

Library networking and consortia

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Abstract : The concept of library networking and consortia to aid information resource sharing and support activities in libraries has become a real necessity in World. The present study briefly highlights some of the major library consortia and networks in World. The objectives, functions, services, future prospects and stages of completeness of these library resource-sharing networks are also discussed. The World information professionals, education specialists and scientists have realized that the time has come to share the information resources and to coordinate mechanisms. This has resulted in discernible change in the information scenario in World. A large number of library resource sharing networks like the Metropolitan Area Networks such as DELNET in Delhi, MALIBNET in Madras, BONET in Bombay, PUNENET in Pune, CALIBNET in Calcutta, HYLIBNET in Hyderabad, ADNET in Ahmedabad, and countrywide ones like INFLIBNET (Universities and Research Institutions), ERNET (Educational and Research Institutions), and DESINET (Defence Laboratories), and sectoral ones like BTISNET (Biotechnology Networks) etc. are under various stages of conceptualization, design, development and implementation. The article draws its conclusion by briefly mentioning the obstacles to the development of these networks and library consortium.

Key words: Library Networks; Library resource sharing; Library Consortia, Inter Library Loan

I. INTRODUCTION

The world has been witnessing a knowledge and information explosion during the past few decades. Over 10 million journal articles are published every year besides news items, editorials and articles that are appearing in popular print media. Information professionals who would be the leaders in the twenty-first century depend on information for their work. Access to information holds the key to development. Libraries, which are storehouses of knowledge and information, and information centers, which disseminate knowledge and information, form two important components of present day society. While there is a deluge of information on one hand, the cost of collecting, processing, storing and disseminating information has been spiraling up on the other hand this calls for heavy budgets for libraries even to maintain a reasonable level of acquisition of journals, books and reports. Estimates show that a three to fourfold rise in library budgets will be needed by AD 2000 to maintain the same acquisition level as in 1990. Information buying power of libraries has been declining year after year. Because of this, resource sharing and cooperative functioning through networking have become inescapable for libraries and information centres worldwide. India is no exception; for that matter, it is even more necessary to network libraries in newly developing countries like India than in the developed nations. Efficient resource sharing can be achieved by using the recent advances in information technology for realizing a network of libraries.

During the last six to seven years, library and information activities in the country have entered a new era. Individual libraries are coming out of the proverbial "Berlin Wall" around them. They are trying to form a larger community in an effort to tackle the ever increasing demands for better services, quantitatively and qualitatively, in an environment already over strained by financial pressures. Forced, motivated, or logic driven, the librarians are coming out of their shell in large numbers.

This has resulted in discernible change in the information scenario. Now a large number of library resource sharing networks like the Metropolitan Area Networks, such as CALIBNET (Calcutta), DELNET (Delhi), BONET (Bombay), PUNENET (Pune), MALIBNET (Madras), MYLIBNET (Mysore), HYLIBNET (Hyderabad), ADNET (Ahmedabad), and countrywide ones like ERNET (Educational and Research Institutions), SIRNET (CSIR Laboratories), INFLIBNET (Universities and Research Institutions) and DESINET (Defence Laboratories), and sectoral ones like BTISNET (Biotechnology) and TIFACLINE (Technology per se) are under various stages of conceptualization, design and development. A host of agencies, like the National

Information System for Science and Technology (NISSAT), Dept. of Electronics, NISCAIR/ CSIR, DESIDOC/DRDO, DBT, NIC, and TIFAC/DST, are involved. Looking from the participant's side, it is common to find an institution participating in more than one network. The ultimate goal of information/library networks is to interlink information resources in a metropolitan area, so that users could access information irrespective of its location, format, medium, language, script etc. Further, the development of such networks requires actions in several areas such as training, rationalization of information resource acquisition, diffusion of standards, preparation of union lists and generation of database services apart from setting up hardware, software and communication facilities.

The concept of library networking to aid information resource sharing and support activities in libraries has become a real necessity. The shortcomings observed are mainly related to two aspects:

- a) Non-availability of materials and services, and
- b) Efficient administrative control.

In India, the need for resource sharing has been well recognized but the technology options available until now were limited. NISSAT has taken up networking of libraries in Calcutta (CALIBNET), Delhi (DELNET), Madras (MALIBNET), Mysore (MYLIBNET), Hyderabad (HYLIBNET), Ahmedabad (ADNET), Pune (PUNENET), and Bombay (BONET). The present study highlights only some of the major library networks in India.

