functional library buildings can be constructed only if a librarian joins the team of planning the library buildings. Suchitra Dutt (1989) explains the role of librarians in helping the architects for planning functional library buildings. She concludes that the librarians must take keen interest in the planning of their libraries, otherwise they won't have functional and well-planned library buildings. In some other attempts, D.C. Weber (1990) and Margaret Beckman (1990) studied the cost of construction of university library buildings. They studied the source of funding, the
technical complexity of design, affecting the overall size and cost of construction of university library buildings. They concluded that providing well-planned library buildings consisting of future needs, facility for equipment for the new technology and enough space needed depends largely on how the money is spent during the construction process.

Development of technological media has raised new needs in planning library buildings. They have influenced on the form and the shape of library buildings as well as the space needed for housing equipment for the new technology. J.K. Lucker (1992) believes that reading rooms of 21st century libraries will be decreased and the number and complexity of technological facilities will be increased. He has explained the current state of library buildings and their future developments. He concludes that in planning new library buildings, future needs should be kept in view, otherwise libraries won't be able to offer library services satisfactory.

Sebright Terence Fay (1994), in a study entitled “Planning College Library Buildings for Information Technology: Case Studies of Four Small Colleges”, concluded that the use of a consultant to prepare the building plan is of vital importance. Therefore, when the planning and designing of the library building is being carried out, it is essential to ensure that all aspects of a functional library are incorporated. Therefore, an experienced librarian should join as a part of this process.

Architectural and interior design of library buildings were studied and discussed by Elain Cohen (1994). He explained the process of planning and constructing library buildings. He has emphasized the role of planning team constituted for the construction of well-planned library buildings. He also advocates the requirement of modern library buildings, that emerge due to advancement of information technology all over the world in the recent years.

Some librarians face the dilemma, whether it is more economical and beneficial to construct a new library building or to renovate, remodel or add to the existing library building. Bette Lee Fox (1995), along with some other collaborators, made a survey about the cost for some library buildings for five years. Conclusions of the study reveal that it is more economical to renovate old library buildings rather than the new constructions, where expansion is possible.
Experiences of other library planners and library consultants can be very useful for those who want to plan new library buildings. Michael Brawne (1997) and some other famous library planners have explained their experiences of the latest library buildings that they had planned. They have discussed planning of space in modern library buildings. They have also emphasized the impact of Information Technology on design and plans of library buildings in the near future. The book, which is quite up to date, has evaluated almost 40 well-planned library buildings in different countries.

Some library planners believe because of the advances in IT, especially the facility that has been provided for better library services, the need for library buildings has been changed dramatically. Gloria Rohmann (2000) and many other experts believe that the existing university libraries are in a transition stage, heading towards digital libraries. Thus, library buildings should be planned according to the changing needs of libraries. They also believe that since more and more people are acquiring the computers and they can access to the library holdings from their residence, there is no need to build library buildings any more.

2. Developing Countries:

Due to the significance of the prevailing problem, university library buildings have been examined in some of the developing countries too. Yet a systematic study has not been carried out in most of the developing countries. A selected literature from some of the developing countries has been presented below.

Rajwant Singh and M. L. Saini (1986) made a survey on university library buildings in India. They studied many aspects of library buildings. They believe that the improvement of functionally planned and aesthetically designed university library buildings in India depends on the establishment of the University Grants Commission (U.G.C.), which started providing funds for the library buildings. In addition to evaluating different types of space available in the present university library buildings in India, they have emphasised the need for special space and equipment for future needs.

Michale Dewe (1989) studied university Libraries of Australia and New Zealand in 1980s. He studied both new and remodeled library buildings from different architectural aspects. There are some suggestions for planning university library buildings
at the end of the study too. Similarly, J.F. De Beer (1989) studied the planning process of university library buildings in South Africa. Librarians faced numerous problems in “fixed-function” library buildings and sought for a solution. He has also emphasized on modular planning as a solution for the present problems and the future needs.

N.R. Satyanarayana (1989) believes that existing university library buildings in India are not functional. He made a study on university library buildings and concluded that library planners do not follow the famous dictum “form ever follows function”. The dictum emphasizes that the format of library buildings should be designed in such manners that it facilitates to carry out the required functions. He concludes that some of the present university library buildings in India are more imposing than functional.

