1.1 Introduction

The primary objective of a library is to provide the right information at the right time in the right form to its users. To meet this objective libraries have to provide access to information irrespective of their form, format and location. Advances in Information and Communication Technologies (ICT) have drastically revolutionized the prospective of libraries and information centers to meet their objectives. Applications of Computers, Telecommunication Networks and advent of the World Wide Web have radically changed the way in which Information is acquired, stored, processed, organized, retrieved, and disseminated.

But, most of the present day libraries are facing various problems such as shrinking budget, ever-growing user requirements, escalating cost of books and subscription to journals, unprecedented technological advancement especially in the field of information storage and retrieval etc. It has thus become increasingly difficult for a library to serve its patrons to their satisfaction with its own resources. It was in the light of this, the idea of cooperation and resource sharing among libraries born.

The concept of library cooperation and resource sharing was as old as the libraries. Resource sharing has been there in our libraries in different forms like inter library loan, sharing of cataloguing data, sharing manual expertise and skills etc. for many decades. But with the advent of computer networks its
potential increased many folds. The most obvious benefit of computer network is that it can retrieve virtually any kind of data including textual, audio and even video. It enables to combine the skills of different people and the power of different equipment, regardless of the physical locations of the people or equipment. Technological advancements have made it possible for a user to gather information on his desktop even without physically entering the library. Electronic document delivery can be seen as a real boon in the light of the very large amount of information being produced every year. There are several factors that compel one Library to depend on other Libraries like reduction in budgetary provision, increasing prices of documents, lack of infrastructure and expertise etc. It is evident that the concept of ‘Consortia’ was evolved from the concept of cooperation and coordination.

1.2. Library Consortia

The term consortia refer to an agreement or group formed to undertake an enterprise beyond the resources of any one member. Library Consortia mean a group of libraries working together for a common cause. It means collaborative or coalition effort for meeting the varied needs of users. It may be defined as any kind of formal cooperative arrangement where people agree to exchange information or resources. The library Consortia mainly deal with resource sharing in digital or electronic format. There are several reasons, which necessitated the concept of library consortia. Important among them are:

1. **Information explosion:** There is a tremendous increase in the generation of information in all fields of knowledge due to intensive researches taking place in almost all fields of knowledge. Explosive
growth of literature has made it impossible for libraries to attain self-sufficiency. Exponential growth of library materials in many form and format such as books, periodicals, non-book materials like e-books, e-journals, online databases etc. have made it beyond the control of a library to acquire all the materials that are being produced.

2. **Shrinking budget:** The cost of books and other information sources are escalating year by year. But the fund allocation to Libraries in our country is not increasing in proportion with this price hike. There has been a continuous devaluation of currency also. Hence no library is able to procure all the resources needed by its users. Limitations in fiscal conditions and other resources like manpower, space etc. have put tremendous pressure on libraries to join hands with other libraries for resource sharing.

3. **Ever-growing user requirements:** User requirements for information vary from user to user. They need a wide spectrum of information due to information explosion, presence of multi-discipline, specialization of subjects etc. No library can meet their demands with their own resources.

4. **Technological advancements:** Unprecedented pace of technological developments in information storage and retrieval poses great challenge on traditional libraries to find ways and means to provide better services to their patrons. Issues like shift of information medium from print to digital, shorter life span of electronic media, changing formats, developments in hardware and software, interoperability and standards
have also put pressure on libraries to join together to overcome these barriers.

5. **Professionalisation of library services:** Role of library professionals has been changed from mere conservator to facilitator of knowledge. Major functions of a librarian are to identify, select, procure, organize, preserve and disseminate information. Rapid changes have taken place in all the above areas. It has posed great challenge for librarians to remain at the frontline of the profession. This paradigm shift prompted the professionals to have collaboration and coordination with other libraries to provide quality library services.

