

# Problems and Prospects in Automation and Networking in Libraries in India

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## Abstract

*This article presents Scenario of Automation and the networking of academic libraries are still in their formative stages. The reasons for, prerequisites of, and benefits of networking are given. Networking systems at the national and local levels are described, as are the salient features of INFLIBNET, which has been functioning since 1988. There are also three metropolitan networks, viz., DELNET, CALIBNET, and BONET. The libraries of the three metropolitan cities are already reaping the benefits of networking. The constraints of networking in Indian academic libraries are explained. The conclusion is that major information library networks such as INFLIBNET should have a more realistic and time-bound programme.*

## 1. Introduction

The India has crossed the 50 percent mark with regards to literacy. Nevertheless, it still has the dubious distinction of having the largest number of illiterates in the world. Although there has been a considerable increase in the infrastructure of the education sector, the goal of providing basic education to all still remains a distant dream. In the changing scenario, there is a growing need to realize the importance of libraries in fulfilling the mission of “Education For All by A.D. 2000.” Hence, our policy planners need to deliberate on this issue of utmost importance.

## 2. Information Technology Impact

According to N. Vittal, Chairman of the Telecom Commission of India, two major leaps of man were the invention of printing by Gutenberg in the fifteenth century, and the introduction of computers [1]. Technology has advanced quickly since the Second World War. The two main ingredients of technology are computers and communication. When combined, they generate information technology, and this has applications in all walks of life — business, travel, industry, education, shopping, banking, defence, medicine, and leisure.

India is improving its infrastructure of information technology. Its real development is difficult to measure, because the gigantic population acts to the detriment of all plans put forward for the advancement of the nation. In fact, 52 percent of Indians are literate, and this group is larger than the combined population of the United States and Russia. India’s

progress should thus be viewed differently. According to the World Bank *Policy Research Bulletin*, only one percent of India's population has telephones and televisions, as compared with Singapore's 40 percent, South Korea's 28 percent, and Taiwan's 33 percent. Despite this, India has, in absolute terms, more telephones and televisions. The major problem confronting India is its rising population. In order to ensure that the fruits of progress reach each and every person, methods and strategies have to be evolved to curb the population. It needs to be emphasized that the real picture of development should not be hidden in percentage figures. India's manpower with access to education and technology will enable it to emerge as a power in Asia.

Computers made a belated entry into our country, and since then India has not been able to keep pace with developments in other countries. Only 0.1 percent of the population uses computers, as compared with the US's 24 percent, Japan's eight percent, Germany's nine percent, and Singapore's 10 percent [2]. The planners, policymakers, and those responsible for the implementation of plans at the central, state, and local levels must decide how to cope with this situation.

### **3. Indian Libraries efforts towards Automation**

The scientific and technical libraries working under such R&D institutions as CSIR, ICMR, ICAR, and DRDO have taken the lead in library automation. Notable among public sector libraries are BHEL R&D and SAIL [3]. They have funded several training programs and software development projects which have played an important role in increasing awareness of the potential of the new technologies. Their main emphasis was on database development and information retrieval services. Unfortunately, the academic libraries have made little progress in this direction. The reasons for the slow pace of automation in academic libraries are the following:

- Academic libraries in India function in a relatively less autonomous environment.
- The academic libraries are a comparatively smaller unit within a larger setup.
- Libraries have to compete for scarce resources.
- Undergraduates outnumber postgraduates, faculty, and research staff.
- Academic libraries are not under as much pressure to improve their services as are scientific and technical libraries [4].

### **4. Libraries Networking**

Networking is the linkage of working procedures for the exchange of information resources. Presently, the term "computer network" is used in place of "resource sharing" or cooperative systems. Resource sharing or networking is defined as a mode of operation, whereby information resources are shared by a number of participants having the same objectives in mind. Thus the user of one library can have his requirements fulfilled by another library if the local library fails to serve his needs. Some of the essential prerequisites for effective resource sharing include

- Possession of shareable resources by the participating libraries;

- Willingness to share the resources;
- A planned mechanism of sharing;
- Precise understanding of the use and information potential of their respective collections; and,
- Common bibliographic access to the collections of the participating libraries.

Even libraries with good budgets or collections cannot have enough resources to be self-sufficient. In fact, interdependence has now become a way of life. In recent years we have witnessed the establishment of a great number of networks around the globe through which technology is utilized to facilitate a vast flow of information. This ultimately will enable and support applications which influence people's daily lives. The major factors which have created the need for networking include the rise in the cost of publications, a lack of funds and adequate manpower, and the geographical dislocations of libraries, *i.e.*, the fact that libraries are now located in remote and far-flung areas.

The ultimate aim of networking is to achieve maximum results with minimum input. This is clearly consonant with the nature of our economy, in which capital is scarce. Networking is inevitable in all types of libraries, for it enables users to have access to the resources of many other libraries, in addition to their own. The benefits which accrue from resource sharing are the following:

- Preparation of union catalogues;
- Preparation of the cataloguing data/catalogue cards for publications available in network libraries;
- Provision of bibliographies;
- Optimum utilization of rare collections;
- Cooperative exchange and distribution and storage of documents;
- Savings - of both technical work and collections;
- Reduction in the cost of library services, in the long run; and,
- Above all, the provision of more materials at low cost and in less time.