R.S. Saxena (1989) conducted a survey entitled, “Academic and Special Libraries: Their Working Problems and Solutions”. He believes that the most important feature for a university library building is that it should be functional. According to him, “… the best results are obtained when a proper balance is struck between the architectural and aesthetic concepts of the architect and the operational and functional needs for the librarians.” The prevailing problems of some of the university library buildings in India were investigated and discussed by him.

3. Ph.D. Theses:

There is no denying the fact that library building assumes importance as it calls for safe place for the library material, and space management for it to become functional and provides comfort to the users. The process to design these facilities has commenced in both developed and developing countries. For evaluating the constructed library buildings, a few systematic studies for Doctoral (Ph.D.) degrees have also been made. Some of these researches are about the academic library buildings. Research in the planning and designing of academic library buildings has been prominently been undertaken in the United States, U.K. and Canada. But practically no work has been done systematically in Iran on the architectural aspects of university libraries. Some of the significant studies in this regard are discussed in the following paragraphs.

Rajwant Singh (1984), in his Ph.D. thesis submitted to the University of Rajasthan, entitled “University Library Buildings in India” has made a complete survey
on some of the university library buildings in India. He has carried out the study on different aspects of library buildings, which includes architectural aspects, site consideration, modular planning, space, equipment, furniture, cost, and the related aspects. Rajwant Singh believes that the 5th law of library science propounded by S.R. Ranganathan i.e. "Library is a Growing Organism", implies concerted work and research in collaboration with planners and architects in the area of planning library building. The entire study enumerates merits and demerits of the present university library buildings in India.

In another Ph.D. thesis, submitted to Columbia University, Lee Sangchul (1986) made a survey of the architectural aspects of some university library buildings. The study is about viewpoints of chief librarians, library building consultants and architects, on important issue in designing and planning of university library buildings. The researcher has concluded that a number of significant factors such as lack of funding, declining student enrolment, the need for energy conservation and progress in library automation have started affecting the philosophy of library building designing and planning in the recent years.

Some architects believe that only a few librarians are qualified enough to help architects in planning library buildings. But Bunn C. Dumont (1989), in his Ph.D. thesis submitted to Florida State University on the topic, "Architectural Features of Contemporary Academic Libraries: Four Case Studies", concludes that in most instances, librarians have been active participants in planning process and external consultants played an insignificant role in planning and constructing academic library buildings. The researcher examined the factors that influenced inclusion or exclusion of the architectural features of the libraries that were built during 1980 to 1987 in Southern United States.

4. In Iran:

For review of literature on the subject published in Persian language, various library catalogues and indexes have been consulted. Only a few research papers and monographs on university library buildings have been published so far, which are referred in the following paragraphs.
In 1971 a survey was launched to investigate various university libraries as well as the libraries located in other higher education institutions in Iran. In this study conducted by the governmental sector, various facilities, equipment and the space of the university library buildings were evaluated. This work, which is considered as the first study of the university libraries provides general information about the old library buildings in Iran.

Azar Nik Anjam (1973) studied the central library of Meli (Shahid Beheshti) university. Since the library building of this university was one of the first well-planned buildings in the country, various types of space of the building were investigated and explained by the researcher. The strengths and the weaknesses of the library building have also been explained by the researcher.

Gholamreza Tasbihi (1977) published a book entitled, “Library Building and Equipment”, which he explained different kinds of library buildings as well as space and equipment needed therein. He has also explained every feature of a functional library building. Although some part of the book deals with university library buildings, yet it does not cover the details, which are necessary for planning university library buildings. Keeping in view the changing needs of the society this work is considered incomplete and somewhat outdated.

Shirin Ta’avoni (1983), provided a directory for various types of libraries in Iran. A brief historical study of the university libraries as well as various other aspects of the libraries, library equipment and the general information of the space of library buildings has been studied by the researcher. Although obsolete, yet some general information about the libraries, especially university libraries, has been presented in the said study.

