

RESOURCE SHARING AND NETWORKING IN LIBRARY AND INFORMATION SERVICES: A BRIEF STUDY

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ABSTRACT: Resource sharing is a concept which includes many cooperative activities between libraries and other information centers. Advent of Information Technology (IT) and Information Communication Technology (ICT) have opened up new opportunities for greater cooperation. The emerging Information Technologies have brought many changes in libraries. These technologies have facilitated Library and Information Science professionals to work together to acquire and share library collection and provide digital library services to the user community. Increase of the literature in all subjects and shrinking of the library budget made the libraries depend upon each other. This leads to library cooperation, resource sharing and networking. Consortia approach is one of the many ways of maintaining cooperation and coordination among the libraries and in fact it has emerged as the 'state of the art' in library cooperation in recent years. Document resources sharing is the basis of modern document services, and also the working target of the document workers and the key point is the development of digital resources. The purpose of digital resources development is to use and share library information resources effectively.

KE WORDS : Resource Sharing, Library Cooperation, Library Consortia, ICT, Library Networking.

INTRODUCTION

The so-called 'Information Revolution' has made Libraries around the world to adopt new philosophies and technologies for information dissemination and also reduce the cost of information. Maintaining the dept and depths of collection of a single greatest challenge confronting libraries, be it, academic, special, national or public, Libraries have realized that although they are well funded, it is difficult to acquire all the materials needed by the clientele. In fact partnership and cooperation in local, national and international have become enviable for all libraries. In achieving resource sharing/library cooperation is through the establishment of consortium over networks.

The libraries are changing from single platform to network, the collection based system of libraries is becoming access-based, and their services are shifting around from document to information. As well as their physical access services are now in digital and towards virtual. The motto of libraries is to fulfill the information needs of their users. The demands of the users are changing as they are becoming tech savvy. Now they don't demand for document but need specific information. The available of vast information, rising cost of documents and limited budgets forces the libraries for sharing their resources. To overcome from these problems there is possibility of cooperation in various activities of the libraries such as abstracting and indexing, acquisition, bibliographic access, cataloguing, circulation, collection development, literature searching, management and accounting, microfilming, photocopying, processing, referral services, storage and union lists. The library resources are considered to be its staff, documents, infrastructure and services. The sharing of these resources is done to have mutual benefits for providing services to its users to fulfill their demands.

Knowledge work requires not just people but also tools and resources. Information and communication technologies have introduced a wide array of new tools to support knowledge work. IT is useful in most stages of the knowledge sharing process, and it is used for content management. Internet, IT, and ICT developments have facilitated resource sharing activities. Advent of ICT has opened up new opportunities for proper mutual cooperation among libraries. As digital information spheres are developing, librarians must adopt resource sharing policies, practices, and procedures in libraries. Although interlibrary loan (ILL) specialists provide an invaluable service, proper document delivery and resource sharing activities are needed. On the other hand a library consortium is a promising development for resource sharing.

HISTORICAL BACKGROUND

The library resource sharing is not a new phenomenon before it is known as library cooperation. The term "library cooperation" has been confused with resource sharing. Its history is traced back in the 13th century where cooperation is carried between monastery Libraries (Kraus, 1975). The effects of library of longest were started with cooperative cataloguing, in which the libraries with the other participating libraries enchants and use their each other resources and services. Kaul (1999) quotes that library cooperation traced as early or 200 B.C. between Alexandria library and Pergamum Library. They were sharing mutually each other needs and satisfying their requirements of resources. As per encyclopedia if library and information science there were agreements among the universities of Lund, Abo and Greifswald as early as 1740. The other examples of library cooperation include a projected union catalogue of the libraries of Weimar and Jean and a proposal for a coordinated acquisition scheme for Wolfenbuttel and Gottengen.

Kaula (1986) mentions - resource sharing is not a new concept in the field of libraries. The concept that goes by the term 'library co-operation' has been in use all along among those who had been working in libraries or had anything to do with the development of libraries. The term, however, has been replaced by a new coinage — 'Resource Sharing' — which sounds more attractive and makes better sense in this age of inflation and budgetary reduction. 'Library Resources' is the term that applies to personnel, material, functions or activities available in a library for satisfying the human needs and demands to acquire their desired knowledge (Anonymous, 2005).

Kaul (1992) has reported the first library cooperation activity in India to be the catalogue of manuscripts compiled by Whetting Stokes in 1868. The Indian catalogued development was one of the major cooperative efforts in Indian libraries up to the 1960. The first major union list entitled A Catalogue of Scientific and Technical Periodicals was compiled by Henry C. Bolton in 1885. With the advent of time library cooperation has become more systematic.

The international bodies FID, IFLA and UNESCO took initiative and made good efforts. An attempt was made by Paul Otlet and Henri La Fontana in 1895 to form the forum of FID for compiling a world Indian to publish information. In this regard UDC comes up as a tool for representing published information. The objective was to improve the availability of information. The IFLA started two programmes in the field of library cooperation were UBC and UAP. In the same way UNISIST, began to providing processed information in science and technology to all.

In the past, cooperation amongst libraries was restricted only to books and journals and it was known as 'Library Cooperation'. But when the field of cooperation became wider including acquisition, processing, storage of documents and sharing of expertise of library professionals, the new term was coined i.e. Resource sharing. Murice, B. Line (1980) express that in modern times cooperation is useful in the activities like acquiring selection, ordering and purchase of books etc; recording cataloguing and classification of books; making them available their own books by consultation and lending books not held by them by borrowing from elsewhere; storing of books for present and future use.

SOURCE AND RESOURCE

- The concept of Information Resource is often not defined properly
- Library documents are called Information Sources as they provide information
- They are also called Information Resources
- But the terms Information Source and Information Resource are not interchangeable
- A Source is one that makes something available, but a Resource helps in creating something new
- As a library generates all its services on the basis of its information sources they can also be called information resources
- So long libraries were having printed resources
- Now resources are available in various other formats, such as AV, digital, etc.
- E-resources are more popular these days because of their distinct advantages

WHY RESOURCE SHARING

1. Resource sharing is measured as one of the pillars of modern librarianship. The main motive behind it is to maximize the accessibility of materials /services and to reduce expenses.
2. Availability of various electronic tools for document detection such as access to online OPACs, publishers' catalogues, contents pages, and bibliographic databases has improved the alertness of library users about literature created in their areas of importance.
3. Swift expansion in world literature along with problems such as reduction in library budgets, continuous raise in document prices, and declining currencies have caused it ever more complicated for individual libraries in developing countries to obtain and maintain everything for their users.
4. Because of the rapid increase in world literature, resource sharing is the only logical/rational, practicable and cost-effective option to benefit from this gigantic collection of knowledge. The libraries in developing countries acknowledge the advantages/benefits of resource sharing but practically the size of this activity is far from satisfactory level.

