

Master of Library and Information Sciences
Second Semester
Library and Information Networks

The library and information centre stands at the hub of the academic, research and professional activities and act as a centre for garnering knowledge and contributing to the existing pool of knowledge. Their role is to make the existing pool of knowledge available to its users either through resources available in its own collection or from other libraries. For long, the libraries have been facing challenges in meeting the demands of their users caused by exponential growth in number of publications, their escalating costs and reduction in budget allocations made to the libraries. While there is a continuous demand from the users to increase the resources and services, the manpower- physical infrastructure and financial resources made available to the libraries is decreasing. These factors have contributed to the necessity of establishing library networks for resource sharing amongst libraries. The technological advancements that offer newer methods of information processing, retrieval and dissemination in electronic environment has worked as an enabling factor. Application of new information technology has brought in dramatic changes in the library and information field. With technological advancement, libraries and information centers around the world have computerized their library routines and have developed databases for shared use on computer networks. Besides improving services and operations for improved performance, libraries have also been able to evolve effective computer networks with an aim to optimize utilization of resources and facilities. The library and information networks have potential to improve library services in several ways. It brings down the cost of information products and services in the network environment in shared mode. It enables libraries to offer need-based services to the end users eliminating the limitation of size, distance and language barriers among

them. With evolution in library networks, the emphasis has moved from the networks as physical entities to the resources available through the networks. These network-accessible resources include databases of library holdings, journal articles, electronic text, images, video and audio files, scientific and technical data, etc. A network is developed when a group of libraries and / or information centers decide to exchange information using computers. The library networks use existing communication facilities to establish networks amongst libraries that agree to cooperate amongst themselves through more or less formal agreements with a view of pooling their resources and to offer better services to the users. The participating libraries generally follow identical or compatible rules and procedures.

The term “Network” is increasingly used in place of “resource sharing” or “cooperative systems”. Networking and modernization are becoming very important in all types of libraries as they enable the users to have access to the resources of many other libraries in addition to their own. The term “Library Consortium” is also used, sometimes, interchangeably with the Library Network. Such library consortia are being formed these days not only to share the resources of libraries but also to subscribe to electronic resources on behalf of a group of institutions. With the rapid advancements in the technology, several library networks are either functional or are in the formative stage in India.

Definition of Library and Information Networks:

The basic purpose of a library network is to share resources and services amongst member libraries. A library network is broadly defined as group of libraries and / or information centers that are inter-connected to form a system with an aim to help each other with information needs of their clientele. UNISIST-II Main Working Document defines the information network as “a set of inter-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 to offer better services to the users. They generally follow identical or compatible rules and procedures". Susan Martin defines a network as a "group of individuals or organizations that are interconnected to form a system to accomplish some specified goal. This linkage must include a communications mechanism, and many networks exist for the express purpose of facilitating certain types of communication among members." Raynard C. Swank defines library networks as a "concept that includes the development of cooperative systems of libraries on geographical, subject or other lines, each with some kind of centre that not only coordinates the internal activities of the system but also serves as the system's outlet to and inlet from the centers of other systems.

Objectives of Library and Information Networks:

Major objectives of a library and information network are to:

1. Encourage interlibrary cooperation and resource sharing at all level amongst members of the network;
2. Provide help to member institutions in computerization of their libraries, retro conversion of bibliographic records and development of standardized databases for shared use;
3. Develop union catalogues of various resources so as to provide reliable access to document collection available in member libraries;
4. Provide effective access to combined holdings of library resources through computerized databases of various member institutions;
5. Provide document delivery services to member libraries;
6. Rationalization of acquisition of information resources in member libraries and optimize their usage through resource sharing;
7. Evolve/adapt protocols and standards, guidelines, methods and procedures for

- bibliographic records, their storage, inter-library loan, hardware and software;
8. Facilitate communication amongst users of member institutions;
 9. Provide training to members of library staff of participating libraries for effective use of libraries in the network;
 10. Guide member libraries in the effective implementation and utilization of current and upcoming information technologies;
 11. Provide access to information resources at reduced rates through consortium arrangements; and
 12. Develop and promote collaborative digitization projects.

Characteristics of Library and Information Networks:

The library and information networks are characterized by the following aspects:

1. Equal Opportunity of Access to All Members

A library network provides equitable access to all its core resources to all its member libraries. However, resources that are licensed from a third party may be offered on subscription basis.

2. Interdependence

Members of a library network depend on each other for sharing their resources. The interdependency may go beyond sharing of document resources to sharing of expertise, manpower, equipments, etc.

3. Use of Standards and Protocols

Use of common standards and protocols is a pre-requisite to successful implementation of a library and information network. The standards and protocols exist for network technology, database structure, information representation and for bibliographic records. Use of well-developed, widely-used standards and their uniform implementation help in improving the quality of services, interoperability of databases and digital repositories.

4. Shared Decision

The decisions of members of the executive committee of a library and information network are equitably applicable to all member institutions. All members of a library network are obliged to stand by the decision taken collectively.

5. Broad-Based Library Services

Library and information networks generally offer a broad range of library services including union catalogue of books and journals, access to union catalogues and licensed databases, licensing of e-resources from publishers, table of contents services, database of experts in various disciplines, etc.

