Resource Sharing & Library Networks in India

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RESOURCES SHARING AND LIBRARY NETWORKS IN INDIA

Manoj Kumar Sinha
Kishor Chandra Satpathy

1.0 Introduction: Concept of Resource Sharing

In the present day context, no single library think of organising library services entirely based on its own collection. It has to certain extent depend on resources external to its collection. The reason of this dependency may be the rising cost of journals especially printed and electronic foreign journals, the growing pressure on library, space and the cost of the processing and maintaining large collections. It is, thus, for libraries to come forward for cooperation among themselves for effective utilization of their resources and there by helping the readers to a great extent in their pursuit of knowledge.

It is worthwhile to mention here that library cooperation in resource sharing has become essential because of a shift on the part of the libraries from permanent acquisition to temporary ownership. It may be noted that the advocates of ownership paradigm emphasises the acquisition of materials, in anticipation that academic library is fulfilling its role in planning and managing for anticipated information needs of the scholars and students. The temporary ownership model is criticised because of the short-term application, since its objective is to fulfill the immediate information needs only (IGNOU, 2000).

The philosophy behind the concept of resource sharing in libraries is 'access' to information resources available in the libraries. It is also based on the concept of 'equivalence' which means library should not only receive but also give. It may be stated that access is facilitated by means of cooperative collection development and inter-library loan activities.

1.1 Definition of Resource Sharing

Allen Kent provides descriptions to some of the concepts relating to resource sharing in the following lines:

*Resource sharing in libraries is defined as a mode of operation whereby functions are shared in common by a number of libraries in its most positive effects. Resource sharing of inter-

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entails reciprocity, employing partnership in which each member has some thing 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 expertise, of the professional and non-professional staff. Resource implies a thing, a person or action to which one turns for aid and help in time of need”.

1.2 Objectives of Resource Sharing

The objectives of resource sharing are very idealistic. They are aiming at providing convenient access to information to library users irrespective of the location of the resources. In other words, libraries go beyond their own resources to satisfy the users requirements. This is achieved by sharing the resources of other libraries. The main reasons for these activities are:

- Reduction in all round cost;
- Avoidance of unnecessary duplication of information resources and their processing and maintenance costs;
- Provision of greater access to information resources to a wider category of users; and
- Development of specialised areas of collection building, each library concentrating on areas of its own concern.

The basic activities of resource sharing are aimed at maximizing the availability of library materials and services at the minimal expense. The emphasis is on provision of access to information sources rather than possession and ownership of such resources, although ownership is not completely excluded. The basic assumption is that no library can possess all the published literature and hence it has to depend on other libraries for serving all the needs of its clientele.

The organisation of resource sharing involves a lot of effort on the part of participating institutions before it is implemented. For instance several basic agreements need to be developed before a proper and functional resource sharing system is evolved. Resource sharing activity calls for maintenance of basic records for its successful implementation. The use of computers would facilitate the work of resource sharing. For successful implementation, the concept of library networking and the use of telecommunication networks for enhancing resource-sharing activities have been considered. In this direction many local, metropolitan, regional and national library networks are coming up which would enhance the resource sharing activities among the libraries.

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Presently, a lot of information is available in the areas of science and technology, and other areas, and it would be much cheaper to build CD-ROM libraries of technical literature than subscribing costly journals. It is estimated that India imports about 150 crore worth of information every year, of which 35 crore worth of information is of bibliographic nature containing index and abstracts. The culture of resource sharing and advancement of networking technology is growing, and the more advanced technological breakthrough may further expedite the process of resource sharing.

The concept of networking aims at evolving a mechanism of partnership in which each member has something useful to contribute to the others in the network. Basically, it is a cooperative venture of two or more libraries with a view to optimise the utilization of available resources. However, the old cooperative arrangements and the new networking differ in several ways, while the traditional one is informal and unstructured, where as the new one is a formalised system with integrated organizational structure whose potential for rendering service is greater than that of its parts.

2.0 AUTOMATION AND NETWORKING

It is increasingly seen that the distinction between automation and networking is becoming negligible. Library automation and library networks are interdependent and a successful network will have its operations automated. Network is the organisation and the network resources are the computer system, databases, and the communication facilities. Hence, it is operationally essential that the successful network structure will have the network resources online.

2.1 NETWORK

Special Library Association, USA defines network as a formal arrangement whereby several libraries or other organizations engage in exchange of information, materials, services, etc. Encyclopaedia dictionary of Library and Information Science (1989), defines the term network as a series of interconnected computers, peripherals and/or terminals which are communicating with each other. Networking is a complex term and requires to be viewed from a variety of perspectives to comprehend its full benefits. Whenever more than two units (e.g., persons, organizations, or computer terminals) are connected and share some attribute a network is formed.

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 under different jurisdictions but agree to serve one another on the same basis as each serves its own constituents. Computers and telecommunications may be among the tools used for facilitating communications among them. According to United Nation Information System for Science and Technology (UNISIST), "Networking is a set
related information systems associated with communication facilities, which are cooperating through more or less formal agreements and institutional agreements in order to jointly implement information-handling operations with a view to pooling their resources and for provision of better service.”