According to Cholin and Karisiddappa³, the major objectives of library consortia are:

1. To enhance the resource base of the individual library
2. To increase the cost benefit per subscription
3. To promote the rational use of funds
4. To have greater buying power
5. To ensure continuous subscription to the journals subscribed
6. To guarantee local storage of the information acquired for continuous use
7. To reduce the strength of staff and storage space
8. To develop technical capabilities of the staff in using electronic databases
9. To share technical expertise of library professionals
10. To keep up-to-date with new technology
11. To have strategic alliance among institutions with common interest
The concept of library consortia is not new and it refers to cooperation, coordination and collaboration between and amongst libraries for the purpose of sharing information resources. Major advantages of library consortia include enhanced cooperation, i.e., alliance with institutions that have common interest, augmentation of resource base with less money, adoption of new technology for providing better services and rational use of library budget. Today, many journals and publications have started getting published only in the electronic form, especially in the field of science and technology. It is therefore becoming necessary that the libraries get automated and networked, for it is the networking alone which makes resource sharing and dissemination of information possible at all levels, irrespective of the form and format of information. The library consortia provide an effective information infrastructure to the member libraries of the consortia. Other significant advantages are:

1. Enhanced cooperation, i.e., alliance with institutions that have common interest
2. Augmentation of resource base with less money
3. Adoption of new technology for providing better services
4. Rational use of library budget.
5. Sharing of professional expertise among the member libraries
6. Provides a platform for discussing and sharing professional issues
7. Unit cost of information can be reduced drastically
8. As resource base increases user satisfaction becomes much more
9. Small libraries can derive more benefits out of their small budgets
10. Various problems faced by the libraries in providing different services to the users can be eliminated
11. The thirst for information by the vast community of users can be met
12. The newly generated information appeared in different forms such as printed and non-printed documents, digital media on various disciplines etc can be procured.

The consortia initiatives in India are not much popular. However, the trend is slowly catching up among the library professional community. There are a number of factors, which prevent the successful operations of library consortia in the country. The following are important among them:

1. Lack of bibliographical tools
2. Unreliable telecommunication services
3. Insufficient funds
4. Insufficient and improper trained manpower
5. Negative attitude to resource sharing
6. Lack of awareness among library professionals
7. Lack of support from higher authorities
8. Lack of coordination among library professionals
9. Absence of strong library associations
10. Lack of a national body to build up and coordinate library consortia
11. Lack of interest on the part of users in using digital resources
12. Lack of indigenous databases
13. Lack of sufficient IT infrastructure in libraries
14. Difficulties in arriving at mutually agreeable collection responsibilities
15. Ever changing user expectations
16. Legal, political, organizational and administrative barriers
17. Issues relating to archival of digital resources
18. Copyright issues and Pricing strategy
19. Lack of fair use of information available through consortia
With the result of information explosion and limited financial resources, consortia have emerged as an inevitable necessity for libraries. However, the successful operation of library consortia clearly depends upon a number of things, such as good working relationship among members and between members and consortia headquarters, clear policies and priorities, attempts to address the issues and concerns etc. Now, libraries have recognized that they can accomplish more by working together than they can individually. Hence the library consortia will definitely exist for years to come.

1.3. Engineering College Libraries

Engineering college libraries can be treated as special libraries since they cater to the information needs of specific professional and academic user community. In the case of engineering college libraries, the main focus of the collection will be engineering and the allied subjects. The primary objective of these libraries is to support the teaching-learning processes of their parent institutions.

During the past three decades, many steps have been taken in India to improve the quality of technical education. For economic growth and prosperity, the need is to produce highly professional and competent engineers. This could be achieved only by imparting quality teaching to students, which in turn greatly depends on a strong library and information system that can support teaching-learning processes in a befitting manner.

Today, India has a vast pool of science and technology infrastructure with over 1200 technical institutions and 250 universities. The estimated annual out turn of the engineering graduates is around 3 lakhs. In addition, we
have a critical mass of cutting edge research through 400 national laboratories, over 1300 in-house R & D units in corporate and other sectors.