Towards library networking activities in India NISSAT has taken the initiative for promoting resource-sharing activities. These initiatives are aimed at ensuring better utilization of science and technology information resources, minimization of functional load of information centres and encouragement of motivational factors to a large extent by better means of communication. NISSAT only goes to the extent of setting up general infrastructural facilities like network service centres including hardware, software, manpower and other organizational requirements, communication facilities etc. With a change in the development and implementation strategy, the participating institutions in a network are to arrange their own terminal hardware, software, manpower and data conversion.

Objectives:

- To promote and support adoption of standards in library operations.
- To create databases for projects, specialists and institutions to provide online information services
- To improve the efficiency of housekeeping operations
- To coordinate with other regional, national & international network for exchange of information and documents
- To generate new services and to improve the efficiency of existing ones

What is Library Consortia?

Library consortia means to co-operation, co-ordination and collaboration between, and among, libraries for the purpose of sharing information resources. Libraries in developing countries have been working on consortia at national, regional and international level. However, some barriers such as poor technological and communication infrastructure, inadequate finances, culture and context, attitudes toward consortia and multiple efforts are reported to be limitations of consortia activities in developing in India.

Main Consortium:**CSIR consortium:**

The Council of Scientific and Industrial Research (CSIR) in India has 40 scientific

laboratories involved in basic and applied research in various disciplines. Many of the laboratories have well equipped libraries, and some of them act as the main information centres for different subjects, functioning as consultant libraries at the national level. Access to e-journals through the use of state-of-the art technology is possible in many of the libraries belonging to these laboratories. Each of the laboratories has a well-established library or documentation center. National Institute of Science Communication and Information Resource (NISCAIR), a constituent establishment of CSIR. To augment CSIR research and development activities, NISCAIR implemented an agency for providing access to globally available e-journals to the entire scientific and technical staff of CSIR and its constituent units through a consortia approach. As a first step, NISCAIR, on behalf of CSIR, has entered into an agreement with Elsevier Science to access its 1,500 e-journals and further intends to strengthen its information resource base by subscribing e-access of more and more journals published globally. The CSIR consortium extended its access by creating appropriate agreements on a consortium basis with the other providers of e-journals. The major focus is on emerging sectors such as, biotechnology, pharmaceuticals, information/ communications/ entertainment (ICE) and financial services.

INDEST consortium:

INDEST is an open-ended proposition, and welcomes other institutions

with the similar area of interest and who can join for sharing benefits. The INDEST

Consortium is the most ambitious initiative taken up so far in India in the area of engineering and technology disciplines. The Ministry of Human Resource Development (MHRD) has set up the Indian National Digital Library in Science and Technology (INDEST) Consortium. Institutions including the Indian Institutes of Science (IISc), the Indian Institutes of Technology (IITs), the National Institutes of Technology (NITs), Regional Engineering, Indian Institutes of Management (IIMs) and a few other centrally funded government institutions through the consortium. Besides that, 60 government or government-aided engineering colleges and technical departments in universities have also joined the consortium with the financial support from the All India Council for Technical Education. In addition, a total of 26 other engineering colleges and institutions have also joined the consortium on a payment basis.

The electronic resources subscribed by the INDEST are as follows:

- Association for Computing Machinery (ACM) Digital Library.
- ASCE (American Society of Civil Engineering) journals.
- ASME (American Society of Mechanical Engineers) journals.
- Elsevier's ScienceDirect.
- IEEE/IEE Electronic Library Online (IEL).
- ProQuest Science.
- Springer Verlag's Link.
- Indian Standards.
- COMPENDEX on EI Village.
- INSPEC on EI Village.

- J-Gate Custom Content for Consortia (JCCC).
- MathSciNet.
- SciFinder Scholar.
- Web of Science.

FORSA consortium:

The Indian Astrophysics Consortium called Forum for Resource Sharing in Astronomy (FORSA) is a typical example of a homogeneous group of members wherein the libraries have a common area of interest and establishing the consortium is slightly easier than in a heterogeneous type of members. The FORSA consortium consists of five members who joined together for negotiating licensing for astronomy journals and identified a subscription agent as a supplier of journals. Subscriptions for both print and electronic format are paid through their supplier. The agreement was originally meant for only astronomy journals, published by a particular publisher.

