ABSTRACT

The study attempts to highlight resource sharing barriers in library networks. In order to get a comprehensive picture of barriers, research was carried out in two parts. Firstly, a selection of latest literature on resource sharing published between 1990-1997 was made using Library and Information Science Abstracts and other relevant journals and books. This helped in ascertaining the issues that existed in automated, semi-automated and manually operated resource sharing systems in the major library networks and resource sharing consortia in the world. Then a historical survey was made of resource sharing in general based on published literature.

It was found out that various types of barriers existed in resource sharing in library networks in different parts of the world. The barriers were identified and in order to find their applications in India, the following steps were taken:

(a) A survey of 50 member-libraries of DELNET and 150 users of DELNET member-libraries was made in the following order:

(i) A random sample of member-libraries and their users was made;
(ii) Two questionnaires, one for librarians and the other for users were made;
(iii) Pre-testing was done using 10 libraries and 25 users and the necessary changes were made and finally the questionnaire for librarians (Appendix I) and another for users (Appendix II) were finalised.
(iv) Online statistics of DELNET usage was taken from the system.
(v) DELNET staff records with their confidential reports were analysed to get inputs for the chapter on manpower.

ix
The objectives of the present study are:

(a) to identify resource sharing barriers in general;
(b) to analyse the efforts DELNET has been making in resolving the barriers;
(c) to suggest ways and means for removing barriers in resource sharing; and
(d) to develop a functional resource sharing model and to deduce the methods for its management.

The thesis is presented in twelve chapters. The first chapter highlights the impact of the growing universes of knowledge and information on resource sharing. It is noted that the information technology facilitates the growth of the universe of knowledge which is becoming multidimensional in scope and nature. The electronic publishing and the growth of electronic online databases on the INTERNET enable researchers to access information much faster, easier and with greater precision than ever before. Although their growth is random and their resources complex, the high-tech innovations are revolutionising storage and retrieval facilities. Geographical proximity for resource sharing is diminishing with the passage of time. The second chapter gives an historical overview of library cooperation and resource sharing in different parts of the world with special reference to important information systems that contribute to the resource sharing globally. It is noted that cooperation among institutions for the exchange of documents and experts has become necessary. Institutions should be able to participate in resource sharing programmes. International cooperation which had begun with the efforts of U.N. bodies since the sixties for establishing information centres and services are not only widely used now but they form part
of information networks. Also innumerable institutions around the world have created a wide variety of bibliographic, non-bibliographic and full text databases for resource sharing at all levels. The third chapter describes the library networks, their services and models and includes the network scenario in the U.S. References have also been made in this thesis to the efforts made in Australia, South Africa, Sweden, Russia, China and Thailand as selective examples from the developed and the developing countries.

Library networks were established for cooperation and resource sharing among libraries. They have grown mostly during the last thirty years in different geographical environments in order to cater to the specific needs of users. In the United States there has been a proliferation of them. Library networks in other countries are also growing. Several models have emerged that provided specific services. Not all networks conform to the essential functions of library networks. However, it is noted that the essential functions should include the promotion of resource sharing, creation of resource sharing tools like union catalogues, rationalisation of acquisitions and adoption of international standards for creation of records uniformly and delivery of documents. Libraries should be able to join different types of networks depending upon their needs and should be able to select models which conform to their requirements. The thesis also outlines a brief scenario of important library networks and we get a picture of the services being offered by them. The growth of Indian library networks with special reference to DELNET is given in the fourth chapter. Efforts made by NISSAT in establishing CALIBNET in 1986, DELNET in 1988 and other networks subsequently and UGC in establishing INFLIBNET in 1988 are given. DELNET has emerged as the first
operational library network in India with the support of the National Informatics Centre since 1992. It is noted that no efforts have been made to network public libraries, though it is becoming essential to provide networked information to the public. DELNET, has made considerable progress. About eighty libraries have joined DELNET as institutional members. The databases have increased from one in 1995 to twelve in 1997 with an average increase of about 160 per cent in the size of data from 1996 to 1997 and 138 per cent from 1995 to 1996. Resource sharing tools such as databases, national bibliographic databases, digital libraries, INTERNET, union lists and catalogues, etc. are discussed in the fifth chapter. It is said that resource sharing can be effectively undertaken if it is backed by up-to-date resource sharing tools such as union lists and union catalogue of books, periodicals, etc. The online databases, bibliographic or textual also serve as major resource sharing tools. Proper collection development policies in libraries can make resource sharing possible faster. Therefore it is considered that moving from printed text to machine readable form would provide maximum hits in pre-order verification procedures. The importance of OPACs has been highlighted. Also, the relevance of national bibliographic databases and their types have been presented. A case study from Australia has been presented in detail. The digitisation projects and their relevance to research have been highlighted. The use of CD-ROM technology for creating all types of databases for resource sharing purposes is discussed. Examples of union-catalogues on CDs are also given.