2.2 Need of Library Networks

There are generic social and organisational forces that drive the development of Networks: in particular, the pursuit of effective centralised control over far-flung operations scattered in heterogeneous settings. In an academic community, networks may foster the building up of value consensus, setting up minimum standards of performance and contribute to homogenizing the knowledge base of all the members. Typically the prime uses of computer information networks in the academic field like electronic mail, data bases strengthen the sharing of thought, words and their fine-tuning through intense peer-to-peer communication. The networks help elite groups to develop and maintain shared ideologies without having to enter into cooperative relationships.

3.0 Aims and Objectives of Library Networks

- Library and information network aims at resource sharing which may include sharing documents, information, manpower and cost;
- Bibliographic control through shared distributive acquisition, storage, retrieval and distribution of information sources or documents (Kaul, 1995);
- To strengthen bibliographic control of the country’s own technological output and to establish computer based bibliographic databases in subject areas of interest to the region;
- To stimulate and promote the creation of non-bibliographic database in science, technology and socio-economic areas;
- To develop and promote the technical and organisational structure and capabilities for exchange of data;
- to develop Specialised Networks in high priority areas; and
- to improve the national information infrastructure.

4.0 Types of Networks

There are basically three types of networks: communication networks, computer networks and library networks.

4.1 Communication Networks

Communication networks constitute telecommunication and transportation services for the storage and forwarding of digitally encoded information from one location to many others.
They are made up of transmission lines, concentrators, switching mechanisms and non-data processing components.

4.2 Tele-Communication Networks

The purpose of a telecommunication network is to provide the users the means of communicating among remote locations. In such networks, a computer is linked to other computers or its terminals via modems or acoustic couplers and telephone or satellite links.

A network is a communication system much like a telephone system. Any device that forms a part of the network can send and receive information. The network can be confined to a building or an office complex or limited geographical area. such a network is called a local area network (LAN). As the organization purchased microcomputer equipment in late 1970s and 1980s, different departments usually purchased different makes of computer systems. As long as they were used as stand-alone units, there was no problem. However, one organization needed to share resources or information electronically, the realization that computers from different manufactures were not compatible, caused significant problems. Solution was found in LANs.

Metropolitan Area Network (MAN) is confined to an area of a city or a town with each node connected with dedicated telephone lines, micro-wave links or fibers optic cable whereas the wide Area Network (WAN) will have dedicated telephone lines connected through satellite links.

Depending upon the types of data carried by the networks, there are voice data Networks, Digital data Networks, Video Data Networks and a combination of these three types. Voice data Networks is the most familiar and the most common type of telecommunication networks in which voice data is carried. But there is a growing number of Network that carry textual, numerical and other related forms of data which originate and terminate in digital form. These networks are known as digital data networks. Still another types of networks is that which carries video data, As might be excepted, there are a good number of networks which can carry a combination of all of the above types of data. Telnet and Tymnet are notable telecommunication networks.

4.3 Library Networks

4.3.1 Information System and Information & Library Networks

Various national and international information and library networks are available to cater the need of users/readers for retrieval and dissemination of information in less possible time.

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Network implies computer and communication links that permit computers to communicate with each other and to share programs facilities, data and knowledge bases. A network can be local, i.e., in one room, in one office or in one institution or it can be regional, national, or international. It is for the electronic transfer of information between two or more points irrespective of distance. Networks have been developed to link industrial plants, banks, schools, offices, railways/airlines reservations and library and information centres etc. These networks provide resources and information to their users in larger volumes at a greater speed than the earlier methods did (Sinha and Satpathy, 1998).

The international networks include the United Nations Information system for Science and Technology (UNISIST), International Information system in Agricultural Sciences and Technology (AGRIS), Population Information Network (POPIN), INIS, and Geographic Information System (GIS).

The scenario of telecommunication in India is expected to change radically in the near future. Exercises have been undertaken to evolve systems that would offer voice, data and video services through a mix of satellite links, microwave links and fiber optic cables in high capacity range and satellite links, coaxial cables, radio links and wire lines in low capacity range.

Given that computers and microprocessors are dominating the telecom scenario, several long-range initiatives have been taken by various organizations and these may be classified into three categories:

**General Networks/ Service facilities :**

**Specialized Networks / Subject Networks :**

- NICNET, INDONET
- CALIBNET, BANKNET,
- INFLIBNET, ERNET,
- VIDYANET, BTISNET,
- SAILNET, BANKNET, COALNET
- RAILNET, TOURNET, etc

Large Networks carried by

**Business Data/Information Centre :**

"On the basis of sponsoring agencies, library & information networks can be Categorised / classified as follows :"