CONCEPT AND DEFINITION OF RESOURCE SHARING

The sharing is the concept of give and take whenever a need arise with some agreements. "In the field of libraries the history of resource sharing is trace since documents were made available through various forms viz., shared cataloguing, library cooperation, interlibrary loan and union catalogue etc. The term library resources include each and every kind of the materials, functions and services, which constitute a modern library system. It is amalgamation of people, processes, ideas, materials and money which forms the substance of a library and can be described as its resources Kaul (1999). Resource sharing is an agreement amongst participating libraries where each participant library is willing to share its resource to other members when the need arises. As per the definition given in the Encyclopedia of Library and Information Science "resource are a person, thing or action to which one resorts to, when needed".

Allen Kent provides a description of some of the concepts associated with the resource sharing activity as: "Resource sharing in libraries is defined as a mode of operation where by functions are shared in common by a number of libraries in its most positive effects. Resource sharing entails reciprocity, employing partnership in which each member has something useful to contribute to others and in which every member is willing and able to make available when needed. The term resource is used to designate any or all of the materials, functions, services and the expertise of the professional and non-professional staff. Resource implies a thing, a person or an action to which one turns for aid and help in time of need".

From the earlier explanation of Kent, it must be easy for anyone to understand the meaning and significance of 'Resource Sharing'. Obviously it does not mean that individual identity of participating libraries would be affected in any way. In fact, the gains of resource sharing are to be obtained without in any way adversely affecting the objectives or interests of the participating libraries. However, some minor adjustments may have to be made in exceptional situations, with regard to the operational methods.

According to A.L.A. Glossary of Library and Information Science, "A term covering a variety of organizations and activities engaged in jointly by a group of libraries for the purposes of improving services and/or cutting costs. Resource sharing may be established by informal or formal agreement, by contract or may operate locally regionally, nationally and internationally. The resources shared may be collections, bibliographic data, personnel, planning activities, etc. In simply terms library cooperation or library resource sharing is that when two or more libraries in existing and working jointly on agreements to achieve their goals".

Need for Resource Sharing in Academic Institutions/Universities/Organizations

1. Collaborative resource sharing can play a decisive role for bringing people together; the knowledge, experience and skills of numerous team members to contribute to organizational development more effectively than individual team members performing their narrow tasks.
2. With the help of collaborative resource sharing the strengths, weaknesses, opportunities and threats, through knowledge-based SWOT analysis for academic institutes, can be properly explored/analyzed and in the result the resources/services can be enhanced accordingly as per the user's satisfactory level.
3. The knowledge-based SWOT analysis prepares/reflects the beginning of mutual knowledge sharing strategy among academic institutes so that to move them into smart/well-groomed schools.
4. It is the need of the hour to enhance organizational learning/pool of knowledge through collaborative resource sharing strategy by discovering, expanding, bridging and in the result taking advantage of all types of possible opportunities.

OBJECTIVES OF RESOURCE SHARING

Allen Kent, Bhargava (1986) stated the objectives of resource sharing networks as: "Library user should have access to more materials or services providing level service at less cost, increased service at level cost, or much more service at less cost."

- Sharing of the burden of purchasing materials & processing the materials
- Sharing of services & Human expertise
- To extend the accessibility of resources
- To diminish costs & To promote exploitation of resources
- To avoid duplication and save the finances
- Increase availability of resources & Promote full utilization of resources

AREAS OF RESOURCE SHARING

Today resource sharing involves several activities such as interlibrary loan, cooperative acquisition, specialized purchasing programmes, centralised processing, shared cataloguing, sharing of bibliographical data, centralised periodical collection for loan purposes, cooperative microfilming, preparation and maintenance of Union Catalogue and Union List of Serials. By various means of co-operation libraries all over the world can certainly run their operations smoothly and satisfy majority of readers. There are many ways and means to overcome the problems discussed above. Following are the areas of resource sharing:

INTER-LIBRARY LOAN

This service is to provide documents as well as information available to every reader whatever he needed and wherever it is available. If some document is not available in one library, an arrangement is made to procure this for the reader, from any other library of locality, region or country. The practice of inter-library loan is confined mainly in big cities because the document can be easily located, procured and returned.

COOPERATIVE ACQUISITION

While purchasing the books and periodicals all the libraries has to go through purchasing channels and formalities in purchasing like selection, placing the orders, reminders to the suppliers, passing the bills, arranging the foreign currency for periodicals. The libraries of a same region or locality can team up to become a central agency for purchasing of books and periodicals for all the libraries of the region. This way multiple copies of the books can be purchased on behalf of other libraries and on these are distributed as per requirements of each library. Such a practice is beneficial to member libraries in saving the labour of member libraries, brings down the cost of acquisition and can have maximum discount and lot of time saving is also there.

CENTRALIZED / COOPERATIVE CATALOGUING

Libraries are always facing problems of funds and to reduce the cost and to save the time centralized and cooperative cataloguing the best scheme. Under centralized cataloguing, a central agency or single library does the cataloguing job while in co-operative cataloguing, two or more libraries share the work, Machine Readable Catalogue (MARC) is the best example of centralized cataloguing. This improvement of quality and standers with uniformity and saving of time.

COOPERATIVE STORAGE PROGRAMME

In every library there are thousands of books and non book material which are seldom or little used and storage capacity in any library is limited. For this co-operative storage can be done.

COOPERATIVE REFERENCE AND INFORMATION SERVICE

The importance of reference and information services in any library can't be under-estimated. In research libraries such a service is essential. These days, when the means of telecommunication and computers are available everywhere, providing such a service through internet, telephone or fax, should be fully fruitful.