The ILL in a historical perspective is discussed in chapter six along with the modes of document delivery, ILL services and guidelines and charging systems. References to International Document Delivery Agencies are also made. Copyright issues are
discussed along with the future of ILL. It is noted that the interlibrary loan was started to lend copies of library materials to other libraries for their users and its guidelines became established in the 20th century. These guidelines have not become universally applicable. Also, online transactions are mostly used in North America and Europe. The use of ILL has increased by 5.7 per cent from 1986 to 1995 in North America. Though ILL in North America is monitored online, 77 per cent of the cost on the transactions is on staff. The average charge for lending has been $11 and $19 for borrowing. There have been practices of charging users for ILL services but it is not uniformly done. We get a comparative study of borrowing by subscription or paying per use of document. In most cases the principle of reciprocal borrowing holds good, especially in the libraries in India. It is only for document delivery that the charge becomes necessary. Standard charges are in practice. DELNET charges a subscription fee of Rs. 4000/- per year for document delivery. Gradually there is a trend to shift to the use of document delivery through E-mail or INTERNET. Resource sharing technology including ILL protocols and software are discussed in the seventh chapter.

Resource sharing technology facilitates the use of resource sharing to the maximum and supply of the necessary available resources to the users fast. The technology enables the use of computers and telecommunication and bibliographic standards for online access to resources. The technologies that have helped resource sharing also include photocopying machines, CD-ROM technology, E-mail, ftp, telnet, SLIP/PPP, telefax, etc. In India VSNL charges for INTERNET accessing have decreased drastically. It is noted that the barriers to ILL due to lack of better communication facilities can be
removed by the use of ILL protocol. It enables rapid transmission of messages and document delivery. The OSI applications which have far-reaching implications have been discussed. The use of Z39.50 protocol is becoming increasingly useful around the world for transmitting and managing queries and result sets. As it is a generalised mechanism its applications can be worldwide. So are the applications of WWW. Reference has also been made to Web Servers, Web Browsers, URL and PURL as important components of resource sharing technology. Manpower needs, based on research on DELNET staff is given in the eighth chapter. There is a need to improve the work environment for attaining professional excellence. The DELNET survey shows that BLIS and MLIS recruits in DELNET have not performed well. Training is needed in the use of AACR 2, MARC format, LCSH, E-mail, INTERNET, WWW, communication tools including modems and library and network software applications. The barriers in providing better training in resource sharing include the factors such as personal, institutional, technological, historical, political, national and international. They are discussed in the thesis. The institutions providing library and information science courses through correspondence should introduce practical training. The ideal job specifications and personality specifications with facilities for quick promotions for able staff can transform the profession.

The ninth chapter highlights users' problems and issues that have a direct bearing on resource sharing. All resource sharing efforts are made to provide maximum information to the users on the topics of their research or study. It is very important to understand the needs of the users. Users' profiles are maintained to provide SDI services. Special efforts need to be made to provide education to the users about the extent and number of resources and services available, and how
they can make best use of them. From the survey, we note that 80 per cent of the librarians support the creation of extra information services for users, 96 per cent want to provide help through personal interaction and 90 per cent prefer to support them through resource sharing. In this thesis the needs and observations of users in relation to the following issues have also been ascertained:

(i) approaches to information and methods of collecting information;
(ii) impact of non-availability of information;
(iii) requirements for training; and
(iv) preferences for the medium on which information is available, such as books, CDs, etc.

It is considered that the users are greatly in need of information but they are unable to get it. They do not receive major support from librarians. User education can be effective where the librarian is prepared to give more information through resource sharing. Otherwise user education is missing.

A detailed discussion on resource sharing barriers is given in the tenth chapter. The barriers in resource sharing have been classified under knowledge and information, bibliographic and directories, databases, digital information, holdings data, collection development, cooperative efforts, institutional constraints, resource sharing technology and procedures with special reference to library networks, bibliographic standards and language barriers; ILL/document delivery, national and international scenario, copyright, manpower and training, users and finance. It includes a general overview of the barriers, the dilemmas, international and national policies that create
barriers, role of information professionals, and growing barriers in developing countries. The eleventh chapter presents a functional sharing model and its management. Resource sharing methods have to be functional and evolving as resource sharing technology evolves periodically. Maximum use of existing resources and maximum information to the users on their desired topics within a short period of time has to be the motive of functional resource sharing. INTERNET has already made the exchange of information possible internationally. Resource sharing is greatly dependent on the quick arrangements of exchange of information internationally. Resource sharing is as such dependent upon the information about resources as it is on resources in libraries. For effective participation in resource sharing programmes, the essentials have been discussed. Membership patterns, reciprocal borrowings and ILL policies have also been discussed along with the laws of resource sharing. It is considered that providing more databases and services is very important for resource sharing among various types of libraries.

The last chapter has been presented on the future of resource sharing. There are going to be changes occurring in the existing methods of resource sharing as documents become available in digital form. In the long run, the present methods will be limited only to non-digitised less important resources.
Implications

The findings of this study will enable developing countries like India to develop national resource sharing infrastructures rapidly with limited financial resources and will be able to participate fast in the global resource sharing activities. The users will begin to receive information from all parts of the world quickly and it will improve the status of organised information in a country, develop proper resource sharing channels and speedily upgrade the quality of published works.