The other research paper published on Isfahan university library buildings, Ahmad Shabani (1994) has carried out the study with regards to the space of academic library buildings. Although the subject has not been dealt with in depth, yet different parts and space of the library buildings of Isfahan University have been examined. He believes that the space of every university library building should be determined according to educational needs of the university. According to him, increasing number of books and users every year and the old concepts of library services are some factors that affect the space management within the library buildings.
Mohammad Amin Abedi (1995) has also studied various libraries located in the city of Qom. He examined different aspects of the said libraries, including library equipment and facilities. This thesis, which is submitted to the Faculty of Education in Tehran University also examines university libraries located in Qom.

Morteza Taymori (1995) in a survey on the space of university libraries, has emphasized on the role of well-planned library buildings in providing suitable library services. This work, which was presented at the Second Seminar of the University Librarians in Iran, examines various types of space required in the university libraries.

Parviz Azem (1997) in his book entitled “Library Building and Equipment”, has brought out the requirement of different components and equipment needed for a library building. He has discussed the space, library facilities, cost of construction as well as, furniture and equipment that are used in modern library buildings. But this work is more of theoretical nature rather than a systematic research work based on the data collected through survey or any other methods of research. Moreover, the book covers all types of library buildings in general and not in particular the university library buildings in Iran.

Maryam Saleh Poor Oskuee (1999) has studied various architectural aspects of the central public library of Kerman for her thesis submitted to the Azad Islamic University in Tehran. Various architectural aspects of the existing buildings of Kerman as well as the merits and demerits of the architectural aspects of the library buildings in providing congenial and pleasant atmosphere for the library users, has been investigated by the researcher. Providing a suitable study area for the users, in order to fulfil their cultural requirements, is of the main objective of the study.

As mentioned earlier, there are a few studies available on different aspects of university library buildings in other countries, especially in developed countries. But not even a single systematic and comprehensive study on university library buildings in Iran has been made so far. The present work is aimed at filling this gap. The investigator hopes the study will assist the librarians, architects and university authorities, in the process of planning and designing functional university library buildings in Iran. The study will provide a special opportunity to prepare a unified and standard policy not only with regards to the planning and construction of new university library buildings, but also
the modification and renovation of the existing building structure of university libraries in Iran, in order to make them functional and suitable to meet the pressing needs of the society.

Objectives of the Study:

The present study proposes to achieve the following objectives:

1. To identify the general situation of university library buildings in Iran, including location, period of construction, site evaluation, number of floors, distance between the library and students' hostels as well as teaching departments; whether it was originally constructed as a library building and finally, whether expansion or remodeling of the present building is possible or not.

2. To critically examine the factors responsible for aspects of planning, designing, space management of the university library buildings in Iran, space which is open to users and the interior design of the library buildings (modular or fixed-function plan); and finally to determine whether the space provided is according to standard plans or not.

3. To ascertain various facilities and environmental equipment available in the university library buildings such as air conditioning, ventilation, cooling, heating, dust filtering, acoustic, lighting, fire extinguishing, elevators, escalators, book conveyors, lifts, as well as various types of library furniture.

4. To investigate the space and facilities predicted for use of Information Technology in the university library buildings in the near future.

5. To study the outer architectural aspects of university library buildings in Iran, including Islamic, Iranian and other kinds of architecture, and to evaluate aesthetic aspects of library buildings.

6. To ascertain the users' satisfaction from the library services in relation to library buildings and also the librarians' points of view about the present library buildings, and finally to suggest the ways and means to improve the same by planning, remodeling or renovating the existing university library buildings in Iran.
Hypotheses:

The investigator of the present study intends to test the following hypotheses in order to achieve the objectives mentioned above.

1. Only a few of the existing university library buildings in Iran were originally constructed as “Library Buildings”.

2. While planning university library buildings in Iran, only a few libraries have adopted standard plans completely.

3. There is a direct relationship between a well-planned university library building and users’ satisfaction from the library services.

4. Librarians are more satisfied with their working condition in well-planned university library buildings as compared to non-planned ones.

5. Only a few librarians have had an active participation in the planning process of the present university library buildings in Iran.

6. While planning university library buildings in Iran, future expansion has not been kept in view in most of the cases.

7. While planning university library buildings in Iran the space and facilities needed for Information Technology equipment in future have not been predicted according to the needs.

8. In spite of dire need, only a few university library buildings have been constructed in Iran during the last 20 years.