SHARING OF RQUIPMENT

A reprographic facility is the best way as many costly and rare documents of libraries need to be conserved through microfilming or through scanning. There is no need to purchase equipment by all the libraries this can be done on co-operative basis.

Main frame Computers are needed for automation in libraries. It is costly so every library cannot purchase. Co-operating libraries can use such a computer on a time-sharing basis.

EXCHANGE OF STAFF

There is shortage of expert manpower in the field of library software and operations. Library staff for such specialized jobs is not easily available. It is being felt by all the libraries that expertise of such personnel can be fully exploited by exchange of staff from one library to other. Such experts can train the staff members of other libraries.

PREPARATION OF BIBLIOGRAPHIES / DATABASES

Nowadays every library is in process to computerized, so a computer databases on likeness with interest can be created. Libraries can prepare the bibliographies and exchange these among the co-operating libraries.

LEVELS OF RESOURCE SHARING

1. **Local:** When the libraries seek resource sharing in the nearby areas in town, city and metropolitan cities, it is called local cooperation. This activity can be monitored through telephone as well as by local manager.
2. **Regional:** In this situation resource sharing libraries do not fall within the single town but belong to a region may be north or west. The whole regional libraries will be benefited to a large extent.
3. **National:** National level resource sharing may be achieved among the libraries in country. If the resources of all the libraries of a nation are cooperatively used then, inter library loan services will be facility at national level. For example national bodies like CSIR, AICTE, ICSSR, INFLIBNET, UGC academic Libraries public libraries, and National library Kolkata are providing inter library services in the field of sciences, social sciences, respectively.
4. **International:** The best example of international cooperation and resource sharing programmed is UNISIST. It has also established world science information system. International agencies like IFLA and FID are also extending their cooperation in this regard. The UNESCO Vitiated deposit and exchange of reading material of their libraries is done among the member nation.

ESSENTIAL FACTORS EFFECTING RESOURCE SHARING / NETWORKING

- Availability of computerized data- bases & Availability of communication facilities (computer, telephone, satellite communication, reprography, fax, e-mail, etc)
- Standardization of library organizational practice & Availability of financial resources
- Efficiency in the governance of net-work & Basic agreement

RESOURCE SHARING THROUGH NETWORKS

In the past two decades, information technology has made significant progress. The current state of information handling is indeed sufficient to support and encourage the sharing of resources among libraries. The pace of technological improvement shows no signs of abatement and libraries will find it rewarding to explore the realm of networking possibilities that this new technology makes feasible. Especially, the present decade has seen a greatly renewed interest in library cooperation and mutual benefits, prominently at national and international levels.

Characteristics

- Two or more libraries with a common desire and goals
- Two way communication system for free flow of information from one source to another

Objectives

- Centralize the information processing system; and
- Reduce communication gap among libraries.

ADVANTAGES

- Bibliographic literature explosion controlling
- Avoiding duplication
- Improving the mobility of data
- Flow of information among special information centres



national union catalogue of scientific serials in India



journal gateway 1

The screenshot shows a web browser window displaying the ICAST Journal Gateway website. The main heading is "DOCUMENT DELIVERY REQUEST TO SOURCE ORGANISATION". The form contains the following fields and content:

- E-Mail Address (Source Library):** poomime@nal.res.in; jay@nal.res.in; Kind attention Mrs. Poomime Nair
- Message:** Sir/ Madam, The following article is required by one of our scientist for R&D activity. I would appreciate in receiving the copy of the same preferably as a scanned image. Is required you may like to send the
- Author's Name:** [Blank]
- Title:** [Blank]
- Source/Journal:** Journal Of Experimental And Theoretical Physics Letter
- Year:** [Blank]
- Volume/Issue:** [Blank]
- Page:** [Blank]
- DETAILS OF REQUESTER:**
 - Name*:** [Blank]
 - Lab/Org*:** SELECT
 - E-Mail Address*:** [Blank]
 - Telephone No:** [Blank] Fax: [Blank]
 - (* Mandatory)**
 - Send!** button

journal gateway 2

STEPS TO PROMOTE RESOURCE SHARING THROUGH NETWORKS

As we have seen networking of libraries is essential for sharing of library resources, the same should be promoted at local, regional, national and international level. Following steps are to be taken to promote resource sharing through Networks:

- Important libraries, information centers and institutions get their catalogues and bibliographies prepared in machine readable form to provide computer aided information services to users and promoting automation of the functions in their libraries such as cataloguing, circulation, preparation of bibliographies, union catalogue, etc.
- To promote sharing of resources among the libraries in India by developing and disseminating information and by offering computerized services to the users.
- To optimize information resources utilization through shared cataloguing, interlibrary loan services, catalogue production, collection development and avoiding duplication in acquisition to the extent possible.
- Encourage cooperation among libraries, documentation centers and information centers so that pooled resources can augment weaker resources centers.
- The promotion of non-bibliographic databases in India, especially by National Informatics Center has enabled institutions to perfect computer and networking technology.
- In house functions like acquisition, cataloguing, classification, serial control, circulation, SDI, current awareness services, etc; the network should support these library operations and the libraries should use the data in the central port for this purpose.
- The participating libraries should follow the rules and regulations of the network and be willing to create bibliographic records according to standards laid down.
- Anglo-American Cataloguing Rules (AACR-2) should be used as the code for cataloguing. It will help in creation of standard records.
- Library of Congress Subject Headings (LCSH) should be used as a guide for creating subject descriptors. Other thesauri available on specialized subjects could also be used whenever needed in specialized libraries.
- The network should provide technical assistance to participating libraries in the creation of bibliographic databases.
- A panel of experts should be maintained for providing assistance to libraries & A central host machine should be installed for creating a union catalogue, combining catalogues of all participating libraries.
- As libraries in India use mainly Dewey Decimal Classification (DDC), Universal Decimal Classification (UDC) and Classified Catalogue Code (CCC) for classification of books, it would not be within the means and worth the effort to have one classification scheme in all participating libraries.
- The network should promote inter-library service and sharing of foreign periodicals should be attempted. As far as possible, foreign exchange should be saved on avoidable duplication titles. A courier service should be established to support the sharing of resources.

- All serials should also be published in electronic format and the availability of serials in electronic format, either outline or CD-ROM.
- Most of the abstracting and indexing services have cumulated the entries forming into databases, which can be searched online.
- Networking activities should increase in India. Government should take an interest in this field. Some of the important networks established are NICNET, I-NET, ERNET, SIRNET, INFLIBNET.

