

Library Networking in India: A Study

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Abstract: *The library networks play a major role for effective resource sharing. This has resulted in discernible change in the information scenario in India. A large number of library resource sharing networks like the Metropolitan Area Networks such as CALIBNET in Calcutta, DELNET in Delhi, BONET in Bombay, PUNENET in Pune, MALIBNET in Madras, ADNET in Ahmedabad, and countrywide ones like ERNET (Educational and Research Institutions), INFLIBNET (Universities 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 present study briefly highlights some of the major library networks in India. The objectives, services, functions, future prospects and stages of completeness of these library resource sharing networks are also discussed.*

Keywords: Library Network, Library collection, objective, Function, facilities, Library Network services, Online, database, Membership

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 store houses of knowledge and information, and information centers which disseminate knowledge and information, form two important components of present day society. (Kaul, 1994)

The explosion in the amount of literature that is available, increases among the number of users and their different needs, and the application of electronic media are forcing libraries to construct and participate in networks. Magnetic tapes, floppy disks, and CD-ROMs provide enough data storage capacity. Retrieval through telecommunications networks and access to international databases are available for searching for information on various subjects. With the advent of networks, remote transmission of texts and graphics, video clips are also possible.

The Concept of Library network aims at evolving a mechanism of partnership in which each member has something useful to contribute to the other in the network. Basically it is a cooperative venture of two or more libraries with a view to optimise the utilization of available resources.

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.

The present study highlights only some of the major library networks in India.

Definitions:

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. (Kaul, 1994)

The National Commission on Libraries and Information Science (NCLIS) in its National Programme Document (1975) defines a network as: "two or more libraries and/or other organizations engaged in a common pattern of information exchange, through communications, for some functional purpose. A network usually consists of a formal arrangement whereby materials, information and services provided by a variety of libraries and other organizations are available to all potential users. Libraries may be in different jurisdictions but they agree to serve one another on the same basis as

each serves its own constituents. Computer and telecommunications may be among the tools used for facilitating communication among them”.

Objectives of Library network in India:

1. To facilitate and promote delivery of document, sharing of resources among the participating libraries through computer networking and support adoption of standards in library operations.
2. Co-ordinate efforts for suitable collection development and reduce unnecessary duplication of costly books and periodicals.
3. To create databases for projects, specialists and institutions to provide online information services
4. To improve the efficiency of housekeeping operations
5. Establish referral centers to monitor and facilitate catalogue search and maintain a central on-line union catalogue of books, serials and non-book materials of all the participating libraries.
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7. To coordinate with other regional, national & international network for exchange of information and documents for the use of libraries and users.
8. To evolve standards and uniform guidelines in techniques, methods, procedures, hardware and software, services and so on and promote adoption in actual practice by all libraries, in order to facilitate pooling, sharing and exchanging resources and facilities promote adoption in actual
9. To generate new services and to improve the efficiency of existing ones

Methodology- Secondary data has been use for the research paper.

Need and Development of Library Networking in India:

Needs of Library Networks:

Without library network, sharing various resources is nothing. It could not fulfill its goals easily. Library networks are must because of:

- Increasing amount of information is in electronic form
- Bibliographic access to information is also in electronic form
- Internet
- Timely access to information

Increasing amount of information is in electronic form

Bibliographic access to information is also in electronic form

Internet

Timely access to information

Some factors that 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

In Last two decade the concept of library and information networks in India has been introduced and the Library and Information Professional have started thinking about the resource sharing and consortia approach for acquisition and use of library resources either in print and electronic medium and other resources like manpower and equipments etc. In this direction Govt. of India has established NICNET, NISSAT and CMC also established INDONET, which have introduced the concept of Networking of Organisations. Therefore Professional bodies like ILA, IASLIC, have started

promoting the benefits of library networks and concept of consortia approach for collection development and its utilization by the academic communities.

A number of library and information networks have been established in India during the late 1980s and early 1990s. Gradually many national, regional and metropolitan city library and information networks like INFLIBNET, DELNET, ADINET, CALIBNET, MALIBNET, MYLIBNET, BOMNET, PUNENET, CSIRNET, and other general networks for e-governance and higher education such as NICNET and ERNET which have started coming up. These networks are playing an important role in collection, organisation of information and their retrievals and dissemination. Due to financial crisis and resource crunch in government as well as in private sector emphasis was given on the idea of resource sharing among the libraries and information centres.

