CHAPTER 1

INTRODUCTION

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1.0 Introduction

In the contemporary context there is a need to reshape the vision of engineering and technology libraries by adopting new concepts and principles to guide the library management, especially with reference to what is going on in the engineering and technical education at the global level. Certain ways of thinking about the strategies of developing viable library activities in the 21st century seem to be still bound by or limited to the strategies followed here-to-before a few decades ago. The quest for information has been expanded significantly, and it is, now, coupled with a desire for swift and better services. Our perspective and service programmes must reflect this context. Library and information centers need to, among other tasks, provide all users with the information seeking skills, needed not only to be productive learners but also to be life long learners and efficient contributors to scientific, technical and academic endeavours, no matter where they eventually work or live.

The organized world of polytechnic library is giving way to a new era of promise and uncertainty of technology, of new forms of engagement and redefined roles in learning. The assumptions and rationales, that have been
relied on in the past, are now found inadequate as a guide for future developments. To be successful in this new environment, those who are responsible for managing polytechnic libraries need to understand the following points:

- "the changing expectations faced by educational institutions;
- how educational institutions are responding to these expectations;
- how this affects the mission of the library;
- how libraries can develop and implement a strategy to be a central part of the response of the educational institution;
- how these associations of polytechnic libraries can assist its members in taking on new roles." (Revil 2000) ¹

The library, today, has a much larger scope and responsibility as a centre of learning. Apart from housing information resources, it also acts as a link in the communication system of the society. It has acquired the status of a career information centre, a lecture and exhibition hall, an art gallery and a hub of many more such activities. Libraries are undergoing a shift in their paradigm from the concept of independent organizations meant for individualized collection development to organizations shifting towards co-operative ventures. Library networks and resource sharing activities are
becoming extremely popular in most part of the world. All these activities are intended to meet the multiplicity. Library and Information Centers (LICs) have realized that “they could no longer be self-sufficient in respect of their own information resources and infrastructure to meet the growing needs of their clientele.” (Brophy 2001)² The polytechnic Libraries are increasingly being called upon to provide more analyzed, evaluated, condensed, relevant, up-to-date and timely information to a wide range of users. To satisfy the varied needs, they require availability and accessibility to a variety of information resources both in print and non-print.

The information explosion and increasing rate of information resources have been creating much more problems to the library. At the same time due to acute financial crisis, adequate grants have not been provided by the funding agencies. Consequently, polytechnic libraries can not afford for a wider range of information resources. To overcome of these barriers, active involvement for resource sharing among different kinds of polytechnic libraries is very much essential.

The concept of resource sharing in libraries is as old as the librarianship itself. In the olden days, it was known as library co-operation
and it mainly existed in the form of Inter-Library-Loan. Libraries have shared their resources for many decades through formal and informal agreements by using traditional means. During the past two decades, things have drastically changed due to computerization, network-based acquisition, retrieval and dissemination of information. This has resulted in "easy accessing of the resources from the remote nodes adding a new dimension to the nature of library services. At the same time, the new world of information has thrown a myriad of challenges. Under such circumstances, co-operation among the libraries have been force to move ahead". (Peters 1996). Therefore, the libraries have realized that working together can accomplish far more than they can do individually. This statement is more applicable today especially to meet the varied needs of polytechnic libraries in the Karnataka State.

1.1 Information Technology Innovations: Impact on Resources and Services

Developments in Information Technology have changed the way information is stored and disseminated in polytechnic libraries. It has affected each and every job that is being carried out in polytechnic libraries and we can safely say that it has affected the trinity of Library, i.e., the Staff,
Resources and the Users. Innovations, like Networking Intranet, Internet, and videoconferencing have created a multifaceted potential for libraries to reach out and disseminate information.

**Impact on Resources:** Information technology has altered the mode of publication in such a way that along with traditional print based sources of information, we are getting flooded with a lot of attractive electronic forms of publications. The most significant advantage of electronic resources is that they can be accessed from anywhere, anytime and by any number of persons.

**Impact on Services:** Polytechnic libraries do not just store the resources in them. They also keep making additional efforts to create awareness about them so that the members use them. However, a few years ago it was limited to informing a user about the availability of a particular book/journal and waiting for him to pick up that. It is no longer the same. Library automation and subsequent application of information technology at various stages of information processing enable polytechnic libraries to generate several value added services to their patrons.
Using library software, libraries can generate personalized Current Awareness Services, Selective Dissemination Services, etc. Availability of e-journals, Online Databases through the Library portal have enabled library users to access information at their own desktop and their convenient time. Libraries has formed consortia, and are now providing hundreds of e-journals, online databases to their patrons. This kind of information service was completely unheard, when libraries had to depend on their meager budgets. Bar-coding, RFID technologies have increased the efficiency of information services and have helped libraries in being more serviceable and getting more appreciation.