LIBRARY NETWORKS

Human networking has been in operation since the ages when man understood the limitations of survival as an independent entity. The compulsions of interdependence have given birth to the norms for cooperation in different scenarios. So have they done in the case of libraries which had to fulfill the growing demands of their users and to satisfy the legitimate use of their resources. Further, the introduction of computer networking as an accepted part of the library and information infrastructure has paved the way for automated networking. Networking has a very significant impact on the way in which library and information systems are perceived.

A library network is broadly described as a group of libraries coming together with some agreement of understanding to help each other with a view to satisfying the information needs of their clientele. National Commission on Libraries & Information Science in its National Programme Document defines a network as two or more libraries engaged in a common pattern of information exchange, through communications for some functional purpose.

Thus, a library network is the grouping of various libraries with in a particular region or the field, where the basic purpose is to promote resource sharing among member libraries by coordinate efforts for suitable collection development and reduce unnecessary duplication wherever possible. Human Resource Development is also one of the basic purposes in the library network.

OBJECTIVES OF LIBRARY NETWORKS

- To provide a national platform designed to bridge the gap among various types of libraries and establish links among organizations, professionals and users involved in R&D and manufacturing activities in the country;
- Establish local, regional, national and international cooperation for exchange of information and expertise;
- Evolve and implement programmes on education of users and training of information scientists responsible;
- To build information resources, prepare union database and to develop relevant information handling tools and techniques;
- Continuously assess information requirements, create and improve necessary infrastructure including computer network support and to provide informatics based support and services to the specialized community of users working in various subject areas;
- Sharing of resources and services including inter-library lending of books, periodicals, bulletin boards, SDI service, on-line union catalogue of books, periodicals, preprints/reprints, document delivery, information retrieval and dissemination, exchange of materials and requests for photocopying;
- On-line access to foreign databases, subject to the user's willingness to pay the costs incurred;
- Building a low cost library information system which can possibly be used as a model for future expansion;
- Create understanding and confidence among professionals and authorities.

DEVELOPMENT OF LIBRARY NETWORKS

Library networks seem to be developed first in foreign countries. OCLC is supposed to be the first example of library network that was founded in 1967, which has introduced online shared cataloguing system for libraries in 1971. Interlibrary Loan service was introduced in 1979 and since then has been used for more than 114 million loans among 6,700 libraries around the world. First Search service was introduced as a reference tool in 1991 and is now used by more than 19,246 libraries.

RLG-RLIN was formed by Research Library Group (USA) in the year 1974 for cooperative collection development, preservation, conservation, inter-library loan of the documents. RLG Union Catalogue Database has also been prepared by this network.

Washington Library Network (WLN) is another network of USA that was established in the year 1972. More than 800 institutes are participating and sharing their resources through this network.

Joint Academic Network (JANET) is the network of United Kingdom that was sponsored by Higher and Further Education Funding Council.

EURONET was established by European Economic Community (EEC), Luxembourg in the year 1979. It has generated Special Database of Significance to EEC's thrust areas of research.

As far as India is concerned, the movement for establishing city and regional-based library networks by NISSAT (National Information System for Science and Technology), a body under Dept of Scientific and Industrial Research (DSIR), Government of India was started during 1980s and 1990s to expedite the resource sharing among S&T libraries in order to avoid duplication of acquisition and minimization of cost. NISSAT has provided financial assistance for setting up of these library networks. Consequently, the libraries from both Maharashtra and Gujarat began to focus on cooperative efforts by forming networks in the region, viz. ADINET (Ahmedabad Library Network), PUNENET (Pune Library Network) and BONET (Bombay Library Network). All three being city Library Networks initiated the development of union catalogue of resources available in the member libraries (Ghosh and Jambhekar, 2003).

TYPES OF NETWORKS

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 as 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.

IMPORTANT LIBRARY NETWORKS IN INDIA

A. GENERAL NETWORKS

ENVIS (www.envis.nic.in)

ENVIS or Environmental Information System is established by Ministry of Forest and Environment in the year 2002 which became fully operational by 2006. ENVIS is a distributed environmental information network with the mandate of collection, collation, storage, retrieval and dissemination to varying users comprises of decision-makers, researchers, academicians, policy planners, research scientists, etc. The focal point of ENVIS and its network partners laid emphasis on the development of information base by creating comprehensive databases and strengthening information resource repository in the concerned subject areas.

The main objectives of ENVIS include:

- to build a repository and dissemination centre in Environmental Science and Engineering;
- to gear up the modern technologies of acquisitions, processing, storage, retrieval and dissemination of environmental information.
- to support and promote research, development and innovation in environment information technology.

ENVIS has developed a computerized database listing more than 5000 papers. ENVIS has also designated as a National Focal Point (NFP) and a Regional Service Centre (RSC) of INFOTERRA of UNEP for the South Asia sub-region, a global environmental information network which stimulates and supports exchange of information within and between the nations.

ERNET (www.eis.ernet.in)

ERNET is a computer network for academic and research community that was established by ERNET, India which is an autonomous scientific society of Ministry of Communications and Information Technology (Govt. of India), in the year 1986. ERNET was started with the financial assistance from UNDP (UNESCO) as Dial-up network. It is largest nationwide terrestrial and satellite network with point of presence located at the premiere educational and research institutions in major cities of the country.

ERNET has been serving institutions in various sectors, namely- health, agriculture, higher education, schools and science & technology and thus, understands the needs of these knowledge institutions. ERNET India is now well placed to address the complete ICT requirements of these sectors through large turn-key project solutions and consultancy services. All IITs, IISc Bangalore, DOE, Delhi and NCST, Mumbai were connected by 9.6 kbit/s leased line by 1992. It has also been instrumental in giving connectivity to UGC purviewed universities under UGC-INFONET programme.

Its services include communication services such as e-mail, file transfer, remote log on, database access, bulletin board etc. Besides, ERNET has also organized a number of training programmes catering to specific requirements of its user communities from various domains belonging UGC, ICAR, Defence, KVKs, etc.