The library network development in India has taken the following three broad directions

Development of Metropolitan Area Networks (MAN) in cities like BOMNET Bombay Area Networks, Calcutta CALIBNET Area Networks, Delhi DELNET Area Networks, Madras MALIBNET Area Networks, Pune PUNET Area Networks, Ahmedabad ADINET Area Networks, Hyderabad HYLIBNET Area Networks,

Development of countrywide networks like the INFLIBNET for university Libraries, DESINET for Defence laboratories and NISSAT National Information System for Science and Technology.

Development of Sectoral facilities like the BTISNET Biotechnology Information System Network and the proposed ones for oil and natural gas, management science and environment.

Classification of Networks based on Geographical Area covered

Types of Networks:

Presently, there are three types of computer networks:

- LAN
- MAN
- WAN

Local Area Network (LAN) :

A network is a group of computers and electronic devices connected so they can pass information back and forth over a transmission media.

The local area network (LAN)

Is a network to tie together personal computers which is designed to operate over a small physical area such as an office, factory or a group of buildings up to a few kilometers in size. LANs very widely used in a variety of computers to share resources (e.g., printers) and exchange information.

Metropolitan Area Network (MAN):

A *metropolitan area network (MAN)* is a computer network that is larger than a single building local area network (LAN) but is located in a single geographic ...

MAN used to connect many LANs together in one region. The IUB network is an example of a MAN. Television cable is also an example of a MAN.

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

Wide Area Network (WAN) :

In its simplest form, a **wide-area network (WAN)** is a collection of local-area networks (LANs) or other networks that communicate with one another.

A large-scale Computer network that covers a large geographical area, involving offices in different cities and countries or continent. is referred to as WAN (Any network which is specially designed to interconnect data transmission devices over wide geographical areas whose communications links cross metropolitan, regional, national boundaries). Less formally, a network that uses routers and public communications links.

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.

Categories of Network:

Library networks have been divided into two categories: general network and specialized network. The latter can further be divided into metropolitan network and countrywide network.

General Library Networks in India :

- 1.INDONET
- 2.NICNET
- 3.OPNET(Open Education Network)
- 4.VIKRAM
- 5.VIDYNET
- 6.I-NET
- 7.SAILNET
- 8.OILCOMNET
- 9.RAILNET
- 10.Indian Airlines Network

1. INDONET:

Title: INDONET data Network

Sponsor: CMC Ltd (1986) = Informatics India Ltd (1989)

Membership: Commercial computer network

Services: Database services such as DIALOG, COMPUSERVE; IP; SHARP

Applications: ACME; file transfer; international gateway

The INDONET, a computer-based network commissioned by Computer Maintenance Corporation (CMC), was the first Indian commercial computer communication network. It came into operation in 1986. It is an integrated information management and distributed data processing facility spanning the entire country. The INDONET aims to provide facility for distributed data processing on an all India basis to large organizations in the network using the CMC computers for their data processing operations.

2. NICNET: National Informatics Centre Network Sponsor by Planning Commission, Govt. of India. The satellite based National Informatics Centre Network (NICNET) (Seshagiri et al, 1987) was set up to provide informatics services to the Central and State Government Departments and then organizations. NICNET provides state of the art solutions and decision support for information management and decision support requirements of the Government of India and the corporate sector. Membership: Four national and regional nodes, 32 state and union territory nodes; seventy cities and towns.

Services: Bulk file transfer; teleconferencing; full text and bibliographic retrieval services

Application: ICMRNIC Center; MEDLARS in India; Chemical Abstracts database

3. VSAT Services

NET (VIKRAM): Vikram (Lahiri, 1991, pp. 13-14) is the packet switched public data network under development by the Department of Telecommunications. This network will initially have 8 switching nodes in Delhi, Bombay, Calcutta, Madras, Bangalore, Hyderabad, Ahmedabad and Pune and 12 remote access nodes with its network management centre located at Delhi. It will support packet switching interface to CCITTs X.25, X.28, X.29 and X.75 recommendations.

Bibliographic Applications: Like NICNET and INDONET, Vikram also has bibliographical applications. It has offered its infrastructure to NISSAT for pilot experimentation on library networking in the country.