9. Modular university library buildings have a direct bearing on the space planning and providing efficient library services. Therefore, most of the newly constructed library buildings have followed it.

10. Some of the environmental equipment which is installed in university library buildings for providing air conditioning, ventilation, heating, fire extinguishing, lighting, etc. is not as per international standards and safe for the library material, library users and the staff.
Scope of the Study:

The total area of Iran is about 1,648,000 sq. km. There are 28 states in Iran. At least two government universities that are owned and financed by the central government are located in every state. The total number of these universities is 80, and many of them are located in Tehran, the capital of Iran. The government universities are classified into two groups, namely “medical” and “non-medical” universities. Although the distance between various universities is comparatively high, yet the investigator intends to visit all the central library buildings of the universities in Iran for the present study. In other words, the scope of this study consists of all the 80 government university library buildings in Iran.

Sampling:

Since the central libraries are the most important libraries in most of universities in Iran and in order to provide a unified study, central government university library buildings had been the focus for the present study. In other words, 100% university library buildings in Iran have been covered and studied. For observation of university library buildings and interview with their librarians, all of these libraries have been covered. Since the total number of registered library users is very large, in order to ascertain their satisfaction or otherwise, 255 thereof from various libraries have been covered for collection of data. “Stratified Random Sampling Technique”, has been followed for the purpose. In order to collect the viewpoints of the librarians about their library buildings, all of the libraries have been contacted to ascertain their rate of satisfaction from various space of the library buildings as well as the equipment and facilities provided.

Research Methodology:

Since some of the universities in Iran lack central libraries and some of them do not own well-planned original library buildings, their library buildings have not been covered for the present study. Hence, the total number of library buildings studied in details under the present study is 20 medical and 39 non-medical university libraries. Thus, the data has been collected from about 80% of the university libraries in Iran, with
the help of a detailed questionnaire, in order to ascertain all possible details pertaining to the university library buildings, with regard to space, architecture, site consideration, location, future needs, library equipment, users’ and librarians’ viewpoints, age and the architectural aspects of the library buildings. Simple floor plans of some of the well-planned originally constructed library buildings have been drawn. Location of different library space has been studied and finally compared with standard plans. Data collected about the library buildings as well as librarians’ viewpoints and users’ satisfaction from their library buildings has been analyzed through descriptive statistical methods, with the help of computer programs. Subsequently, the same has been interpreted.

Standards laid down by International Federation of Library Associations and Institutions (IFLA) for the university library buildings, especially standards provided for developing countries have been kept in view for the present study. The results derived from the data analysis have been compared with standards of library buildings. In order to ascertain the latest developments of university library buildings and for better understanding of the subject, different journals, proceedings of related seminars and up-to-date books have also been studied and quoted in the present work, appropriately.

**Tools and Techniques:**

The tools and techniques that have been used for the present study are as follows:

First of all, a detailed questionnaire, covering all facets of the topic of research was formulated under the guidance of my supervisor. Then the confirmed questionnaire was sent to all the 80 university libraries in Iran. Every possible effort was made to gather the data from all respondents.

Secondly, the investigator has visited most of the libraries to observe their working conditions. In these libraries, interview with the chief librarians was carried out with the help of “Interview Schedule” to ascertain their views.

Thirdly, two separate detailed questionnaires were also used to collect the viewpoints of librarians and the satisfaction rate of the library users. About 1% of the total of the registered users covered, using “Random Stratified Sampling Technique”.

Fourthly, the data collected was edited, coded, classified, tabulated and then, using Excel computer program, the data was typed through computer. Using SPSS program the
data was analyzed through descriptive statistical methods such as, means, frequencies and test of significance (i.e. $x^2$) to examine the users’ satisfaction rate and the librarians’ viewpoints on the library buildings in Iran. The results have been interpreted thereafter.