6. Integration and Coordination

Library and information networks provide opportunity for integration and coordination of resources at the level of collection, manpower and expertise.

7. Centralization

Network activities are generally centralized. Large bibliographic databases are centrally stored and maintained although they have interfaces for online data feeding and updating. It is, however, possible to maintain distributed databases with single search interface using standard protocols.

8. Economics

The cost involved in maintaining activities and functioning of a library and information network including licensing and hosting of third-party databases get distributed amongst subscribers and members of the network. The products and services through the network, therefore, tends to be more economic than by the subscription directly by the libraries individually.

9. International Reach and Opportunity for Further Collaboration

The networks may be connected to other networks through which such networks can have an opportunity to learn from each other and work in collaboration.

10. Research and Development

The library and information networks, with their elaborate infrastructure and large number of databases, provide an opportunity for research and development work. The usage statistics of databases and electronic resources, feedback from participating libraries, etc. provides input for further research and analysis.

Needs of Library and Information Networks:

The library networks have several potentials to facilitate sharing information among different library and information centers at local, regional, national and international level. Library networks eliminate the size, distance and language barriers among users through resource sharing. Basic needs of library networks are:

1. Physical Limitation

No library is an island. No single library can acquire, store and effectively use all publications that have been published. Even Library of Congress and British Library with their acquisition activities spread all over the world cannot claim to acquire all scholarly publications.

2. Economic Limitation

No single library or institution has economic means to acquire all documents that are published even on a single subject. While the purchasing power of libraries are going down with declining library budgets, the cost of publications have registered a sharp increase in past few decades. Devaluation of local currency (i.e., Rupees) against US Dollar or other currencies like Euro and British Pounds particularly in developing countries have further compounded the situation. While the annual increase in the rates of scholarly literature vary from discipline to discipline, the average increase ranges from 7% to 10%.

13. Literature Explosion

The scholarly literature has grown in exponential proportion with spur of research activities in science and technology after World War II. It is said that half the scientists the world has ever produced are living and working actively. The number of scholarly journals has grown from one hundred in 1800 to a thousand by 1850, and to nearly ten thousand by 1900. The Online version of Ulrich's International Periodical Directory lists 2,40,000 serial publications. It has been observed that on the average the volume of scientific literature doubles every decade.

14. Increased Awareness and Demand from Users

The rapid growth of Internet and the Web and its ever-increasing usage has exposed the users to a plethora of information sources. These technology-driven changes has presented a scenario where the users have access to a vast array or information sources generated by commercial publishers, professional societies and individual researchers. Today's users are, therefore, much more aware of information resources that are available in their respective discipline. The advances in technology and its availability at lower cost, has therefore, raised demand of users on the libraries.

Existence of library network with their web-based union catalogues has also led to the awareness of users regarding availability of resources in other libraries and provision of inter-library loan.

History and Evolution of Library and Information Networks:

The library networks have its roots in library cooperation and resources sharing being practiced for centuries. The use of computers for automated generation of indexing and abstracting services in early 1970s and subsequent idea of sharing such massive information through the communication networks gave birth to the concept of online databases. These initiatives led to growth and development of computerized databases and online search services like DIALOG, BRS and DIMDI. The American Library Association and the US Office of Education

cosponsored a landmark National Conference on Inter-library Communications and Information Networks held in Warrenton, Virginia, USA in 1970. The conference recognized the need for establishing networks amongst libraries in USA for effective utilization of combined information resources available in American libraries. Sustained interest in the library networks lies in the opportunity that they provide for centralized services that are highly economic. A long-standing example of such services is the production of catalogue cards by the Library of Congress in 1968. Centralized technical processing of documents started by the Library of Congress was replicated in individual states and localities in USA and later in several European countries. Besides, centralized processing, the library networks have greater potentials to increase resource sharing. Recognition of the value of sharing rather than duplicating resources resulted in the development of the existing inter-library loan system, cooperative arrangements such as Farmington plan and the National Union Catalogue in USA. The pace of creation and development of library networks has been accelerating for past two decades. Some of the important library networks at international level include OCLC, RLG, CURL, AARLIN and JANET. Owing to inadequate communication facilities in India, library networks and online search facilities were almost non-existent in India until the end of 1970. The growth of library Networks in India can be traced to the initiatives taken by NISSAT in the year 1986. The CALIBNET was established in 1986 followed by the DELNET in 1988 with funding from the NISSAT. The DELNET emerged as the first operational network and is currently promoted with the support of the National Informatics Centre (NIC). Establishment of the INFLIBNET by the University Grants Commission (UGC) in 1988 as a national-level network can be considered as a major turning point in the evolution of library networks in India. The INFLIBNET is working as an agency promoting automation of universities libraries in India and connecting the through the

network. The INFLIBNET has recently been given the task to subscribing electronic resources in consortia mode for the universities in India under UGC's INFONET program. A few more Library networks in India that had emerged include: MALIBNET in Chennai in 1993 with support from the INSDOC (now NISCAIR), BALNET in Bangalore in 1997, etc.