## **4.1 INFLIBNET**

INFLIBNET started functioning in 1988 with the aim of optimizing the utilization of resources and avoiding their duplication. INFLIBNET has proposed to network 200 universities, 7,200 colleges, and over 200 research organizations attached to scientific, agricultural, medical, social science, and defence organizations. It would be a multiservice network aiming at providing catalogue-based services, access to databases and document supply services, and facilities for computer mediating. In the initial plan, the thrust is on linking the most remote and needy universities with rich and rare collections. In the later phases, other university libraries would be linked. These are some of the salient features of INFLIBNET:

- It shall contribute to pooling, sharing, and optimizing resources.
- It shall modernize libraries and information centers.
- It shall have multiple function/service networks.

- It is estimated that in India, Rs. 150 crores per annum are being spent towards books and journals by libraries concerned with higher education, and yet the needs of the users cannot be met fully.
- It shall help the libraries to develop unique collections.
- It shall help in avoiding duplication in procuring costly books and journals.
- It shall help to establish instant contact with other libraries in the country.
- It shall help libraries to improve their efficiency.
- It shall operate at different levels — national, regional, sectoral, and local.
- It will help libraries to update their catalogues, and all catalogues will be aggregated from the bottom up, *i.e.*, from college and department to university library and regional centre.
- Users will be served mainly at local levels such as college, department, university, and R&D institutions.
- There will be a national centre for managing, overseeing, and coordinating affairs of the networks, and four regional centres (north, south, west, and east) to maintain union catalogues of library holdings.
- At the sectoral level, UGC information centres are included, and these centres will acquire, create, and access retrospective and current bibliographical databases [5].

## 4.2 DELNET

DELNET began its operation with the introduction of e-mail service in 1991, and has since then linked 35 libraries in the Delhi area. Participating libraries are using different software, such as CDS/ISIS, LIBSYS, CFS, DELMS, MINISIS, and dbase-LC-MARC. These libraries have saved a considerable amount by avoiding duplication of journals and other reading materials. The DELNET database has become one of the major bibliographic databases in India.

The network adopted Common Communication Format (CCF), developed by UNESCO, and AACR-2 as the code for developing cataloguing. H.K. Kaul, Director of DELNET, says that DELNET saved Rs. 25 lakhs in 1991, 25 lakhs again in 1992, and nearly Rs. 50 lakhs in 1993 through rationalization of foreign periodicals. NISSAT and the Department of Electronics played a vital role by providing free modems and e-mail software [7]. More libraries in Delhi are joining DELNET and making inquiries about online access to the Union catalogue. The British Council and NIC have helped DELNET in providing necessary assistance. The *DELNET Newsletter*, first published in January 1994, provides information about its activities.

## 4.3 CALIBNET

This network links 38 science and technology libraries in the Calcutta metropolitan area. The plan focuses on the introduction of automated systems into the participating libraries before networking them. Each library will have to automate its book acquisition, cataloguing, serials control, fund accounting, and circulation control. Libraries participating in the CALIBNET will use AACR-2 for bibliographic description. The MAITRAYEE software, which supports MARC records, will enable records to be

imported/exported through the CCF. CALIBNET will be linked to DELNET via dial-up access, and to external networks through the GPSS [8].

## **4.4 BONET**

Another landmark among the library networks of our country is BONET, which was inaugurated on 6 November 1992 at the National Centre for Software Technology (NCST), Bombay. BONET is the latest project sponsored by NISSAT. The network has the following objectives:

- 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;
- to promote cooperation among libraries in Bombay with emphasis on interlibrary activities rather than computerizing individual libraries; and,
- to impart training related to library computerization and the networking of Bombay libraries.

This is just the beginning. In the years to come many libraries will be automated and linked to a network. This will result in reducing the expenditure incurred in purchasing journals, research materials, etc., and it will improve access to information [9].

## **5. Barriers for Networking**

There are several constraints in the networking of Indian libraries. Higher education authorities still have a dilemma as to whether or not resource sharing is possible through networking. The potentialities of INFLIBNET are still not known to many academic libraries. Besides, UGC has failed to provide appropriate funds to academic libraries for computer software and hardware. Therefore, if INFLIBNET is to be of any help to the libraries, it surely has to provide funds for capital investment in software and hardware. These are the problems faced by the libraries:

- Information infrastructure is not up to date and there is a lack of trained manpower;
- Lack of effective networking and communication technology;
- Tardy implementation of proposed networks;
- Lack of uninterrupted power supply;
- Lack of foreign exchange for importing proper hardware; and,
- Technological backwardness, with a wide gap between India and developed countries [10].

## **6. Conclusion**

Automation and networking of libraries are still in their formative stages in India. Their full impact on libraries and library resources will be known in the course of time. INFLIBNET, DELNET, and other metropolitan networks are providing training facilities

for computer applications. The Indian Library Association, Iaslic, and NISSAT have jointly helped academic libraries in the choice of software and hardware, and in manpower training. Every year, INFLIBNET organizes a conference — CALIBER (Convention of Automation in Libraries) — to discuss issues related to the computerization of academic libraries. In the first convention of CALIBER, held at Ahmedabad in February 1994, the Chairman of INFLIBNET, Professor Yashpal, said that the government of India should provide more funds for the speedy networking of higher education and research and libraries.

## References

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