Development of any country mainly depends on the generation of new knowledge as well as the application of knowledge and information. The existing knowledge must be made available and accessible to all kinds of decision makers, entrepreneurs, scientists, engineers and technologists, teachers and students. Means for transfer and communication of knowledge must be established. A well-planned Library and Information system can play a vital role in the transfer and communication of knowledge.

The increasing role being played by science and technology in the socio-economic development of every welfare country has created a pressing demand for quick transfer of published and unpublished information to the scientists and researchers who are engaged in the mission of generating new technology. The tremendous growth in the output of scientific and technical information and rapid increase in the number of people who use information have put forth the need for effective library and information systems for knowledge transfer.

1.3.1. Engineering College Libraries in Kerala

The state of Kerala was formed on 1st November 1956 with the integration of the Travancore-Cochin State and Malabar. Its area is 38,863 sq km and has 31 million population. Neighbouring states are Tamil Nadu, Karnataka, Mahe, and Lakshdweep Islands. In Kerala, twenty thousand engineering seats are available for undergraduate programs in 76 engineering colleges. The College of Engineering, Thiruvananthapuram, the first Engineering College of Kerala was established in the year 1939. Two more
colleges were added in the year 1958. The state had only nine colleges till 1991. All the other 67 colleges were started only after 1991. Based on the nature of the parent body, these colleges can be classified into eleven categories:

1. **Government & Aided colleges under the Director of Technical Education (DTE).** There are 12 colleges under this category. Out of these, 9 colleges are government colleges and 3 are government aided colleges.

2. **State – owned self-financing colleges under the Institute of Human Resources Development (IHRD).** In this category there are 6 engineering colleges at different places of the state.

3. **State –owned colleges under the LBS Centre for Science & Technology (LBS).** There are two colleges run by the LBS.

4. **State –owned colleges under the Co-operative Academy of Professional Education (CAPE).** Under this category there are five engineering colleges.

5. **Colleges under the Kerala Agricultural University (KAU).** Two colleges are there under this category.

6. **State-owned college under the Kerala State Road Transport Corporation (KSRTC).** KSRTC is managing one engineering college.

7. **College under the M.G.University.** Only one college is directly run by the University.

8. **College under the University of Kerala.** Kerala University is directly managing one engineering college.

9. **College under the University of Calicut.** Only one college is directly managed by the University.

10. **College under the Centre for Continuing Education (CCE).** CCE is running one engineering college under this category.

11. **Private Self Financing Colleges.** There are 44 colleges under this category.
The list of colleges under each category is given as Appendix I. The branches of engineering courses available in different colleges of Kerala are the following:

1. Civil Engineering
2. Mechanical Engineering
3. Electrical and Electronics Engineering
4. Applied Electronics and Instrumentation Engineering
5. Computer Science and Engineering
6. Electronics and Communication Engineering
7. Chemical Engineering
8. Architecture
9. Industrial Engineering
10. Production cum Plant Engineering
11. Production Engineering
12. Electronics and Instrumentation
13. Instrumentation and Control Engineering
14. Bio Medical Engineering
15. Electronics Engineering
16. Computer engineering
17. Information Technology
18. Mechanical (Automobile)
19. Mechanical Engineering (production)
20. Polymer Engineering

Engineering colleges of Kerala also offer Post Graduate courses in the above specialized subjects along with MBA and MCA.
1.4. Need for Library and Information System in Engineering Colleges

Significance of library and information system in education especially in technical education needs no explanation. The contemporary age of information technology is witnessed with unprecedented rate of change of technology. Today’s standard and updated methods are tomorrow’s out dated ones. This can be best illustrated by the decreasing time lag between the theoretical study and its transformation into a commercial product.