INDONET (www.indonetglobal.com)

INDONET is the first commercial computer network that was established by CMC Limited, Hyderabad in 1986. CMC Ltd is renamed in 1989 as Informatics India Ltd and it is looking its operation. INDONET was set up fulfill the following objectives:

- To create the infrastructure for a network and promote a "network culture" within the country;
- To create a "software library" so that specialized users could afford to use software;
- To provide a platform for developing software and
- To develop in-house expertise in networking and disseminate information to the computing professional arena through training programmes, seminars etc.

The main customer of INDONET is the parent organization CMC itself. The two most important activities carried out by CMC on the network are the maintenance of a Management Information System (MIS) available for each of the departments - marketing, finance and personnel; and OLIMPICS - the spare part inventory management system developed in-house for maintaining an accurate inventory of all spare parts necessary for any maintenance or repair job anywhere in India (Rau and Rao, 1993).

NICNET (www.nic.in)

National Informatics Centre (NIC) was established in 1976, and has since emerged as a “prime builder” of e-Government / e-Governance applications up to the grassroots level as well as a promoter of digital opportunities for sustainable development. NIC, through its ICT Network, “NICNET”, has institutional linkages with all the Ministries /Departments of the Central Government, 36 State Governments/ Union Territories, and about 708 District administrations of India.

NIC has been instrumental in steering e-Government/e-Governance applications in government ministries/departments at the Centre, States, Districts and Blocks, facilitating improvement in government services, wider transparency, promoting decentralized planning and Centre, States, Districts and Blocks, facilitating improvement in government services, wider transparency, promoting decentralized planning and management, resulting in better efficiency and accountability to the people of India. Informatics-led-development” programme of the government has been spearheaded by NIC to derive competitive advantage by implementing ICT applications in social & public administration. The following major activities are being undertaken:

- Setting up of ICT Infrastructure
- Implementation of National and State Level e-Governance Projects/Products
- Consultancy to the Government departments
- Research & Development and
- Capacity Building

VIDYANET

VIDYANET is a dedicated communication/computer network to meet out the needs of scientists and research workers in the laboratories/institutions of excellence in the country. It is sponsored by Tata Institute of Fundamental Research, Bombay. VIDYANET objectives are to provide rapid means of communication by linking computers at various institutions in India to similar networks outside the country; to stimulate corporate research, the day-to-day exchange of research information and the execution of joint projects and publications.

All India Institute of Medical Sciences, Indian Agricultural Research Institute, Indian Institute of Technology (NT), Indian Statistical Institute, and National Physical Laboratory in New Delhi and Bhabha Atomic Research Centre, Indian Institute of Geomagnetism NT, National Centre for Software Technology, and Tata Institute of Fundamental Research in Bombay are its potential users. Sharing of computer resources and access to remote applications, databases, libraries, etc. are its major activities.

VIKRAM

VIKRAM is the packed-switched public data network was developed by the Department of Telecommunications to cover nine cities of the country. Initially, the network was consisted of 8 switching nodes and 12 remote access points with its Network Management Centre at Delhi, while nodes in the four metros, namely- Calcutta, Bombay, Delhi and Madras were extended later.

VIKRAM services include-information exchange through e-mail/FTP and Bibliographic Databases.

B.SPECIALIZED NETWORKS**ADINET (www.alibnet.org)**

Ahmedabad Library Network or ADINET was established in the year 1994 with the support from NISSAT, DSIR and INFLIBNET, but formally, it was inaugurated in February 1995 (Thakore, 1996) to bring about cooperative mode of working amongst more than 150 libraries and information centers in and around Ahmedabad. Its major aims were to bring cooperation among its regional libraries; to develop databases; to integrate scientific and technical information systems. It also plans to coordinate efforts for suitable collection development and reduce unnecessary duplication wherever possible.

A centralized database of periodicals and databases available in member libraries of Ahmedabad has also been prepared to generate Union Catalogue of Ahmedabad Libraries by this network.

Gujarat institute of Development Research; Gujarat University; Gujarat Vidyapeeth Entrepreneurship Development; Institute of India; Gujarat Cancer Research Institute; Sardar Patel Institute of Economic and Social Research Centre and Sardar Patel Institute of Public Administration are some of its beneficiary libraries.

BONET

Bombay Library Network (BONET) was established in the year 1994 with the help of NISSAT & NCST to promote cooperation among libraries in Bombay. 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 has created a bibliographic database on computers and software technology, union catalogue of journals and other periodicals of the libraries in the region. It is providing online catalogue; online document delivery; information retrieval; inter-library loan; and dissemination of information service to its member libraries. It also offers training related to library computerization and networking, and speed up computerization of Bombay libraries.

Bhabha Atomic Research Centre; Bharat Heavy Electricals Ltd.; Indira Gandhi Institute of Development Research; Marathwada Institute of Technology; Narsee Monjee Institute of Management Studies and Reserve Bank of India were some of its beneficiary libraries (Ramani, 1996). But this network is non-functional now.

CALIBNET

Calcutta Libraries Network (CALIBNET) was envisaged as a metropolitan network linking some 38 libraries in Calcutta metropolitan area. It is a Government of India Project that was launched by the National Information Systems for Science and Technology (NISSAT), Department of Scientific & Industrial Research (DSIR). It is managed by CALIBNET Society which is established under the West Bengal Government's Societies Registration Act 1961.

It aims to provide the individual libraries and their reading members with cost-effective solutions to their information problems. The project is building access to library & information resources available in the eastern region.

CALIBNET is helping in cataloguing; serials control; acquisitions; circulation to member institutions. Its major services include - CAS; SDI; union catalogue; partial database; editing and retrieval of records; global information; search; full-text document delivery; library automation; and CALIBNET INFO Services. It also provides- On-Demand Information Services; Consultative Service for Library Automation; Manpower Development Opportunities; and Research & Development in IT Applications.

MALIBNET (www.malibnet.org)

Madras Library Network (MALIBNET) was initially developed by INSDOC and NISSAT in 1993 to connect six major academic institutions. Now, it has many local libraries as its members.

MALIBNET has developed two important databases – 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. They are available for online access to any user but the information is also supplied in CD and hard copy.

MYLIBNET

Mysore Library Network is also a NISSAT sponsored library network that was established during the year 1994. Its prime objectives are to develop software tools; conducting seminar; workshops/training programs; and conducting surveys for libraries.