Advantages of library consortia:

The advantages for libraries if they buy their resources through consortia can include:

- Site wide access for all involved
- Shared access to information sources
- Smaller libraries can benefit
- Common interface to resources
- Possible global impact

Types of Networks:

Presently, there are three types of computer networks:

- LAN
- MAN
- WAN

Local Area Network (LAN):

A LAN is a number of related computers and electronic devices that share information over a transmission media. A typical use of LAN is to tie together personal computers in an office so that they can all use a single printer and a file server. The LAN can be within a building or a campus wide network.

Metropolitan Area Network (MAN):

Attempts are being made to develop this type of network in metropolitan areas such Delhi, Calcutta, Bangalore, Madras, etc.

Wide Area Network (WAN):

A large-scale network, involving offices in different cities and countries is referred to as WAN, which is specially designed to interconnect data transmission devices over wide geographical areas.

Major Library Networks in India:**DELNET:****Developing Library Network**

The limitation of financial resources and space for housing library collections in the libraries in Delhi led to the promotion of sharing of resources by automation and networking and establishment of the DELNET in 1988. NISSAT took the initiative in setting up DELNET. It has emerged as an important resource centre for the libraries in Delhi.

In Delhi the libraries have been growing very fast in number and size during the last four decades. They cater to specialized and general clientele and are of various types which include institutional libraries, research libraries, government libraries, public libraries, departmental libraries and libraries of the universities, colleges and schools. During the recent years, cumulative information has been increasing at a very fast pace and with it the increase in demands of the users. It has been noticed that in the era of information explosion the libraries in India are generally ill equipped to handle and retrieve information effectively. As already mentioned, the financial resources and the space for housing library collections are limited in almost all of the libraries. The option left with the forward looking librarians has been to promote the sharing of resources by automation and networking.

Initially, 40 libraries were directly linked to the DELNET host system through e-mail to promote library mailing, interlibrary requests, transfer of files, exchange of messages, interlibrary services, etc. Side by side with the automation of participating libraries, the functions and services have also started. Presently about 90 libraries are members of DELNET. Almost all participating libraries are now computerized by means of acquisition and fund accounting, cataloguing, circulation, serials control and local users services. Users are able to locate books and serials through Online Public Access Catalogue (OPAC). A union catalogue of current periodicals available in Delhi libraries, and a union list of current serials available in Indian libraries are available on online for DELNET participant libraries. A central database of DELNET has been created and made operational. This central database includes the library holdings of DELNET member libraries used as union catalogues of books/monographs.

DELNET provides access to the central union catalogue for books and monographs, efficient electronic mailing facilities to access databases of member libraries. It also proposes to develop a network for accessing CD-ROM databases available at member libraries in the near future. DELNET also provides CAS and SDI services, consultancy in library computerization, training and H.R.D. and assistance to libraries on standardization, local automation, retrospective conversion etc. DELNET is likely to emerge as a co-operative network incorporating all disciplines of science, technology, social sciences and humanities.

DELNET is a major resource-sharing library network in South Asia, which covers a wide spectrum of member-libraries and their resources connecting more than 1630 libraries in thirty-two states in India and seven overseas countries. It was registered

as a society in 1992. DELNET is committed to pool the information about resources

scattered in the libraries in the country and consolidate information through union

catalogues, union lists and other databases. This is being done to satisfy the major

information requirements of students, researchers, scholars and the public in the country.

DELNET is extensively providing Interlibrary Loan facilities to its member libraries in

and outside the country and is one of the most widely used and popular services of

DELNET databases have crossed over 90 Lac records. DELNET has shifted to its newly

constructed building in JNU Campus in October 2005.

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CALIBNET

The Calcutta Library Network (CALIBNET) was inaugurated on 21 December 1993. NISSAT, Department of Scientific and Industrial Research (DSIR), Govt. of India, took the initiative in setting up CALIBNET, which has adopted a two-way system for networking:

1. The networking route with a library automation and networking through its own application software "Maitrayee"
2. The e-mail route connecting member libraries with on-line access to various databases within network and Internet access.

CALIBNET established a high-tech resource base and provides the following services:

- Online/CDROM based global information search and retrieval services
- Full-text document delivery
- Database services

MALIBNET

The need for interconnecting libraries and information centres in Madras was visualized in the Indian National Scientific Documentation Centre (INSDOC) in 1991. Initially six major academic institutions were directly linked to the MALIBNET host system. Two important databases have been created utilizing the resources available in Madras libraries. One is a Directory Database of Current Serials in Madras covering 30 libraries, and the other is a Contents Database covering articles published in 300 journals available in Madras libraries. Both these databases are continuously updated and also expanded. They are available for online- access to any user and the information is also supplied in diskettes and hard copy. Photocopies of articles from member libraries can be supplied within two days.