The growth in the quantity of technical literature is tremendous. Proliferation of literature is widely seen in the field of science and technology. The number of technical periodicals has been growing at an exponential rate in the last two centuries. In 1750 there were approximately 10 scientific periodicals. This number increased to 1,000 titles by 1850, then to around 80,000 by 1950.10 The same trend is seen in the case of technical articles also. If you go through the Chemical Abstract, this information explosion can be seen in the number of articles indexed annually by Chemical Abstracts. In 1960 it abstracted 145,000 items per year. This figure zoomed to around 300,000 items by 1970 and to half a million by the mid-1970. The rate of increase of papers from 1960-1970 was about 8.4 percent per year, or double the total amount every nine years. The annual rate of increase for patents covered by Chemical Abstract is 10.9 percent.11 Variety of sources of information is yet another concern. Today, in addition to printed materials, there are audio and video recordings, CDs, microfilms, online databases, e-journals, e-books etc.

In order to keep abreast of the latest developments, teachers and students of technical education must depend on their libraries and information systems. No library or information center can afford to house all the
information sources to satisfy the varying needs of its clientele. Each functional library has to depend upon sharing of resources of other libraries, in order to achieve the above objective.

1.5. Need and Significance of the Study

The role of technical education for the economic progress and development of any country is very significant. The Government of India, realizing this fact, has given emphasis on the development of technical education in all its five year plans, which resulted in phenomenal expansion of technical education facilities in the country.

Today there are 1208 Engineering colleges in the country. In Kerala, there are about twenty thousand engineering seats available for undergraduate program in 76 engineering colleges. But the quality is ignored under the weight of sheer quantity due to financial crunch being faced by the established engineering colleges coupled with the haphazard growth in number of engineering colleges. Engineering being a professional course, teachers and students have to highly depend on their libraries or information centers for the preparation of their lectures, theses, projects, assignments, seminars, etc.

Many of the engineering colleges in Kerala are in their infancy and they do not have self-reliant library and information systems to assist their teaching-learning processes. Only a few colleges have good information centers and resources. The purpose of the present study is to assess the status of engineering college libraries in Kerala in terms of availability of resources, their financial conditions, automation and application of information technology, provision of electronic resources etc. The study also aims to develop a library
consortium for engineering colleges in Kerala. It is understood that there is a national level consortium exclusively for engineering and technology namely Indian Digital Library in Engineering Science and Technology (INDEST). Out of the 76 engineering colleges of Kerala only 3 colleges were able to afford the cost of being a member in INDEST in 2005. Of these three colleges, two were funded by the All India Council of Technical Education (AICTE). In short only one college out of 76 was able to finance the expenditure by itself. It is in this context, development of a library consortium to interlink the libraries of engineering colleges in Kerala and to share their resources is proposed. It would be mutually beneficial for all the participating institutions and it can be hooked to INDEST in future if necessary. The proposed study will also add values to the existing information infrastructure of technical education in Kerala.

1.6. Statement of the Problem

The study is entitled as “Development of a Library Consortium for Engineering Colleges in Kerala”.

1.7. Definition of Key Terms

The key terms in the title of the study are defined and given in the following subsections.

1.7.1. Development

According to Oxford English Dictionary, development means a gradual unfolding, a bringing into fuller view; a fuller disclosure or working out of the details of anything. Collins Cobuild Dictionary of English Language defined the word development as “the process or result of making a basic design gradually better and more advanced”.

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1.7.2. Library Consortium

The term ‘Consortia’ refers to an agreement or group formed to undertake an enterprise beyond the resources of any one member. Library consortium means a group of libraries working together for a common cause. It means collaborative or coalition effort for meeting the varied needs of users. It may be defined as any kind of formal cooperative arrangement where people agree to exchange information or resources.

According to Oxford English Dictionary “Consortium means temporary cooperation of a number of powers, companies etc. for a common purpose. It is an association of similar type of organization or institution who are engaged for producing and servicing the common things/for providing services for a specific purpose of its users”.