1.1.1 Information and communication Technology

At the dawn of the 21st century, the depth and significance of the revolution of information and communication technology has already been realized in every nook and corner of the world. The widespread impact of computers and telecommunications across all levels and sectors of the society and economy has been acknowledged. Efforts are being made to tie the information and communication technology in all kinds of activities. The most significant progress has been achieved in the information work and services. That information can be available in electronic form and is called
digital information. In the context of information Technology, information can be described in any form in which it can be transferred. “Information Technology is an application and commodity support through which, or by means of which, information is transferred, recoded, edited, stored, manipulated or disseminated. Information access at the shortest possible time is the moving towards making information available at one’s desktop”\textsuperscript{(Schrment 1995)}\textsuperscript{4} The available information to click from an abstract or citation to the full text of an article is prompting a shift in the way that journals are used. Scientists and technologists are more keen on tracking down quickly the full text of articles relevant to their interests available on their desktop.

To meet the challenges and to provide qualitative services to clientele, the situation demands for networking or sharing resources among two or more than two libraries through a formal institutional agreement. The library networks offer much potential and new capability for sharing information among different library and information centers at local, regional, national and international level, thus eliminating distance and language barriers among users.
Therefore, networking facilities would be helpful for the polytechnic libraries to provide exhaustive, expeditious and pinpointed information. The essence of Dr. S.R. Ranganathan’s five laws of library science is “the right information to the right person at the right time in the right format” (Ranganathan 1963). Hence, networking acts as a boon to avoid duplication of work and information sources. Under this circumstance, establishment of networking among the polytechnic libraries in Karnataka State is not only essential but also the order of the day.

1.2 Need for the Study

Library and information professionals are very much aware about the impact of network technologies and techniques on the library service, of the institutions and professions that support the academic community. But only an honest assessment must conclude that librarians are in a better position to manage the scientific, scholarly communication and publication process in this new environment.

The pattern of Engineering and Technology education is subject to change in response to the demands from the new dimensions of engineering methods, techniques and application of new technology. The polytechnics
are engaged in providing technical education. Therefore, they are also in need of information about the latest trends and developments at the international level in the field of engineering and technology. The polytechnic libraries in India, with their limited resources, are facing many difficulties in managing enormous information generated in the printed form alone. The same is the case with each and every polytechnic library in the state of Karnataka. Therefore, it is better to share their resources and organize services on a cooperative basis in order to satisfy collectively the information needs of their respective user community. "The tremendous advancement in the field of Information, Communication and Technology (ICT) now offers many alternatives for networking and resources sharing among the geographically dispersed and remotely located library and information centers". (Witten 2003)^6

In India there are approximately 1200 polytechnic colleges depending upon the resources available in their libraries to meet the needs and requirements of their clientele. At present, the polytechnic libraries don't practice any kind of mechanism for the dissemination of valuable information in these institutions. Library network will enable the polytechnic libraries to share their resources and transmit the information resources
among them. Information sharing through computer network is helpful to the students, teachers and researchers. Therefore, it is important to study the present position of polytechnic libraries in Karnataka state and develop the network model for the optimum utilization of resources available in the polytechnic libraries in Karnataka state. The present study has been undertaken to provide an effective and efficient networking system which is required to share the resources among the polytechnic libraries in Karnataka.

In the present ever-changing information environment, libraries are encountering both opportunities and challenges. Information technology has induced a lot of changes in the way information is identified, procured, processed and disseminated to library clientele. Further more, information technology has created a sense of urgency among the library users and librarians themselves.

Polytechnic libraries and technology information centers are witnessing new paradigm shifts. Those shifts get reflected by way of

- Transition of information sources and systems from paper to electronic media;
- Complexity in information needs of highly demanding clientele;
• Increase in the cost and quality of information.

A library can satisfy the information needs of its users only when it has a system in place to generate need-based information services for each individual. User expectations go beyond borrow/return of library books and journals. They want a most convenient way to keep abreast of their field. Libraries' ability to generate new services, like CAS, SDI, has improved due to the availability of electronic sources. Libraries are not only generating personalized information services, but have also delivered these products to the users' desktop.