Madras has about 60 important libraries besides information centres like INSDOC. About 15 of these libraries have a holding of well over 100,000 items. These libraries act as good resource centres on the network. As of December 1993, all the 60 libraries together invest about Rupees 8,000,000 on acquiring journals and books every year. It is estimated that 40% of the information acquired is redundant. With the libraries networked and resource sharing implemented, each user on the network can get access to a vast amount of literature, and redundancy can be brought down significantly. A novel and unique feature of MALIBNET is that the members will be permitted to offer their own innovative information services on the network. A membership in MALIBNET is open to universities, colleges, R&D institutions, industries and individuals.

MALIBNET presently offers the following information services:

- Current serials acquired in about 60 libraries
- Full journal holdings of about 60 libraries
- Contents information of about 500 important journals
- Electronic mail including internet connectivity
- Door delivery system for document photocopies
- It also offers access to about 1000 international databases

MYLIBNET

It is the first library network established in a small city. The launching of MYLIBNET in association with Mysore city library consortium (MCLC) took place on 12th June 1995. There are 16 institutional members. The holding list of Mysore city libraries has been computerised and software has been developed to enable users to access the catalogue and information on-line. MYLIBNET provides e-mail facilities to its members.

BONET

The Bombay Library Network (BONET) was setup at the National Centre for Software Technology (NCST), Bombay, on 6 November 1992. The Network is sponsored by NISSAT. The aim of BONET is to build a low cost library information system which can possibly be used as a model for future expansion of this service even outside Bombay.

BONET also benefits significantly from the experience gained, and facilities created, by the Education and Research Networking (ERNET) project of the Department of Electronics, Govt. of India, assisted by the United Nations Development Programme (UNDP). BONET is aimed at promoting cooperation between libraries in Bombay. The focus is on inter-library activities, rather than on computerizing individual libraries, which will no doubt computerize their own operations and are likely to share their experiences with each other. BONET offers training related to library computerization and networking, and speed up computerization of Bombay libraries. BONET membership provides for access to its centralized catalogues and for E-mail among BONET members. However, access to library related services outside Bombay in India and abroad would require use of ERNET.

The services offered through BONET include the following:

- Consultation on standards
- Organized training for selected staff of participating libraries
- On-line catalogue of periodicals for the region
- On-line catalogue of books for the region
- On-line catalogue of preprints/reprints
- Inter-library lending of books and periodicals
- Inter-library request for photocopying
- Computer network support for book ordering
- Information retrieval services
- On-line document delivery of items (such as technical reports) made available by participating libraries in machine readable form
- On-line access to foreign databases, subject to the user's willingness to pay the costs incurred
- E-mail interface for inter-library queries
- E-mail facilities to order reprints from abroad, when necessary
- Dissemination of information, on new books etc, using E-mail, Bulletin boards, and SDI techniques
- Courier service for inter-library exchange of materials

Under BONET the following databases were created:

- 25,000 items in a bibliographic database on computers and software technology
- Union catalogue of journals and other periodicals in libraries in the region
- Tables of contents of 250 Indian periodicals created by the national centre for information
- A number of CDROM databases have been mounted on a Novell Server for use to members

PUNENET

Presently, 30 libraries and 15 professionals from Pune city are accessing the PUNENET through modem. The users not only access PUNENET data, but also use the e-mail and internet facilities. Following databases are available on PUNENET for its members:

- Catalogues of holding of all member libraries
- Union catalogue of current periodicals in Pune libraries and information centres
- Publishers and book sellers database
- Database on international grants and fellowships in the health sciences

- Hard databanks in biotechnology
- Access to NICNET and databases available on NICNET e.g., MEDLANS, AIDS database, US patent database
- Access to internet and various databases available on internet
- Patent information
- Union catalogue of books available in British libraries in India

ADINET

Ahmedabad Library Network (ADINET) was formally inaugurated in February 1995 when a memorandum of understanding was signed between NISSAT and ADINET at Ahmedabad. ADINET has ten institutional members, five associate institutional members and two professional members. A centralized database has been created at ADINET, which contains institute master, journal master and book databases. It also organized six work and training programmes. ADINET provided e-mail connectivity to 30 libraries of Ahmedabad.