Mysore city is unique as compared to any other metropolitan city due to the richness in information resources. It is also unique in a way where one can find information on many areas like food science, sericulture, speech & hearing, pharmacy, dentistry, polymer, medicine, archeology, anthropology, Indian languages and engineering at one place (Krishna Rao, 2002). Therefore, Mylibnet network was developed to cater the needs of vast community of different libraries in the city.

Central Food Technological Research Institute (CFTRI), Mysore, being an active member of Mysore City Library Consortium (MCLC), is hosting this network in its premises CFTRI, Mysore and 116 Institutions are its members.

MYLIBNET has also compiled a catalogue MYLIB Database in the year 1996 in the machine-readable form and developed a software package for searching this catalogue either by institution name, journal title or by keywords. Now MYLIBNET is bringing reality to its networking activity by providing Web-enabled facility to its member libraries to modify the union catalogue database online. Besides, e-journals; food patents; CFTRI Library Bulletin; public services are its some of the important services being provided to member libraries.

C. COUNTRYWIDE AREA NETWORK**BTISNET**

BTISNET is a specialized information network that was sponsored by Department of Biotechnology, Govt. of India and established in 1986-87. It has been set up for 10 specialized information centres in genetic engineering-cell culture and virology, plant tissue culture, photosynthesis and plant molecular biology, oncogenes reproduction physiology, cell transformation, nucleic acid and protein sequences, immunology and bio-process engineering.

The important services of BTISNET include - data processing using application software; online communication access; and facsimile facility.

DELNET (www.delnet.nic.in)

DELNET was started at the India International Centre Library in January 1988 and was registered as a society in 1992. It was initially supported by the National Information System for Science and Technology (NISSAT), Department of Scientific and Industrial Research, Government of India. It was subsequently supported by the National Informatics Centre, Department of Information Technology, Ministry of Communications and Information Technology, Government of India and the Ministry of Culture.

DELNET has been established with the prime objective of promoting resource sharing among the libraries through the development of a network of libraries. It aims to collect, store, and disseminate information besides offering computerised services to users, to coordinate efforts development and also to reduce unnecessary duplication wherever possible.

DELNET has been actively engaged with the compilation of various Union Catalogues of the resources available in member-libraries. It has already created the Union Catalogue of Books, Union List of Current Periodicals, Union Catalogue of Periodicals, CD-ROM Database, Database of Indian Specialists, Database of Periodical Articles, Union List of Video Recordings, Urdu Manuscripts' Database, Database of Theses and Dissertations, sample databases of language publications using GIST technology and several other databases. The data is being updated in these databases and is growing rapidly. All the DELNET databases have been resident on DELSIS, an in-house software developed on BASISPlus, an RDBMS, the product of Information Dimensions Inc. of USA which has been provided to DELNET
Courtesy, National Informatics Centre, New Delhi.

DELNET provides an array of facilities. DELNET'S relentless efforts in resource sharing have proved extremely effective. It has contributed a lot towards the modernisation of libraries in India.

DESINET

Defence Science Information Network (DESINET) is a bibliographic information network for Defence that has been sponsored by DESIDOC, Delhi (Lahiri and Singh, 1989). 51 Laboratories are member of this network.

DESINET is covering only unclassified and technical information. It has close links with other similar networks like NICNET for exchange of information on mutually agreed terms. Its major activities focus on scientific, research and defence communities.

MALIBNET (www.malibnet.in)

Management Libraries Network (MANLIBNET) was established in the year 1998 at the first convention jointly organized by the Indian Institute of Management Ahmedabad (IIMA) and Ahmedabad Management Association. The Association was established with the primary objective of providing a platform to improve the common understanding among management and business libraries and to promote effective collaboration and resource sharing.

The primary objective of MANLIBNET is to provide a common forum to the professionals; and to develop understanding and co-operation particularly among management and business libraries and the librarians. Management Libraries Network (MANLIBNET) is a movement for sharing of resources and information among the libraries by fostering a spirit of cooperation and weaving them together in a networking arrangement.

To facilitate experience sharing and professionals' network, MANLIBNET organizes annual conferences in collaboration with academic institutions situated in different locations. The leading institutions that have collaborated with MANLIBNET to organize the conferences are IIM Ahmedabad, IMT Ghaziabad, IIM Lucknow, NIFM Faridabad, XLRI Jamshedpur, ICSSR Mumbai, IIM Kozhikode, Nirma University Ahmedabad, ICSSR New Delhi, KIIT University Bhubaneswar, SSIM Secunderabad; IIMHR Jaipur; University of Delhi (South Campus); IIM Indore, EDI Ahmedabad, TAPMI Manipal and JIM, Noida.

MANLIBNET has initiated Librarian Development Programme (LDP) for librarians and information professional community. MANLIBNET strongly believes that such LDPs would help the LIS professionals to sharpen their technical and managerial skills. MANLIBNET provides a common forum to the LIS professionalsto develop mutual understanding and co-operation particularly among management and business libraries. The Librarian Development Programmes (LDPs) are one of the major milestones of MANLIBNET activities towards the professional and educational enhancement of LIS professionals.

MANLIBNET promotes outstanding library practices by identifying the Best Librarian from information professionals' community and recognises the best academic and professional work on an annual basis. We act as teachers and consultants to each other that help us identifying issues and overcome challenges with advice and support from around the country. On professional platforms, MANLIBNET tries to put you in contact with current and future leaders in the library profession.

INFLIBNET (www.inflibnet.ac.in)

Information and Library Network (INFLIBNET) Centre is an autonomous Inter-University Centre of the University Grants Commission (UGC) of India. It is a major National Programme initiated by the UGC in March 1991 with its Head Quarters at Gujarat University Campus, Ahmedabad. Initially started as a project under the IUCAA, it became an independent Inter-University Centre in June 1996.

INFLIBNET is involved in modernizing university libraries in India and connecting them as well as information centres in the country through a nation-wide high speed data network using the state-of-art technologies for the optimum utilisation of information. INFLIBNET is set out to be a major player in promoting scholarly communication among academicians and researchers in India.