4. VIDYANET:

Title: VIDYANET (Dedicated Communication Computer Net)

Sponsor: TATA Institute of Fundamental Research, Bombay

Objectives: To provide rapid means of communications 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

Services: File transfer facility; sharing of computer resources and access to remote applications, databases, libraries, etc.

5. I – NET

Sponsor: Dept. of Telecommunications, Govt. of India

Connectivity: Packet switched public data network covering nine cities

Services: Information exchange through e-mail / FTP; Bibliographic databases.

INET is India's X.25-based packet switched public data network; it was commissioned by DOT and paved the way for highly reliable, cost effective and flexible ways of national data transfer and information access. Packet switching enables error-free transmission with dynamic rerouting of calls and provides interconnection between computers/terminals at different speeds and protocols. In its first phase, INET had nodes at New Delhi, Mumbai, Calcutta, Chennai, Bangalore, Hyderabad, Pune, Kanpur and Ahmedabad; and connected through 9.6 kbps and 64 kbps links

2. Specialized and Metropolitan Area Networks (MAN) Library Networks in India :

1. BTISNET (www.btisnet.nic.in/):

Title: BTISNET (Specialized Information Network) Sponsor: Dept. of Biotechnology, Govt. of India.

Connectivity: 10 Specialized Information Centres in genetic engineering, plant tissue culture; photosynthesis and plant molecular biology; cell transformation ; bio-process engineering.

Services: Data processing using applications software; online communication access; facsimile facility

2. SIRNET: Title: Scientific and Industrial Research Network

Sponsor: CSIR (Commissioned Agency- NCST, Bombay)

Members: 40 labs and R&D Institutions

Applications: scientific communication; leather technology; natural products; food technology; medicinal Plants

The SIRNET (Scientific and Industrial Network) (SIRNET NET letter., 1990-), a project of INSDOC aims at networking all 40 CSIR laboratories under SIRNET. It was made operational in December 1989. At present, SIRNET provides electronic mail facility as its first application service from the SIRNET servers with a number of user nodes. For transmitting a message, a user has to deposit the message to one of the SIRNET mail service nodes situated at INSDOC, Delhi and at its regional centre at Bangalore from where it can be transmitted to its destination which may be any of the CSIR laboratories at present linked to the mail node.

3. DESINET(Defence Scientific Information Network)

DESINET (Defense Scientific Information Network)Countrywide Area Network:

Defence Scientific Information and Documentation Centre (DESIDOC) started functioning in 1958 as Scientific Information Bureau (SIB), as a division of the Defence Science Laboratory (DSL), which is now known as Laser Science & Technology Centre (LASTEC). On May 4, 1967, the SIB was named as Defence Scientific Information and Documentation Centre (DESIDOC) under the administrative control of DSL. It became a self-accounting establishment of DRDO on 29 July 1970 and started functioning as a central information resource centre for DRDO.

The following services are extended to the scientific community of DRDO

- 1.Digital Library & E-Services (DILES)
- 2.Koha OPAC
- 3.Current Awareness Service
- 4.Selective Dissemination of Information Service
- 5.Infowatch Service(Cluster based)
- 6.Reference Service
- 7.Newspaper Clipping Service
- 8.Current Periodicals of DRDO

Digital Library & E-Services :

E-Journals, DRDO Internet Website, Defence Science Journal, DESIDOC Journal of Library & Information Technology (DJLIT), DRDO Newsletter, Network Services, DRDO Publications, Defence Life Science Journal, DRDO Monographs/Special Publications, Technology Focus

4. ERNET(Education and Research Network)

ERNET was initiated in 1986 by the Department of Electronics (DoE), with funding support from the Government of India and the United Nations Development Programme (UNDP), involving eight premier institutions as participating agencies— NCST (National Centre for Software Technology) Bombay, IISc (Indian Institute of Science) Bangalore, the five IITs (Indian Institutes of Technology) at Delhi, Bombay, Kanpur, Kharagpur and Madras, and the DoE, New Delhi. ERNET began as a multiprotocol network with both the TCP/IP and the OSI-IP protocol stacks running over the leased-line portion of the backbone. Since 1995, however, almost all traffic is carried over TCP/IP.

FUNCTIONS :1. ERNET operations, i.e., providing state-of-the-art communication infrastructure and services to academic and research institutions, Govt. organisations, NGOs, private sector R&D organisations, and various other non-commercial organisations

2.Research and development in the area of computer networking has been the forte of ERNET.