INFLIBNET

Information and Library Network (INFLIBNET), a programme of the University Grants Commission, was launched in May 1991. The main aim of INFLIBNET is to establish a national computer-communication network to link libraries and information centres in universities, colleges, universities, UGC information centres, institutions of national importance, R&D institutions, etc., and thereby improve capability in information handling and services. It is a programme for academic excellence to be achieved through establishment of a mechanism for information transfer and access to support scholarship and academic work. It facilitates pooling, sharing and optimization of scarce library resources in the country. As a major programme it helps modernize libraries and information centres in the country through application of information technology.

The National Centre of INFLIBNET is located in Gujarat University campus at Ahmedabad. At present, INFLIBNET aims at computerizing and networking of university/college libraries. Every year, INFLIBNET programme is identifying a number of university libraries for automation depending on the budget allocation. The selected institutions are given funds for procuring computer systems, retro conversion and networking. Application software for data entry and other library functions, library standards and formats, etc., are provided by INFLIBNET to the participating libraries. Manpower development is an important part of the programme. Training courses for core library staff engaged in computerised library operations, have been conducted since 1992-93.

Development of suitable software, standards for various library operations and communication based services (e.g., e-mail, bulletin boards) designing suitable network architecture and preparation of union catalogues of serials, books, non-book materials, and cooperation with other networking organizations like NISSAT, NICNET, etc., are other important activities

Network Development in India:

Some factors those are responsible for the development of library and information

networks in India are:

- The report of the working group of the planning commission on modernization of library services and informatics for the seventh five year plan, 1985-90
- The National Policy on Library & Information systems document (1986) accepted by the ministry of HRD, Government of India.

- The report on national policy on university libraries prepared by the Association of Indian Universities (1987)
- The UGC report on information systems for science and technology under the Department of Science & Industrial Research (DSIR) Government of India has been Vigorously promoting an integrated approach to library automation and networking.

Limitations in Network Development:

A network may fail in the early stages if there is not proper planning or if adequate funds are not available. Moreover, a common memorandum of agreement signed by the participating libraries at the institutional level is essential for the success of a network venture. On a more practical level, catalog data must be in a standard, machine readable form for it to be shared and exchanged. And, finally, a continuous flow of external assistance is crucial for the network's survival.

Following the launching of DELNET and CALIBNET, the library automation and networking movement in India is surely catching on. The objectives, which are:

- Better utilization of funds through sharing of resources by creation of commonly usable data-bases and communication between libraries.
- Automating the functions of individual libraries at a local level for effective and efficient services to the users.

A number of benefits are being offered to member libraries of the particular networks. First, one gets access to a very large volume of literature without increase in the library budget because of the sharing of resources among the members. Secondly, the library budget can now be diverted to acquire the most important (even if expensive) information required by an institution, the other peripheral information being available on the network. Third, one gets near real time access to about 1000 international databases apart from the electronic mail and remote log in facilities. There are plans of these networks to connect and share the resources in the near future.

Nevertheless, the growth of these networks is slow. It is taking a long time to create and provide bibliographic databases of recognizable size, e.g., DELNET took already ten years in creating bibliographic databases of reasonably good size. Without the databases neither could networks be made effective to achieve the goals nor could resource sharing be effective.

Finally it appears that prospects are quite favorable for development of networks for better information services and resource sharing in India. In this direction lot of work has to be done. Some of the problems faced by other developing countries are common to India too, including financial constraints, inadequate communication, non-availability of equipments, less awareness of the value of information, reluctance to development and non-coordination of various kind of activities, resource building, resource sharing and exchange of information and ideas, non-standardization operational procedure, lack of dedication, motivation and knowledge on the part of available manpower.

Conclusion:

Today libraries are facing increasing demands for services while struggling with the challenges such as the rise in the information resources, high cost of library materials,

high expectations from users, budget cuts and much more. Library consortia are created

to help libraries obtain better prices by buying joint access for a greater number of users,

expanding access to print and electronic collections and developing new services to meet

their user's needs. Libraries can acquire more resources by paying less if they are members of consortia. Consortia purchasing offers, for the single library, the opportunity to gain access to more resources than might otherwise be possible. For the consortia members it offers reduced costs in the inter-institutional document delivery processes for specific resources. Resource sharing is considered to be a great advantage of consortia for libraries,

as today, the ability for users to access resources is often more important than collection building within a particular library. Through a library consortium, the collective strength of resources of various institutions available to it can be increased. The consortia enable libraries to gain the benefits of wider access to electronic resources at an affordable cost.

Information resource sharing and networking in libraries has become a real necessity in India. The Indian information professionals, education specialists and scientists have realized that the time has come to share the information resources and to coordinate mechanisms. This has resulted in discernible change in the information scenario in India.

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