**4.32 General Network**

NICNET : National Informatics Centre Network,
Planning Commission, Govt. of India
<table>
<thead>
<tr>
<th>Network</th>
<th>Description</th>
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<tbody>
<tr>
<td>INDONET</td>
<td>CMC, 1996</td>
</tr>
<tr>
<td>COALNET</td>
<td>Coal India Ltd., 1993</td>
</tr>
<tr>
<td>ERNET</td>
<td>Education and Research Network, Dept. of Electronics, Govt. of India connects Academic Institutions, IISC/IITs, Dept of Electronics, Delhi, National Centre for Software Technology (NCST), Bombay</td>
</tr>
<tr>
<td>SIRNET</td>
<td>Scientific and Industrial Research Network. Connects major National Research Laboratories under CSIR/INSDOC</td>
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</tbody>
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### 4.33 UGC - Sponsored Library Network

<table>
<thead>
<tr>
<th>Network</th>
<th>Description</th>
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<tbody>
<tr>
<td>INFLIBNET</td>
<td>Information &amp; Library Network, Ahmedabad, 1988</td>
</tr>
</tbody>
</table>

### 4.34 NISSAT Sponsored Library and Information Networks

<table>
<thead>
<tr>
<th>Network</th>
<th>Description</th>
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<tbody>
<tr>
<td>DELNET</td>
<td>Delhi Library Network, Developing Library Network, NISSAT, 1998-99</td>
</tr>
<tr>
<td>CALIBNET</td>
<td>Calcutta Library Network, 1998-</td>
</tr>
<tr>
<td></td>
<td>INSDOC Regional Centre, Calcutta</td>
</tr>
<tr>
<td>PUNENET</td>
<td>Poona, 1992</td>
</tr>
<tr>
<td>ADINET</td>
<td>Ahmedabad Library Network, Ahmedabad, 1993</td>
</tr>
<tr>
<td>MALI NET</td>
<td>Madras Library Network, INSDOC, 1993</td>
</tr>
<tr>
<td>BONET</td>
<td>Bombay Library Network, 1992, NCST NISSAT</td>
</tr>
<tr>
<td>BALNET</td>
<td>Bangalore Library Network, 1995</td>
</tr>
<tr>
<td>MYLIBNET</td>
<td>Mysore Library Network</td>
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</tbody>
</table>

### 4.35 International Library Network

- OCLC
- WLN
- RLIN

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5.0 Factors of Library Networking in India

There has been a spurt in the activities on library networks development in the recent past. Some of the factors responsible for the promotion and support of such efforts in India are:

- Growth in awareness of the need for resource sharing;
- All round resource crunch;
- Increase in computer installations, access facilities in library environment and enhancement of the skills of library professionals;
- Improvement in computer communication facilities within and across geographical regions, and availability of general data networks like NICNET (Planning Commission);
- INDONET (Computer Maintenance Corporation) and more recently the INET (Department of Telecommunications);
- Creation of facilities of Electronic Mail by the ERNET (Department of Electronics), SIRNET (network of the Council of Scientific & Industrial Research maintained by INSDOC) and more recently the ICNET, SPRINTMAIL etc. in private sector.

6.0 Development of Library Networks in India

In last two decades the concept of library and information networks in India has been introduced and the LIS (Library and Information Science Professionals) 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 and NISSAT, and CMC also established INDONET, which have introduced the concept of networking of organisations. Therefore professionals bodies like ILA, IASLIC have started promoting the benefits of library networks and concept of consortia approach for collection development and its utilizations 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,
MYLINET, 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 retrieval 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 Bombay (BONET), Calcutta (CALIBNET), Delhi (DELNET), Madras (MALIBNET), Pune (PUNENET) and Ahmedabad (ADINET) and Hyderabad (HYLIBNET).

- Development of countrywide networks like the INFLIBNET (for University libraries), DESINET (for Defense 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.

7.0 Problems of Library Networking

- Standard for Data Conversion;
- Apprehension of over use of library
- Financial Constraints;
- Library Software issues;
- Manpower Training;
- Problems of Telephone connectivity;
- Lack of job security.

8.0 Conclusion

The success of Library Automation and Networking depends mainly upon the proper planning and appropriate decisions taken by the authority of the university from time to time. At the same time the motivation, zeal and lot of efforts of library and information professionals and weltrained data entry operators also results in quick and early implementation of computerisation of library activities.

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On the other hand, the right selection of hardware and software, manpower training of the existing library professionals and data entry operators, proper planning, step by step implementation of the computerisation programme leads to the path of success.

We should be thankful to all the INFLIBNET Centre family members who have taken initiative and keen interest under the direction and guidance of University Grants Commission, for computerisation of library activities and services of university libraries of North Eastern Region in particular and rest of India in general without whose support and effort we would have not been in a position to say any thing regarding the computerisation of university libraries. Therefore, the contribution made by the INFLIBNET towards the automation and networking of university libraries in India would be written in Golden letters in the Education history of India.

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Vashishth, C.P. (1994). Library Services for All by 2000 AD. Presidential address at 39th All India Library Conference, Department of Public Libraries, Govt. of Karnataka, Bangalore, January 7-10.

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We want that education by which character in formed, strength of mind in increased, the intellect is expanded and by which one can stand on one's feet.

Swami Vivekananda

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