The primary objectives of INFLIBNET as envisaged in Memorandum of Association are:

- To promote and establish communication facilities to improve capability in information transfer and access, that provide support to scholarship, learning, research and academic pursuit through cooperation and involvement of agencies concerned.
- To establish INFLIBNET: Information and Library Network a computer communication network for linking libraries and information centres in universities, deemed to be universities, colleges, UGC information centres, institutions of national importance and R & D institutions, etc. avoiding duplication of efforts.
- To facilitate academic communication amongst scientist, engineers, social scientists, academics, faculties, researchers and students through electronic mail, file transfer, computer/audio/video conferencing, etc
- To undertake system design and studies in the field of communications, computer networking, information handling and data management;
- To establish appropriate control and monitoring system for the communication network and organize maintenance;
- To collaborate with institutions, libraries, information centres and other organizations in India and abroad in the field relevant to the objectives of the Centre;
- To promote R&D and develop necessary facilities and create technical positions for realizing the objectives of the Centre;
- To generate revenue by providing consultancies and information services; and
- To do all other such things as may be necessary, incidental or conducive to the attainment of all or any of the above objectives.

The screenshot shows the official website of INFLIBNET Centre. The browser window title is "INFLIBNET Centre, Ahmedabad, Gujarat INDIA - Mozilla Firefox". The address bar shows "http://www.inflibnet.ac.in/". The website header includes the INFLIBNET logo and the text "सूचना एवं पुस्तकालय नेटवर्क केन्द्र Information and Library Network Centre An Inter-University Centre of University Grants Commission (UGC)". Below the header, there is a navigation menu with links like "Institutional Repository", "Union Database", "e-Consortium", "UGC-InfoNet", and "SOUL". The main content area is divided into several sections: "Welcome to INFLIBNET Centre" with a brief description of the organization; "Forthcoming Events" listing several training and conference programs; "Events Calendar" for August 2011; "Access to Science Direct" and "Access to Wiley 908 titles" sections; and a "Latest@INFLIBNET" section. The footer contains "About Us", "Functional Groups", "Services", "Publications", "R T I", "Library", "N-LIST", "Shodhganga Links", "Downloads", "Hindi Version", and contact information.

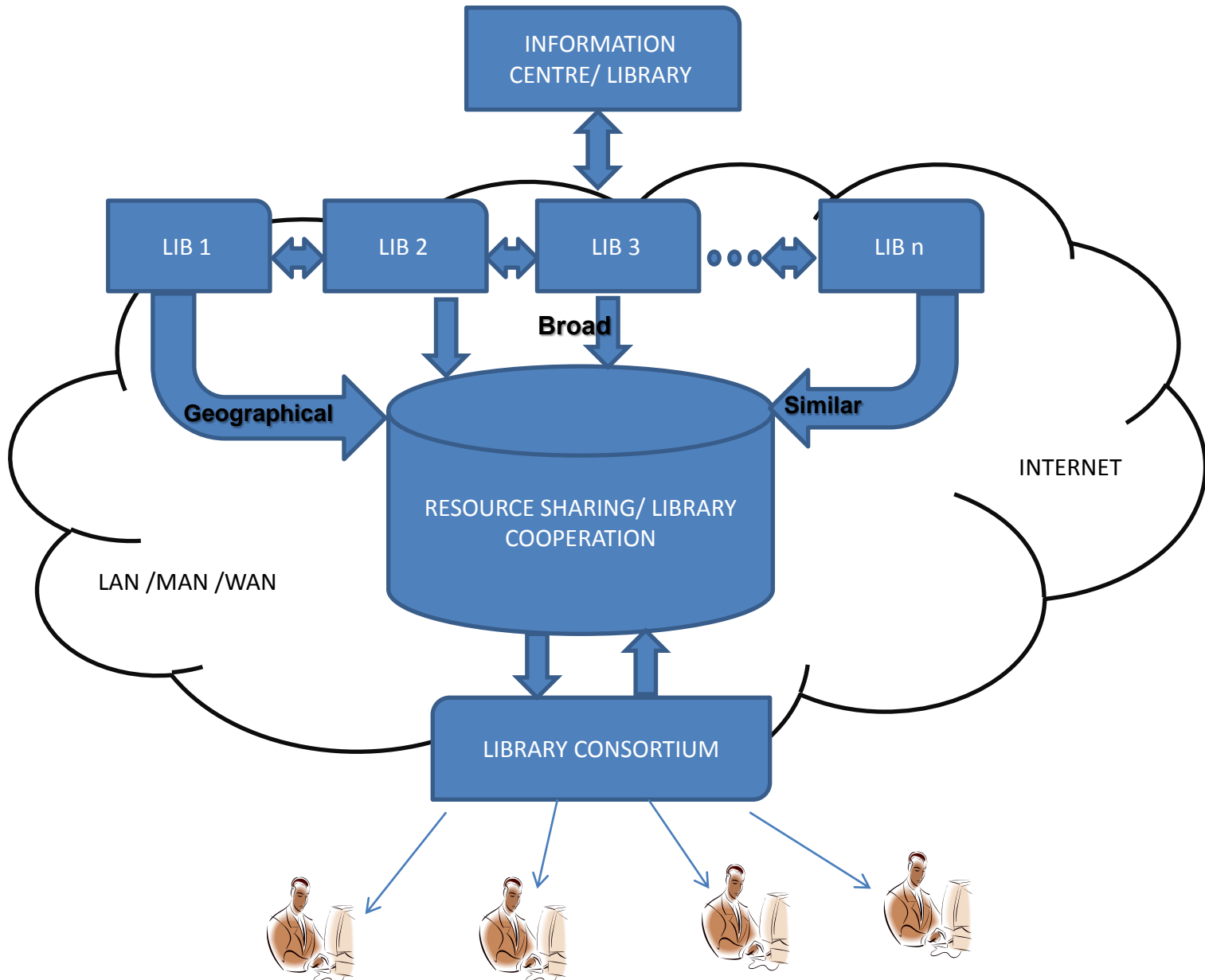
official website of INFLIBNET

LIBRARY CONSORTIUM – WHAT AND WHY?