**Limitations:**

In addition to government universities, there are also some private institutions and universities in Iran, majority of which were established after the Islamic Revolution in 1979. Among these private academic institutions, Azad Islamic University of Iran, that has got numerous university branches in almost every city, is the most famous and popular private university in Iran. The administrative principles and approaches of this university are somewhat different from the government universities. It is owned by private sector and housed mostly in rental buildings. Since this university was established less than 20 years ago, it does not have any independent and well-designed library buildings. Therefore, the present study does not cover the library buildings of Azad Islamic University of Iran. Other private academic institutions are neither very famous nor in possession of popular library buildings to be covered in this study. Payam Noor University is an independent government corresponding university and has about 140 branches in different cities in Iran and a few branches in other countries. Since the branches do not own large independent campus, these also do not possess independent library buildings. Therefore, only the central library building of this university has been covered for the present study.

**Chapterization:**

The present study has been divided into eight chapters as follows:

**Chapter 1: Introduction: Scope and Methodology**

In this introductory chapter, the role and importance of university library buildings in attracting library users has been discussed. It also includes the significance of the problem, review of the literature, objectives, hypotheses, research methodology, tools & techniques and limitations of the study.
Chapter 2: University Library Building Movement in Iran, with Special Reference to Architectural Aspects

Although the first modern university of Iran was established in 1934, yet there had been numerous university libraries in ancient Iran. In this chapter, a study of Iranian university library buildings from the ancient times up to the present has been carried out and discussed systematically. Architectural aspects of the present university library buildings in Iran have also been taken into account, while the Islamic and Iranian architecture have been highlighted in details.

Chapter 3: Modular Planning V/S Fixed-Function Planning

Keeping in view the increasing number of library material and users' population every year, librarians have been facing numerous problems in fixed-function library buildings. Modular library buildings, because of their flexibility and adaptability in the ever-changing environments of university library buildings, have come up to solve the space problems of the existing libraries. In this chapter, main features of modular planning in library buildings have been discussed. Some existing modular planning university library buildings in Iran have also been introduced.

Chapter 4: Space Planning for Library Material, Users and Staff.

Distribution of space in a university library building depends on three factors namely: library material, users and staff. Standards and requirements determine how to distribute the space within a university library building. Location of every space and its relation to other space and area is of great importance in every library building. Distribution of space in the existing university library buildings in Iran has been studied critically in this chapter.

Chapter 5: Lighting, Cooling, Heating and Pollution Control in the University Library Buildings in Iran:

Library material, which is housed in university library buildings, is sometimes rare, irreplaceable and expensive. Likewise, excessive light, humidity, dust, sunlight, heat and some other natural phenomena are harmful to the library material. It is therefore, necessary to protect these by providing suitable equipment and appropriately design
library buildings. In this chapter, modern library equipment and the form of designing library buildings for providing a safe place for both the users and the library material has been discussed. Existing university library buildings in Iran have been examined from this point of view too. Users' satisfaction and Librarians' viewpoints about the said facilities has also been investigated and discussed in this chapter.

Chapter 6: Users' Satisfaction and Librarians' Viewpoints about the University Library Buildings in Iran

It is believed that suitable library services are usually possible in well-planned library buildings. In the standard library buildings, the Library services are generally smooth & fast and the users can use the library without any inconvenience. In this chapter, viewpoints of the librarians and also the users' satisfaction from their library buildings have been discussed in details.

Chapter 7: University Library Buildings of the Future

There have been tremendous developments and advancements in the field of Information Technology (IT) during the last about twenty years. These advancements, especially in the field of computers and telecommunication, have altogether changed the traditional job requirements of the librarians and library services. In this chapter, the space needed for IT equipment and also the library planning for the future needs has been dealt with in details.

Chapter 8: Conclusions and Suggestions

Keeping in view of the findings of the present study, conclusions have been highlighted in this chapter. Viable suggestions have also been given in order to improve the existing university library buildings to standard level, and to make them more functional and also to increase the satisfaction rate of the library users.

Bibliography and Appendices:

A comprehensive bibliography has been provided at the end, listing various sources consulted for the present study. The bibliography has been arranged alphabetically according to the surname of the authors. Complete bibliographical details have been given in each entry.
Three “Questionnaires” have been appended at the end of this work. The “Questionnaires” used for collecting the data from various space and general characteristics of library buildings has been appended at Annexure “I”, the “Questionnaire” used for collecting the viewpoints of librarians about their library buildings has been appended as Annexure “II”; while the “Questionnaire” used for collecting data for users’ satisfaction from the university library buildings has been appended as Annexure “III”.