Information technology has also changed the way information is accessed and utilized. From physically accessing books/journals in libraries, users have got used to accessing web-based sources from their desktop itself. Realizing the importance of IT, libraries have made heavy use of it in building their collection and generating information services. Though most of the users of polytechnic libraries have some level of skills in using library services, it is necessary to introduce some induction programmes, which are aimed at creating awareness about the use of library services.
A literature search on LISA and scanning of journal articles, Convention volumes, Seminar / Conference proceedings revealed the complete lack of in-depth studies on the topic, except a few general survey. Hence, need for the study.

1.3 Statement of the Problem

The study attempts to survey the information service activities in the polytechnic libraries of Karnataka State. This would help the library and information professionals, researchers, institutional authorities and government bodies to give an insight to planning and designing of network among the library and information centers, since no studies have been undertaken to carry out a comprehensive study of networking among the polytechnic libraries in Karnataka State.

Therefore, the researcher has opted for the study of "DEVELOPMENT OF COST EFFECTIVE NETWORK MODEL FOR THE OPTIMUM UTILIZATION OF RESOURCES IN POLYTECHNIC LIBRARIES OF KARNATAKA."
1.4 Objectives of the Study

The primary objective of the present study is to examine the present position of the polytechnic libraries in Karnataka and suggest the cost effective network model for the optimum utilization of the resources in the polytechnic libraries.

The specific objectives are to

1. To study the available information resources and procedures involved in the process of collection development in the polytechnic libraries in Karnataka;

2. To evaluate the information services and to study the status of automaton along with the infrastructure availability;

3. To study the various financial resources available to manage the polytechnic libraries and to suggest the new avenues for exploring the funding;

4. To design the network model for the polytechnic libraries and also to suggest the effective ways of adopting the IT and other facilities for the network functioning;
5. To analyze the cost effectiveness of network model for the purpose of optimum utilization of resources in the polytechnic libraries of Karnataka.

1.5 Hypothesis

Any scientific investigation starts with statement of a problem followed by a tentative generalization in the form of a proposition i.e., hypothesis. Thus, in the present study, it was felt necessary to formulate the following hypothesis:

1. Discrepancy is prevailing in professional qualification among the working librarians in different categories of polytechnic libraries in Karnataka;

2. Varying budget provision is made for different categories of polytechnic libraries;

3. There is a visible difference of library resources collection in Government, Private Aided and Private Unaided polytechnic libraries in Karnataka;

4. Library services are not uniform and purpose-oriented in different categories of polytechnic libraries in Karnataka;
5. The library computerization work is in primitive stage in majority of polytechnic libraries in Karnataka;

6. The need for networking of polytechnic libraries in Karnataka state is strongly advocated by the professionals working in different polytechnic libraries.

1.6 Methods and Techniques

The Oxford English Dictionary defines "method as a mode of investigation; a special form of procedure adopted in any branch of mental activity for investigation and inquiry". (Pearsall 2001) Research may be understood as all those methods/techniques that are used to conduct research. Research methods or techniques, thus, refer to the methods the researcher use in performing research operations. Methodology also refers to a process by which the researcher tries to find solutions to a problem. In social science, methodology is a procedure of conducting research. Depending upon the nature of the problem, a researcher adopts different techniques and methods for studying and investigating the chosen research problem.
1.6.1 Research Design

Present research design consists formulating the research problem, comprehensive review of the available literature, defining the scope of the study and its limitations, development of hypothesis, collection, processing and analyzing the data and finally enumerating the inferences and conclusion.

Present study has utilized a combination of historical analysis, literature survey, questionnaire survey. “Historical analysis and literature survey were found useful in collecting textual data from published and unpublished sources. The questionnaire method was quite useful in soliciting information from the librarians working in polytechnic libraries. Hence, the data collected for this study combines primary as well as secondary data.” (Kothari 1985)⁸

1.6.2 Questionnaire Survey

The survey method is the best method to know the present situation of the topic of research. Hence, the survey has been undertaken with the help of
the questionnaire designed for this purpose. The questionnaire was designed as a mix-up of closed and open-ended questions. A majority of the questions were structured with multiple choices to tick appropriate answers. Such questionnaire enhanced the response as they were easy to fill-in, would consume less time, and also facilitate efficient, objective and easy analysis of data, tabulations and scoring. In addition, in certain cases, interviews with the heads of libraries were conducted to collect the data.

In order to enhance the validity and reliability of the questionnaire, experts in the field of Library and Information Science were consulted, and also requested to review the questionnaire critically. A copy of the questionnaire is appended as Appendix ‘A’

In all 179 questionnaires were distributed to the respective polytechnics, out of which 129 filled questionnaires were received back.