- Consortium literally means “temporary cooperation of several powers or large interests to effect some common purpose”
- Library consortium is “a group of libraries that agree to pool their resources by allowing the user of each institution some type of access to resources of all other institutions”
- “It is a community of value creating entities, generating value through an aggregation of library units within and across organizations”

In the context of Library, Consortium is a community (a co-operative) of two or more information agencies which have formally agreed to coordinate in or consolidate certain functions to achieve mutual objectives. It is a joint venture of any group of libraries to fulfill the common goal. Consortia may be formed on a local, regional or international basis; on a functional or format basis; or on a subject basis. Majority of the libraries particularly in developing countries are thinking today about the cooperative purchasing for any group of libraries, consortia should be formed and are often useful for establishing a formal structure regarding resource sharing with formal agreement for each participant library. In this method of cooperative collection development of each and every participant library can easily access to specific collections.

Library → Group of Libraries → Resource Sharing (Library Cooperation) →



FUNCTIONS OF CONSORTIUM

A consortium can take up following activities for promoting information resource sharing:

- Cooperative collection development among member libraries
- Cooperative processing of information resources acquired through consortium Creation of virtual library covering all the e-resources available in member libraries
- Compilation of bibliographical and /or full-text databases of the holdings of the member libraries, both print and non-print
- Sharing of information resources, both traditional and digital, of member libraries through network or document delivery service
- Allowing reciprocal borrowing by the members of all libraries of the consortium
- Supporting member libraries for setting institutional repositories, e-print archives, electronic theses collection, etc.
- Digitization of valuable and rare collections of member libraries available in printed format and providing access to such materials to the members of all the libraries of the consortium
- Developing common interface to catalogues, databases and e-collection by creating portals
- Creating inter-operability among member systems, databases and services

ADVANTAGES OF CONSORTIUM BUILDING

- A comprehensive collection is possible
- Avoidance of duplication of non core collection development among the participating libraries.
- Reduction in the cost of information services
- Quality of services is enhanced

- Facilitation of the use of common library system
- Promotion of best practices
- Implementation of staff skills development programmers.

TYPES OF CONSORTIA

Theoretically consortia can be of various types depending on their characteristics:

By type of libraries covered

- Consortia of multi-type libraries
- Consortia of same type libraries

By geographical area of coverage

- Local level consortia
- State level consortia
- National level consortia
- International level consortia

By subject/discipline covered

- Single discipline oriented consortia
- Multi-discipline oriented consortia

By type of organizational structure

- Loosely knit federation
- Tightly knit organization

By basis of formation

- Non-sponsored consortia
- Sponsored consortia

Library consortia have come up in many countries

Several consortia have come up in India too:

- Forum for Resource Sharing in Astronomy and

Astrophysics (FORSA) This is a cooperative venture for providing access to select number of journals in the field of Astronomy and Astrophysics. www.library.yale.edu/consortia/FORSA.html

– Indian National Digital Library in Science & Technology (INDEST) Indian National Digital Library in Science and Technology, sponsored by MHRD, offers consortium access to important full text journals published by major international publishers. It started its operation in December, 2002. The operational area of INDEST has been widened with the inclusion AICTE-sponsored Institutions and name has also been changed to INDEST-AICTE consortium. <http://indest.iitd.ac.in>

– CSIR The consortium sponsored by CSIR for providing access to Elsevier journals at CSRI laboratories <http://202.54.99.7/ejournal/ejournalhome1.htm>

– INFONET Project of UGC This consortium provides access to e-journals to the readership of the universities under UGC. This consortium was created in January 2004. www.inflibnet.ac.in/info/ugcinfonet

– Health Sciences

Library & Information Network (HELINET) A newly-formed consortium, Health Science Library and Information Network is the first medical library consortium in India, and was initiated by Rajiv Gandhi University of Health Science, Karnataka www.rguhs.ac.in/HELINETHOSTCONSORTIIM/homeholinethost.htm

– CSIR E-Journal Consortium

– DAE Library Consortium

– IIM Library Consortium A cooperative venture for providing access to management journals, IIM consortium was formed in 2000.

J-Gate / JCCC Consortium

- TOC of 500+ journals
- Links to abstract of the article
- Enables downloading

COLCLUSION

Thus, it is seen the resource sharing which was started as cooperative movement, especially for exchanging the documents on inter-library loan has travelled a lot from print-based medium to non-print and online media. IT [ICT] is a greatest achievement of the 20th century and it has effectively changed the world in to a global information society (Bhatt, 2002; Dhiman, 2003). Library and Information centres are also not the exception and untouched of this effect. In fact, ICT has made resource sharing a reality.

The emergence of Library & Information Networks was seen as the first step towards the sharing of the resources. Networks also helped the libraries to transform into digital ones. But the advent of www and paradigm shift from print to non-print publishing in online mode, library consortia emerged. Laxman Rao (2006) rightly describes the need for consortia, which, “deal collectively with the problems of purchasing online products, to benefit from the best possible volume pricing, and to secure the best terms of agreement from online publishers.”

With the explosion of knowledge and constraints on the financial resources, resource sharing has emerged as an important thing or necessity. Moreover, the problems of space, standardization, professional development of the staff, challenges posed by new technologies, and drastic cut in the library budgets have aggravated the problem of the present day librarianship. In India, Resource Sharing, in true sense of the term, has not yet developed in a big way. A few decades ago NISSAT came into being and some library networks started with much

fanfare, such as CALIBNET, MALIBNET, DELNET, INFLIBNET, etc. Today NISSAT has been dismantled, while none of the networks have been able to become an efficient vehicle of resource sharing for which basically these networks had been established. Only DELNET and INFLIBNET have a better record, but still they will have to go a long way to be worthy of the tasks assigned to them. Happily now some consortia have started functioning. These consortia have started sharing of e-journals. To boost resource sharing activities in the country it is necessary to take up three pronged approach:

- Strengthening and reengineering of existing consortia to make them true vehicles of resource sharing and not merely sharing of e-journals
- Starting of new consortia and networks for resource sharing on suitable basis
- Linking of the consortia based networks to achieve nationwide network of libraries Implementation of these steps will require some time and many hurdles are to be crossed. But once done, it will be possible to have effective nationwide resource sharing. This will ensure maximum saving with regard to money spent on acquisition of information resources throughout the country and will help expedite research at all levels thereby contributing greatly in national development.

At present scenario academic society is information hunger society, and he wants information on any form, cost, and place so library consortia are best solution for everyone. Library consortia helps to library to achieve library objective, every library have common objective “right information to right user, at right time” for satisfy our users.

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