Library consortium is a community of two or more information agencies or libraries, which have formally agreed to coordinate, cooperate or consolidate certain function to achieve mutual objectives and joint benefits. Consortia may be formed on a local, regional, national or international basis; on a functional or format basis; or on a subject basis. The proposed consortium of engineering college libraries in Kerala will be a regional one based on the subject of engineering and technology.

1.7.3. Engineering Colleges

According to the Macmillan Encyclopedia, a college “is an educational establishment, especially one that specializes in a particular subject or in higher or further education”. Collins Cobuild Dictionary of English Language defined a college as “an institution where students study for qualifications or do training courses after they have left school”. Engineering colleges are
professional academic institutions that offer courses in engineering and technology. Their libraries can be treated as special libraries since they cater to the information needs of a specific professional and academic user community. By definition a special library means “a collection of books and other printed, graphic or record material dealing with a limited field of knowledge and provided by a learned society, research organization, industrial or commercial undertaking, government department or educational institution”.16 In the case of engineering college libraries, the main focus of the collection will be engineering and allied subjects. The primary objective of these libraries is to support the teaching-learning processes of their parent institutions.

1.7.4. Kerala

The state of Kerala was formed on 1st November 1956 with the integration of the Travancore-Cochin State and Malabar. Its area is 38,863 sq km and has 31 million population. Neighbouring states are Tamil Nadu, Karnataka, Mahe, and Lakshdweep Islands.17

1.8. Organization of the Thesis

There are 6 Chapters in the thesis and Chapters are arranged under the following subtitles.

Chapter 1 covers the introduction to the subject of study, reasons for forming library consortia, objectives of library consortia, advantages of consortia, details of engineering colleges in Kerala etc. This chapter also includes need for library and information systems in engineering colleges, need and significance of the study, statement of the problem and definition of key terms used.
Chapter 2 gives a detailed account of library consortia scenario at global and Indian context. First part of the chapter throws light on 28 important library consortia from different countries like USA, UK, Canada, Australia, China, Switzerland, Finland, Japan and South Africa. Second part of the chapter gives a substantial account of Indian library consortia like FORSA, CSIR Consortium, IIM Consortium, MCIT Library Consortium, UGC-INFONET Consortium and INDEST Consortium.

Chapter 3 is set for the Review of Related Literature on various aspects of the subject such as library consortia: types, models, licensing etc., library consortia for specific disciplines, library consortia in different countries and library consortia in India.

Chapter 4 gives the Methodology of the present study. This chapter covers objectives of the study, hypotheses, scope and limitations of the study, data collection methods and sources, selection of sample and methods of data analysis.

Chapter 5 is confined to Analysis and Interpretations of Data. This chapter contains analysis of library memberships, library collections, library budgets, library personnel, library services, internet and electronic resources, library automation and networking and library consortia activities.

Chapter 6 is devoted to Summary of Findings and Suggestions. This chapter covers summary of findings of analysis, tenability of hypotheses, suggestions for the improvement of the present status of engineering college libraries in Kerala and also suggestions for further research.
1.9. Conclusion

The present study provides a detailed and thorough account of the current state of affairs of the Engineering College libraries in Kerala. No library is self-reliant to provide required information to their users. This inability can be overcome by joining together under the umbrella of a consortium. Many libraries are facing the problems of space, standardization, shrinking budget, impact of changing technologies, information explosion, ever increasing subscription charge of journals and changing needs of users. With the result, consortia have emerged as an essential necessity for libraries.

The study will be useful to assess the existing conditions of the libraries of the engineering colleges in Kerala. The development of a library consortium for engineering colleges in Kerala would definitely be helpful to enhance the qualities of the sources and services offered by these libraries. The proposed study will also add values to the existing information infrastructure of technical education in Kerala.
References


4. Ibid


8. Ibid


11. Ibid