5. INFLIBNET (Information and Library Network)

The Information and Library Network Centre (INFLIBNET) Gandhinagar is an Autonomous Inter-University Centre, (IUC) established by the University Grants Commission (UGC),University Grants Commission, New Delhi (Ministry of Education, Govt. of India). with its Headquarters at Ahmedabad. Information and Library Network (INFLIBNET)It is a major National programme of the University Grants Commission (UGC) initiated in 1991 as a project under the IUCAA, it became an independent Inter-University centre in June 1996.

FUNCTIONS: 1. INFLIBNET is helping in automation and modernization of university library system. It is providing universities high-speed line for accessing e-journals. It has become a major player in enhancing scholarly communication in India.

6.DELNET:Developing Library Network

DELNET has been in operation since January 1988 and was registered as a society in 1992. It was initially sponsored by the National Information System for Science and Technology (NISSAT), Department of Scientific and Industrial Research, Government of India and is currently being promoted by the National Informatics Centre, Ministry of Information Technology, Government of India, and India International Centre, New Delhi.Though it became a registered body in 1992 but was functional since 1988. DELNET was originally established as Delhi Library Network and subsequently the name was changed to Developing Library Network. The Headquarter of DELNET is in New Delhi.

FUNCTIONS : 1.To undertake scientific research in the area of Information Science and Technology, create new systems in the field, apply the results of research and publish them.

2.To offer technical guidance to the member-libraries on collecting, storing, sharing and disseminating information.

7.Calcutta Library Network (CALIBNET)

CALIBNET, a Government of India project, has been launched by the National Information Systems for Science and Technology The Calcutta Library Network (CALIBNET) was inaugurated on 21 December 1993. (NISSAT), Department of Scientific & Industrial Research (DSIR); and managed by the CALIBNET Society established under the West Bengal Government's Societies Registration Act 1961. CALIBNET aims to provide individual libraries and their reading members with cost-effective solutions to their information problems.

FUNCTIONS : 1. The prime objective was to institute systematic interlibrary cooperation and document delivery among the networked libraries for effective resource sharing..

8.Ahmadabad Library Network (ADINET)

ADINET is established for developing cooperative mode of working amongst the libraries and information centres in and around Ahmadabad. It was established in October 1994 with the help of NISSAT. It is sponsored by the National Information System for Science and Technology (NISSAT), Department of Scientific and Industrial Research, Government of India. ADINET promotes sharing of resources and disseminates information among member libraries by networking them up. It is stationed in INFIBNET Centre, Ahmadabad.

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FUNCTIONS :1.To bring about cooperative mode of working amongst libraries and information centres in and around Ahmadabad.

9.Mysore Library Network (MYLIBNET)

MYLIBNET: Mysore Library Network was initiated with the support of The National Information System for Science and Technology (NISSAT), Dept. of Scientific and Industrial Research (DSIR), took the initiatives design and develop library networks in India in 1985 in order to share the resources available in the libraries located in various parts of the country. The Mysore Library Network was set up during May 1995 in the city of Mysore with financial assistance from NISSAT.

FUNCTIONS :

1.To share resources available with all the libraries. To provide a faster communication to all the libraries through Electronic Mail facility.

10 :Madras Library Network (MALIBNET)

MALIBNET: The need for interconnecting libraries and information centres in Madras was visualized in the Indian National Scientific Documentation Centre (INSDOC) in 1991. MALIBNET was established in 1993 with the support of Indian National Scientific Documentation Centre (INSDOC). Initially six major academic institutions were directly linked to the MALIBNET host system.

FUNCTIONS :

1.To foster growth in the field of information science & technology. To undertake scientific research in the field of library & documentation.

11.Bombay Library Network (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.

FUNCTIONS :The services offered through BONET include the following

- 1.Organized training for selected staff of participating libraries
- 2.On-line catalogue of preprints/reprints, periodicals,books, for the region
- 3.Inter-library lending of books and periodicals and request for photocopying.

12. 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

FUNCTIONS :

- 1.To interconnect all the libraries in the Pune city through a computer communication network.
- 2.To facilitate active information exchange, and enable users to keep themselves up-to-date as to the availability of books and journals at various libraries of Pune city.

II. CONCLUSION

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.

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