1.6.3 Population Size

The study covers 179 polytechnics approved by the Directorate of Technical Education, Bangalore. The questionnaire was distributed to 39
Government polytechnics, 34 Private aided polytechnics and 106 private unaided polytechnics in Karnataka state for collecting the necessary data. Out of 179, only 129 polytechnic librarians responded to our questionnaire. The percentage is 72.06%.

1.6.4 Analysis of Data

The analysis of the data is the most skilled task in the research process. Analysis means a critical examination of the assembled data for studying the characteristics of the object under study and for determining the patterns of relationships among the variables relating to it. A research work starts with the formulation of a hypothesis. However, the analysis of data helps in either rejecting or accepting the hypotheses.

In the present study, the data collected from the published sources and the questionnaire have been evaluated and analyzed to find the results. In accordance with the procedures followed for qualitative research, the textual data has been organized; themes and patterns generated and finally hypotheses were tested through statistical analysis. And later, interpretations were drawn and the report was prepared.
The Data collected from the questionnaire was fed to the computer using a Software Package for Social Science (SPSS) and the output was checked to correct any typographical error. The statistical analysis of the data was made with the help of SPSS software. The same tool was used for presenting frequency distribution tables, graphs and other tables of variables to establish relationship between them.

Statistical tools help a researcher in studying the concentration and dispersion of respondents' opinion. The averages, namely, arithmetic mean and median, were used to study the concentration of librarian's opinion. Standard Deviation (SD) and Coefficient of variation were used to study the dispersion of observation.

1.7 Scope and Limitations of the Study

This study is limited to the government, private aided and private unaided polytechnic libraries in Karnataka State. The main interest will be in finding the existing status of the automation, networking infrastructure, service rendering and proposal for development of cost effective network
model for the optimum utilization of resources in polytechnic libraries of Karnataka.

1.8. Chapter Scheme

The entire study is divided into eight chapters. A brief overview of each chapter is given below:

Chapter 1

The first chapter gives an introduction to the problem of the study, the impact of information technology innovations on resources and services. It also provides the glimpses of the need and objectives of the study. It mentions the hypotheses, scope and limitations of the study, the research methods and techniques employed. For example, research design, analysis and interpretation of data.

Chapter 2

This chapter attempts to review succinctly the important published and unpublished literature and studies on polytechnic education, polytechnic libraries, networking in general and impact of network on libraries, networking problems and prospects, design and development of library networking, network-based information services and automation and networking in polytechnic libraries.
Chapter 3

The third chapter traces the growth and development of polytechnic education in India in general and in Karnataka in particular.

Chapter 4

The fourth chapter discusses the growth and development of the polytechnic libraries in Karnataka state, administrative structure and the role of polytechnic libraries in promotion of technical education in Karnataka and profile of polytechnic libraries in Karnataka State.

Chapter 5

The fifth chapter deals with the library and information networking and its impact on library services, and also discusses the technology and library network, objectives of the library network, growth of library networks in India, impact of networking on library and information services, and the challenges and issues before library’s networking.

Chapter 6

The sixth chapter deals with the analysis and interpretation of data collected from librarians of polytechnic libraries. It gives the details of general information on polytechnic, library collection, budget, infrastructure facilities and various services that are being offered and opinion on the establishment of polytechnic library network in the State of Karnataka.
Chapter 7

The chapter seven discusses the networking of the polytechnic libraries in Karnataka State: a proposed model; it also explains the structure of the proposed network, functions of the proposed polytechnic library network (POLIBNET), architecture of proposed network model for the polytechnic libraries in Karnataka state (POLIBNET), objectives of the proposed network, financial resources, library professionals and users training, components of internet, areas of co-operation in the proposed network.

Chapter 8

Chapter eight covers the summary of findings, suggestions, conclusion and future areas of research. Selected bibliography and appendices follow this.

1.9. Summing up

The congenial atmosphere for promotion of teaching, learning and research activities in polytechnics can be created only when their libraries acquire materials in anticipation and, of course, on demand. This is the age of specialization, which is witnessing the emergence of specialization and
super-specialization in all fields. It is more so in the field of Engineering and Technology.

The Polytechnic libraries need to equip themselves were to meet the challenging task by building up the widest possible collection in specific areas of specialization. Due to financial constraints it is not possible for the individual polytechnic libraries to develop such type of collection, and, because of this, they have utterly failed in meeting the basic needs and requirements of the users in polytechnics. To overcome this problem the major solution is networking of polytechnic libraries in Karnataka, which can help each and every polytechnic libraries to share and achieve optimum utilization of resources.

REFERENCES:


