Chapter 5

Library Networks in the Knowledge Era

5.1 Introduction

The growing needs of the users with the enormous growth in the publications have laid much emphasis on the libraries worldwide to opt for the library cooperation. The phenomenon of library cooperation has emerged as one of the building blocks for the resource sharing which is in practice since last so many years. The practices of resource sharing which were centered around the manual ways have paved the way for the automated mechanisms for the library to library cooperation with the emergence of the computing technologies and a new era of Library Networking appear on the horizon of the libraries in the late 20th century.

The National Commission on Libraries and Information Science (NCLIS) in its National Programme Document defines 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 jurisdiction 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 communication among them” (1)

The Library Networks have also been defined by Alphonse F Trezza as “a formal organization among libraries for cooperation and sharing of resources, in which the group as a whole is organized into subgroup with the exception that most of the needs of a library will be satisfied within the subgroups of which it is a member “ (2) Raynard C Swank also
defines Library Network 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 centres of other systems. The concept is also hierarchical” (3)

5.2 Features of a Library Network

Before we dwell into the functionality and the changing roles of the library networks, it will be in the fitness of things to discuss the chief features of a library network. These features have made the library networks distinct and their contributions numerous to the libraries which becomes a part of the library network.

I would like to mention the 5 Cs of the Library Networking which are essential for an operational library network and the factors which govern the functioning of a library network. These 5 Cs refers to (1) Connectivity (2) Cost (3) Computers (4) Client (5) Content. All these characteristics are interdependent on each other and are inter-related. We shall now be discussing it detail these features.

5.2.1 Connectivity

The connectivity is a life line for the smooth functioning of a library network. There has been dramatic growth in the telecommunication growth all across the globe. The advancement in the telecom networks have given rise to more stable connectivity and access through the library networks. There is an availability of the leased-lines, Wireless, broadband, VSAT and Wifi connectivity in the libraries. We have dealt separately in the chapter 6 on “Knowledge Networking : tools, technology and delivery”, the various communication channels. During the 1980s we had seen the growth in connectivity between the computers and the desktop PCs chiefly because of the availability of online patron access catalogue systems and also the availability of a number of electronic databases through the online mode. It is worth to mention a study undertaken by ALA (American
Library Association) to assess the availability of adequate bandwidth in Public Libraries in USA. The study was funded by Bill and Melinda Gates Foundation. The study reveals that there is a growing need for higher bandwidth in the libraries since the users have also started using the images and media sites like Flickr and YouTube which consumes a lot much of bandwidth. Moreover the users also are wanting to have the Wireless connectivity. According to the study the minimum threshold for Internet bandwidth in the libraries is 1.5 Mbps. Also there is a need to assess the correct bandwidth requirement which depends upon the number of computers connected on the network as well as on the kind of applications being run by the library. (4)

I would like to mention below the findings of the survey highlighting the availability of the communication infrastructure among the libraries. The survey results have shown very encouraging figures regarding the availability of the dedicated link in the libraries. 89.9 percent of the respondents have confirmed the availability of the dedicated Internet facility in their libraries. The University libraries have the largest availability of the dedicated Internet facility with 95.2 percent affirmed the availability of the dedicated link, followed by 90.7 percent of Institutes, 89.7 percent in Research/Special Libraries and 86.7 percent in the Colleges. We can notice that Internet has been able to penetrate well among the organisations in the country and it is heartening to note that the libraries are also self-equipped now.

<table>
<thead>
<tr>
<th>Yes/No</th>
<th>Colleges (N=45)</th>
<th>Institutes (N=43)</th>
<th>Universities (N=21)</th>
<th>Research/ Special (N=29)</th>
<th>Total (N=138)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>6 (13.3)</td>
<td>4 (9.3)</td>
<td>1 (4.8)</td>
<td>3 (10.3)</td>
<td>14 (10.1)</td>
</tr>
</tbody>
</table>
Also, it is reported through the survey that in 97.3 percent of the organisations, the faculty has Internet facility at their own desk. In order to utilise the library network’s resources and services effectively, it is essential that the faculty has a direct Internet access. In Research/Special Libraries all the faculty has access to the Internet from their own desktop at the place of work. Since in Research Institutions, the scientists, researchers and scholars are searching for most up-to-date information for conducting their investigations, etc the facility is provided to them.

Table 54: Does the Faculty has Access to Internet at their Desks?

<table>
<thead>
<tr>
<th>Yes/No</th>
<th>Colleges (N=50)</th>
<th>Institutes (N=45)</th>
<th>Universities (N=22)</th>
<th>Research/ Special (N=30)</th>
<th>Total (N=147)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>6 (12.0)</td>
<td>3 (30.6)</td>
<td>3 (13.6)</td>
<td>-</td>
<td>12 (8.2)</td>
</tr>
<tr>
<td>Yes</td>
<td>44 (88.0)</td>
<td>42 (93.3)</td>
<td>19 (86.4)</td>
<td>30 (100.0)</td>
<td>135 (97.3)</td>
</tr>
</tbody>
</table>

Chi-Square 4.661  Significance at .1983 level  Note: Figures in parentheses are the percentage

5.2.2 Cost

The cost of membership to the library networks and the resources provided through them are important for their sustainability. The annual membership should be affordable by the member libraries and a uniform fee model should be applied to all categories of Institutional members. The additional services like Interlibrary loan, document delivery
services, access to the E-journals through Consortium, access to special databases through the network, should be provided on additional cost to the subscribing institutions on the network. I would like to mention that DELNET, a resource sharing library network in India charges Rs 7500 per annum from the member-institutions. The membership fee is kept same for all Institutional members whether it is a University, an Institution, an R&D organisation, a specialised library or a school library. The democratic approach, an unbiased one, helps in promoting the resource sharing. The library networks have been involved with the tasks of rationalisation of periodicals, cooperative cataloguing and now the E-journals consortium, subscription to Electronic resources to save upon the cost.

The survey results shows that 32.6 percent have more than 30 Lakh annual budget while 32.6 percent have the budget between 11 to 30 Lakhs. There is no doubt that University libraries in the country have huge library budgets and the survey results have also shown that 52.6 percent of the University libraries have an annual budget of more than 30 lakhs whereas Colleges and Institutes have lesser budgets with them.

<table>
<thead>
<tr>
<th>Total Budget (in Lakhs)</th>
<th>Colleges (N=47)</th>
<th>Institutes (N=38)</th>
<th>Universities (N=19)</th>
<th>Research/ Special (N=25)</th>
<th>Total (N=129)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upto 10</td>
<td>18 (38.3)</td>
<td>12 (31.6)</td>
<td>4 (21.1)</td>
<td>6 (24.0)</td>
<td>40 (31.0)</td>
</tr>
<tr>
<td>11 to 30</td>
<td>22 (46.8)</td>
<td>12 (31.6)</td>
<td>5 (26.3)</td>
<td>8 (32.0)</td>
<td>47 (36.4)</td>
</tr>
<tr>
<td>More than 30</td>
<td>7 (14.9)</td>
<td>14 (36.8)</td>
<td>10 (52.6)</td>
<td>11 (44.0)</td>
<td>42 (32.6)</td>
</tr>
</tbody>
</table>

Missing : 18  Chi-Square 12.191  Significant at .0578 Level
5.2.3 Computers

The infrastructure availability at the network level as well as at the member-libraries are a pivotal factor for the better utilisation of the library network services by the members. The availability of the high speed servers with the 24/7 network support should be available for the accessibility. Also there should be a good availability of the hardware at the member institutions. It is estimated that in last 15 years there is a decrease of hardware costs by a factor of 2000. (5) The cheaper cost of the hardware has made it possible for the Institutions to build up their infrastructures. In order to facilitate the optimum use of the library network resources and services, the faculty, researchers and scholars of the member institutions of the libraries must have the availability of the necessary computers and the connectivity at their own respective desks. Definitely the libraries also need to have good infrastructure in place to promote the access to the networked resources.

Through the survey conducted, it was found that 43.2 percent of the libraries have upto 10 computers in the library whereas 59.1 percent of the University libraries have more than 20 computers in the library. Only 32.2 percent of the respondents have more than 20 computers in the libraries. 62.1 percent and 44.0 percent of the Research/Special and College Libraries have upto 10 computers. It is quite clear that the libraries are not better equipped with the availability of the computers in their libraries though there may be separate computer labs or the computer departments but they are not the part of the libraries. If we want our users to access to the online information resources, it is essential that adequate infrastructure is made available to the libraries.

Table 56: Number of Computers in Libraries

<table>
<thead>
<tr>
<th>Numbers</th>
<th>Colleges (N=50)</th>
<th>Institutes (N=45)</th>
<th>Institutes (N=22)</th>
<th>Research/ Special (N=29)</th>
<th>Total (N=146)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upto 10</td>
<td>22 (44.0)</td>
<td>19 (42.2)</td>
<td>4 (18.2)</td>
<td>18 (62.1)</td>
<td>63 (43.2)</td>
</tr>
<tr>
<td>11 to 20</td>
<td>14 (28.0)</td>
<td>12 (26.7)</td>
<td>5 (22.7)</td>
<td>5 (17.2)</td>
<td>36 (24.7)</td>
</tr>
<tr>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>More than 20</td>
<td>14 (28.0)</td>
<td>14 (31.1)</td>
<td>13 (59.1)</td>
<td>6 (20.7)</td>
<td>47 (32.2)</td>
</tr>
</tbody>
</table>

Missing : 1
Chi-Square 13.007
Significant at .0429 level

5.2.4 Client

The members of a library network can be diverse in nature. The libraries specialising in various domains can be a part of a library network. The academic, governmental, corporate sector libraries, R&D organisations, etc. can become a part of a library network. The more diverse the library network has the coverage, the more effective would be the resources of such a library network. In a library network, the participating libraries are usually from various fields of disciplines and they pool their resources together and share them across the network.

5.2.5 Content

Content is a major resource of a library network. The popularity and significance of a network depends upon the coverage of the content which is made available through the online services. The library networks depends upon the member libraries to share their resources which are converted into machine readable form and make them available through the union catalogues and union lists. In a developing country like India, though progress has been made in the arena of library automation and networking, but a sizeable large number of libraries are still struggling to adopt a standard library software and also to follow the standard bibliographic format like MARC 21 for records creation. The resource crunch is a major problem in addition to the availability of the trained manpower to accomplish the desired targets. There is a growing awareness now among the library and information science community to use the open source library management software
packages including Koha or to use GSDL, Dspace, etc for digital libraries development.

5.3 Library Networks of the World: an Overview

I would now like to give an overview of some of the major library networks of the World. I have randomly chosen these library networks keeping in view the geographical locations of the world from where they operate from in order to know about the library networks, their origin, functions and services. I have chosen fifty library networks which are listed below.

5.3.1 OCLC (Online Computer Library Centre), Ohio, USA

The genesis of the Library Networks could be traced back to the late 1960s when the Ohio College Library Centre (OCLC) was established in Ohio. It was because of the dedicated efforts of the academic librarian community of Ohio who were engaged and interested in the cooperative activities since the early 1950s. A number of Ohio College Association (OCA) committees of Librarians were constituted which were active during 1963-64, 1964-65 and 1965-1966. The proposal for the establishment of OCLC was mooted by the first two committees and approved by the third committee. (Source: LISR 6, pp 43-74, 1984). It is worth noting that the driving force behind the OCLC’s origin was a group of presidents of several Ohio academic Institutions and members of the Ohio College Association. It is interesting to know that though OCLC is a library network, many people who were involved in the establishment of the network were not librarians; but by the administrators of colleges and Universities. (Source: Maruskin, A F (1979) “An historical analysis of OCLC, Inc: its governance, function, financing and technology” unpublished dissertation. University of Pittsburgh.(6)

Founded in 1967 and headquartered in Dublin, Ohio, OCLC Online Computer Library Center is a nonprofit organization that has provided computer-based cataloging, reference, resource sharing, eContent and preservation services to 69,000 libraries in 112
countries and territories. OCLC and its member libraries worldwide have created and maintain WorldCat, the world’s richest online resource for finding library materials. (7)

5.3.2 RLIN, USA.

Research Libraries Information Network (RLIN) was established in 1978. It was initiated as a bibliographic network of the Research Libraries Group popularly known as RLG. The services were limited to the member institutions only. (8) In the year 2006, a new development took place which had witnessed the merging of RLG with OCLC with effect from 1st July 2006. The online products and services of RLG were integrated with OCLC. RLIN containing more than 72 million bibliographic records is integrated into WorldCat now. (9)

5.3.3 OCLC Western (formerly Western Library Network), USA

The history of OCLC Western goes back to more than 30 years ago when the OCLC Pacific was established in 1976. In 1999 the Western Library Network in Washington (formerly Washington Library Network) merged with OCLC covering five Western states. Since the year 2001, the OCLC Western network serves libraries in the seven western states of Alaska, California, Hawaii, Idaho, Montana, Oregon and Washington and also the Guam. It provides the services including digital and preservation programmes, consulting, education and training, e-content, etc. (10,11)

5.3.4 SOLINET

The Southeastern Library Network (SOLINET) is a not-for-profit organisation. It was established on March 9, 1973 by the Association of Southeastern Research Libraries (ASERL). It was consisting of the largest academic libraries of the region. SOLINET has functioned as a multitype, multistate consortium. SOLINET is the largest regional library network in the U.S. With 99 charter members in 1973, SOLINET has grown to include
more than 3,400 libraries today (Alabama, Florida, Georgia, Indiana, Kentucky, Louisiana, Mississippi, North Carolina, Puerto Rico, South Carolina, Tennessee, Virginia, and the U.S. Virgin Islands). SOLINET has all kind of libraries on the network including academic, research, public, school, corporate, medical, law, and special. The initial development plan of SOLINET was to replicate on a regional level, the state-based Ohio College Library Center (OCLC), a computer network designed to share cataloging costs among participating libraries. It provides access to Lexis Nexis Statistical databases, Springer E-books collection, Sage E-Reference containing more than 60 authoritative encyclopedias., etc. (12, 13)

5.3.5 Amigos

In 1974 Amigos began its operations as AMIGOS Bibliographic Council. AMIGOS is a not-for-profit, membership-based organisation. The 22 libraries came together to get the OCLC access in the southwestern United States. As of today, the Amigos Membership consists of over 750 libraries and cultural heritage institutions- museums and archives which are located primarily in the southwestern United States. Through the Cooperative Programmes, a wider access to a large number of electronic resources are provided to the members, also the regional courier service, imparting training to the manpower, consultation to the member libraries. Interestingly AMIGOS also provides 24x7 access to disaster recovery assistance and is the sole distributor for BioOne in the United States and Canada. It also provides the technical support and training for the OCLC services. (14)

The mission of Amigos is to:

- Provide innovative services to libraries
- Promote library cooperation and resource sharing
- Strengthen libraries as leaders in their communities
- Support libraries as education and information providers
5.3.6 Bibliographic Centre for Research (BCR)

The Bibliographical Centre for Research (BCR) was found in the year 1935 as a non-profit organisation. It is one of the oldest and most established multistate library cooperative. BCR was responsible for creating for the very first time the multi-state union catalogues to enhance the interlibrary loan among the libraries. BCR serves its more than 8000 member libraries located in 11 member states including Alaska, Colorado, Idaho, Iowa, Kansas, Oregon, Nevada, Utah, Washington and Wyoming. It helps the libraries by sharing the information resources through its online databases, providing training in the technical areas to the library and information professionals. (15)

5.3.7 Federal Library and Information Network (FEDLINK)

FEDLIN (the Federal Library and Information Network) is a cooperative program of FLICC (Federal Library and Information Center Committee). The FEDLINK was established in 1976 to allow the federal libraries to participate in the OCLC. The FEDLINK was launched as a programme of the Library of Congress in order to serve the government libraries of US and to establish a consortium for purchasing, training and resource sharing. FEDLINK serves US federal libraries and information centers wherever they are located on the globe. The membership to FEDLINK is restricted to the US government libraries only. Around 1200 federal agency libraries, information centers, offices throughout all states and across the globe, around 800 libraries use OCLC services. The services including Online reference databases, cataloguing, Interlibrary Loan, training, etc are provided through the network. (16)

5.3.8 ILLINET

The Illinois Library and Information Network (ILLINET) was formed in 1975 and is headquartered in Dublin, Ohio. It was initially organized as a section under the Library Development Division at the Illinois State Library. There has been the introduction of
ILLINET/OCLC services in the 1977 providing network services of the Illinois State Library in Springfield, Illinois, and affiliate of OCLC. In 2003 it got merged with the Library Automation and Technology Division of Illinois State Library. ILLINET/OCLC Services is a non-profit organisation at the federal level and is in the state of Illinois. The ILLINET/OCLC services are funded by Illinois State Library Appropriations and ILLINET member contributions. The Illinois State Library has launched the ELI (Every Library in Illinois) which is being used by ILLINET/OCLC and acts as a repository of information available with the member libraries. The Library Automation and Technology Division also looks after providing the consultancy for the digital projects and maintaining access to the digital resources. The AskAway Project is a virtual reference programme and QuestionPoint 24/7 was initiated in 2006 by them. ILLINET/OCLC services maintains a database of all libraries belonging to Libraries Very Interested in Sharing (LVIS) and Serials of Illinois Online (SILO) (17)

5.3.9 INCOLSA

Indiana Cooperative Library Services Authority (INCOLSA) was established in 1974. It was meant to improve the library services and to promote networking among the libraries of the Indiana region. INCOLSA includes 760 member institutions representing more than 2200 academic, public, school and special libraries throughout Indiana. It is a not-for-profit organisation. The major services provided by INCOLSA includes reference, interlibrary loan, training and continuing education, INSPIRE: the Indiana Virtual Library, INCat the state wide catalog, etc. (18)

5.3.10 Michigan Library Consortium (MLC)

MLC was established in 1974 as a non profit organisation. It comprises of all types of Michigan Libraries. The formation of the Michigan Library Consortium was because of the efforts made by the Wayne State University, Michigan State University, Kalamazoo
College and several others. In 1974 MLC introduced the OCLC services especially the cooperative cataloguing and resource sharing to its libraries in the Michigan state. In the late 1970s, MLC negotiated with 3M for building up a consortium for purchasing theft detection systems in the libraries. Also in 1985, the silver platter databases on CD-ROMS were provided to the member libraries. MLC provides access to databases, digital books, e-journals, commercial databases, etc. (19)

5.3.11 MINITEX Library Information Network (MINITEX)

MINITEX was established in 1968 with the financial assistance from the University of Minnesota Libraries. It is a programme of the Minnesota Office of Higher Education (OHE) and the University of Minnesota. The primary goal was to promote the resource sharing among the two campus of the University of Minnesota and also with the libraries of the city of Minnesota. The network now has more than 2000 academic, public, state government, school, health science and other special libraries in Minnesota, North Dakota, and South Dakota. The MINITEX provides the programmes related to the (1) Consortial purchasing of electronic information resources (2) the document delivery services which receives and processes more than 3,50,000 requests a year (3) a contract cataloguing service (4) a serials exchange programme (5) A daily courier delivery network in Minnesota, North Dakota and South Dakota engaged in overnight deliveries (6) The reference service database which provides access to more than 15 online databases including full text magazines, OCLC, Gale, EBSCO, NetLibrary and ProQuest. (20)

5.3.12 Missouri Library Network Corporation (MLNC)

Missouri Library Network Corporation is an independent, not for profit organisation founded on October 9, 1981 by the 31 representatives of the Missouri Libraries. Prior to MLNC, MiddleNet consortium was in existence serving libraries of several Midwestern states. MLNC has been providing the OCLC services to the Missouri Libraries since the
year 1983. The services provided by the network includes Electronic Reference databases, Consulting, Contract Cataloguing, training and continuing education. (21)

5.3.13 Nebraska Library Commission (NEBASE)

NEBASE was found on May 20, 1976 when the academic libraries in Nebraska partnered with the Nebraska Library Commission in order to form the regional consortium of OCLC named NEBASE. NEBASE has more than 143 libraries of all types and sizes including the academic, research, public, school, medical, law, etc. NEBASE is involved not only with the promotion of OCLC services but also with the development of NEUCAT-the Nebraska Union Catalog and NELIST – the Nebraska Union Lists. It provides access to Netlibrary, E-audiobooks, etc. (22)

5.3.14 NELINET

NELINET is the not-for-profit membership cooperative of academic, public, school and special libraries and other information and cultural organizations in New England of the United States. It covers the states of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont. It was initially developed as a programme of the New England Board of Higher Education in 1966 and later became independently established in 1979. NELINET has more than 600 libraries as its members now. NELINET is also a regional service provider for OCLC. NELINET provides regional resources, such as New England Regional Depository, the New England Collections Online, the and TrendGauge (an information awareness blogging service). It also acts as a co-operative purchasing agent for electronic resources such as an academic databases, online journals and e-Books. (23)

5.3.15 NYLINK

Nylink is a not for profit membership organisation connecting all types of libraries
including academic, corporate, government, law, medical, public, school libraries and cultural heritage organizations located throughout New York and also in the surrounding areas. Nylink came into existence in 1974 as a SUNY/OCLC network. More than 2700 libraries in New York state and adjoining areas uses the Nylink services. The name of the network got changed from SUNY/OCLC Network to Nylink in April 1999. Nylink is the OCLC regional service provider for New York state. Nylink services includes LAND – Nylink’s statewide ground delivery service, Nylink Business Services, Nylink Consulting services, Nylink Educational Services, Nylink’s Cooperative Service Programme, etc. It provides the services including cataloguing, resource sharing, reference, digitization, collection development, LAND, a statewide ground delivery service. (24)

5.3.16 Oakland Library Consortium

In 1987, through a LSCA Grant, the three major research libraries in the Pittsburgh, Pennsylvania area, The Carnegie Library of Pittsburgh, The Carnegie Mellon University Libraries and The University of Pittsburgh University Library System, formed The Oakland Library Consortium. It was done to promote the resource sharing, document delivery and joint collection development projects. OLC differs from many consortia because the member libraries decided not to share an automated system. They have developed a five year strategic plan focusing on issues in collection management and resource sharing, storage and preservation, staff development, automation, communication, and funding. (25)

5.3.17 PALINET

PALINET is the one the largest U.S. member-owned and governed regional library network. It has more than 600 libraries as its members. The PALINET was established in 1936. PALINET is a cooperative membership organization of public, academic and special libraries and museums and archives located in Maryland, New Jersey, Pennsylvania and West Virginia. The network facilitates union cataloging, resource sharing, cooperative
purchasing, and promotes library cooperation. The Pittsburgh Regional Library Centre (PRLC), a network which was founded in 1967 and served members in Western Pennsylvania, Maryland and West Virginia merged with PALINET in 1995. The services provided by PALINET includes resource sharing, cataloguing, digitization and preservation, access to E-Resources and Databases, Consultations, etc. It also runs blog services for its members. The blogs namely ILL blog, CAT Blog, Discovery Tools Blog, PALINET Podcasts are available. (26)

5.3.18 Wisconsin Library Services (WiLS)

WiLS is a not-for-profit body founded in 1972 under the laws of the state of Wisconsin. It serves as a Consortium for the Wisconsin member libraries which provides services including shared bibliographic information, resource sharing, cooperative purchasing and licensing, in-service training, etc. It was created by University of Wisconsin. In 1976 the services of OCLC were provided through the WiLS. More than 500 libraries are a part of this network. The network provides Cooperative purchasing, interlibrary loan, reference and Training/Consulting services. Also it provides QuestionPoint 24/7 reference services, AskAway Virtual Reference, etc. (27)

5.3.19 Ohionet

OHIONET is a non-for-profit organisation founded in 1977. I would like to mention that Ohio College Library Center (OCLC) was founded in 1967. In the year 1977, the Ohio College Library Center was renamed as OCLC Online Computer Library Center. At the same time the OHIONET was established to provide a local library network for the Ohio libraries. OHIONET is a library membership organization of academic, public, school and special libraries in Ohio, West Virginia, and western Pennsylvania. It is also one of seventeen national regional service providers of the OCLC. OHIONET works with the State Library of Ohio, the Ohio Library Council, OhioLINK, INFOhio, OPLIN, and Kent State
University’s School of Library and Information Science to bring together the resources. (28)

5.3.20 Louisiana Library Network, USA

The Louisiana Library Network networks the resources of Louisiana’s public and private academic libraries. It provides many services to consortium members such as library automation, a union catalog, a digital library, electronic resources, authentication, training, consulting, and hosting related listservs and websites. The Louisiana Library Network was established in 1992 and has 47 members and receives approximately $3.5 million annually in contracts and membership fees to support consortium members. (29)

5.3.21 Triangle Research Libraries Network (TRLN)

Triangle Research Libraries Network (TRLN) is a collaborative organization of Duke University, North Carolina Central University, North Carolina State University, and The University of North Carolina at Chapel Hill. It is in operation since 1930s. The North Carolina State University joined the programme in 1950s while the North Carolina Central University became a member in 1995. Access to the Electronic Resources, Document Delivery Services and Cooperative Collection development are provided through the network. A faceted browsing software has also been developed “Search TRLN” in 2008. It has added next generation search tools which allows the accessibility to 16 million volumes. (30,31)

5.3.22 DALNET (Detroit Area Library Network)

The Detroit Area Library Network (DALNET) is a multi-type library consortium situated in Southeast Michigan and it networks academic, public, school and special libraries as well as information organizations in the seven county Metropolitan Detroit region. The networks promotes resource sharing among the member institutions. DALNET has created
the information portals for its member institutions comprising of the resources available with them. These are mentioned below:

- The DALNET Information Gateway includes public online access to DALNET Digital Projects, Databases and Guides created by DALNET members and others, and member Library Catalogs.

- Members of DALNET contributes for making an urban information gateway in the metro Detroit area. This helps in meeting the needs of the life-long learning needs of the people residing in the Detroit area.

- The integrated library management software used by the DALNET ILS members is Horizon, a product of SirsiDynix. For its online public access catalog (OPAC), DALNET uses the Horizon Information Portal software from the same company.

The services of DALNET includes Shared ILS operations (the software used is Horizon, a product of SirsiDynix, OPAC operation and customization, digital projects, digitization, metadata creation, web hosting, the training to he manpower, Reciprocal Borrowing, Virtual Union Catalogue, OCLC Holdings Updating, Cooperative purchasing. (32)

5.3.23 Colorado Alliance of Research Libraries (http://www.coalliance.org/)

The Colorado Alliance of Research Libraries is a consortium of nine institutions represented by eleven libraries in the region of Colorado and Wyoming. It was established in 1974 to facilitate resource sharing. The group purchasing has been main motive for the alliance. A number of special products including the CARL system, Uncover, Prospector and Goldrush were developed by them. (33)

I am now going to mention now the library cooperation initiatives in the UK. Though
many of the projects of the 1970s and 1980s have ceased but some of them are still in the working state.

5.3.24 **BLCMP – Birmingham Libraries Co-operative Mechanisation Project**

BLCMP was established in 1969 by the UK Government. It was meant for developing a co-operative cataloguing system for the university libraries of Birmingham and Aston and the Birmingham Public Library. The project developed successfully over the years, particularly in the growth of its database of records (currently over 17 million MARC-based records) and the development of an integrated library management system. This project eventually developed into the BLCMP Library Services and into Talis Information Ltd (www.talis.co.uk) in 2001. Talis has over 110 users in public, academic, special and college libraries in the UK and Ireland. Over the years a number of other developments have taken place including the use of EDI – Electronic Data Interchange for linking with booksellers, the UNITYWeb service for linking catalogues of many libraries in the UK and the use of TDNet for e-journal management. Also now the Talis Information Ltd is specialising in software development, metadata, semantic web, information management solutions, etc. (34,35)

5.3.25 **LASER – London and South Eastern Library Region**

In 1971 LASER was the first of the regions within the UK to set up a union catalogue system which could be used primarily for interlibrary loan purposes and was mainly based on records in the 80 or so public libraries in the area. LASER was a key player in the setting up of the EARL (Electronic Access to Resources in Libraries) consortium for Public Library Networking in 1995. EARL provided public libraries with a number of successful demonstrator projects including Familia (a web-based directory of family history resources held in public libraries in the UK and Ireland), Ask a Librarian and EuroGuide. LASER and EARL both ceased to function in 2001.
5.3.26 **CURL and COPAC**

The Consortium of University Research Libraries (CURL) started in the 1980s with seven libraries (Cambridge, Edinburgh, Glasgow, Leeds, London, Manchester and Oxford). Since then it has continued to develop a physical shared union catalogue and now offers access to this online via COPAC – CURL OPAC. It provides access to 32 million records. The catalogues of Research Libraries UK (RLUK), British Library, the National Library of Scotland, the National Library of Wales, and many specialized libraries are available. The facilities for interlibrary loan and document delivery are available. (36)

5.3.27 **People’s Network**

The People’s Network in UK is delivered by England’s public libraries and is managed by the Museums, Libraries and Archives Council and supported by lottery funding. It was established in the year 2000. It is heartening to note that there are about 3100 public libraries in England and 460 mobile libraries and more than 60% of people have a library ticket. There are 92.4 million books in 3,500 public libraries and every year more than 318 million book loans and further 34 million issues of other material, including DVDs, videos, talking books. Through the People’s network, more than 60 million hours a year of high speed accessibility to internet is provided. The funds available for this network includes £100m (or 160m euros) for developing the network infrastructure, £50m (or 80m euros) for content creation or the digitisation of relevant resources, £20m (or 32m euros) for training to public library staff. (37)

5.3.28 **UKOLN – the UK Office for Library and Information Networking, U.K.**

UKOLN is based at the University of Bath, U.K. It is funded by the Council for Museums, Libraries & Archives (MLA); the Joint Information Systems Committee (JISC) for higher and further education in England, Scotland, Wales, and Northern Ireland; as well as by project funding from the JISC, EPSRC and the European Community. It also
receives support from the University of Bath. UKOLN main areas of specialization includes digital libraries, metadata and resource discovery, distributed library and information systems, bibliographic management, and web technologies. It also provides network information services, including the Ariadne magazine, and conducts workshops and conferences. The DC-Assist, a metadata help utility; DC-dot, a Dublin core generator; DRIVER-an European Commission funded project which acts as a testbed for Europe-wide digital repository infrastructure; HILT – High Level Thesaurus; Intute- providing high quality Internet resources for learning and research communities in U.K.; SWORD – Simple Web service offering Repository Deposit, etc. (38).

### 5.3.29 Finnish Library Network

The National Library Network Services are coordinated by the National Library of Finland. The services provided by them chiefly includes:

- Top quality availability of information resources
  - National databases (Fennica, Viola, Arto, Linda, Vesa jne.)
  - Licensing of electronic resources (FinELib ja Nelli-portal)

- Digital library services and a digital work environment
  - Digital library software (Voyager, Metalib, EnCompass)
  - Developing standards and formats and publicizing them

The Finnish National Electronic Library, FinELib, is a consortium supporting Finnish research, teaching and learning by promoting the availability and use of high-quality information throughout the Finnish society. The consortium comprises Finnish universities, universities of applied sciences, public libraries and a number of research institutes and special library.(39) The databases includes:
Linnea Union Catalogues

ARTO - Reference Database of Finnish Articles

LINDA - Union Catalogue of Finnish University Libraries

MANDA - Union Catalogue of Finnish Public Libraries

Support, access rights and agreement

5.3.30 Danish Library Network

The Danish Library Network provides access to all the material published in Denmark and the holdings information of the Danish Libraries. The facilities like Ask a Librarian service is also available for the users. The requests for items can be placed at any of the local libraries though they may not be having the ordered items themselves. Dansk Biblioteks Center (The Danish Bibliographic Centre) maintains the online website. Biblioteksstyrelsen- The Danish Library Authority is taking care of it and it is funded by the Danish government. (40)

5.3.31 Bavarian Library Network, Germany

The union catalogue of the Bavarian Library Network (BVB) contains the holdings of all Bavarian university, academic and state libraries. The catalogue has 16 million titles with approximately 30 million locations data. This is extensively used for Interlibrary loan. Besides the union catalogues the Bavarian Library Network offers access to databases and other resources which are listed below:

- The article database of the Bavarian Library Network (BVB) is an international and multidisciplinary bibliography for articles in scientific journals.

- The Table of Contents services is available through the articles database of BVB. It provides an overview of all indexed journals in alphabetical order. This service allows you to check whole volumes or issues of a journal.
• The Bibliography of books published in German-speaking countries in 16th century (VD 16) is a retrospective national bibliography for the years 1501 to 1600 and contains in addition to the title information of the printed version information about library holdings.

• A simultaneous search in other literature databases and online catalogues is also possible.

• In order to get the electronic full-text document, an interlibrary loan order can be placed or use the document delivery service Subito.

• The access to electronic journals, databases and institutional repositories are also provided. (41)

I would like to mention that for other library networks in Germany including Hesse Library Network, North Rhine-Westphalian Library Network, South-West German Library Network – the access is only in German language. No interface provided in English language.

5.3.32 GBV Common Library Network, Germany

The Gemeinsamer Bibliotheksverbund (GBV) is the common library network of the seven German federal states Bremen, Hamburg, Mecklenburg-Western Pomerania, Lower Saxony, Saxony-Anhalt, Schleswig-Holstein, Thuringia and the Foundation of Prussia Cultural Heritage. It is a network of more than 800 scientific and public libraries. The services provided by the network includes online cataloguing, online interlibrary loan and document delivery services.

These tasks are carried out in close cooperation with national and international Pica-Partners, the Library Network of Baden-Württemberg BSZ, of Hesse (HeBIS), der German National Library (DNB), OCLCPICA in Leiden, Netherland and the Agence bibliographique de l’ enseignement supérieur, France (ABES).
The GBV Union Catalogues (GVK) containing the resources of all the participating libraries are accessible to the public. Nearly all available titles can be requested online Online-Interlibrary Loan (ILL) and document delivery service. The network also helps more than 150 libraries in running the LBS software developed by OCLC PICA. (42)

5.3.33 The City of Paris Library Network

The City of Paris Library Network in Paris, France has 60 libraries, serving 3,30,000 registered users, handling 10 million loans. The City of Paris Library Network is one of the most prominent lending organizations, having a very rich collection of books, journals and multi-media. City of Paris residents have access to 3 million books through the Library Network's collections, 6,000 electronic journals and 650,000 compact discs. The subject coverage includes African culture, psychology, theatre, trades, Asian languages, photography, science fiction, art and more. (43)

5.3.34 Pica Library Network

The Pica Library Network was originated from a research project on catalogue automation which was undertaken on behalf of some Dutch research libraries in the years 1969-1975. The name Pica which stands for Project for Integrated Catalogue Automation is being derived from this project. It was conceptualised by Pica Foundation (Stichting Pica) of the Netherlands. Since 1976 Pica is working as a co-operative organisation for helping the libraries for setting up an on-line automated library network in the Netherlands, based on a centralized bibliographic database. In 1986 it was established as an independent, non-profit organisation, with a membership based model. The cooperative cataloguing was introduced. It is interesting to note that a title is catalogued by a Dutch library only if it was not provided by BNB or LC bibliographies.

The database contains over 8,000,000 titles and 1,100,000 authority file records, and grows with appr. 1,000,000 records each year. The system is now used by over 125
libraries, research, public and special and documentation centres. Another service introduced through the network was the Interlending Loan system introduced in 1983. Over 300 libraries participate in the ILL-system and more than 350,000 requests are received on the yearly basis. In 2007, PICA merged with OCLC and is known as OCLC PICA. OCLC PICA software is used by the Netherlands union catalog, several German library consortia (including GBV, Hebis and SWB), the Australian national library, the French union catalog SUDOC and many other libraries. (44, 45)

5.3.35 AMICUS

AMICUS provides the listings of the holdings of the libraries across Canada. It covers nearly 1300 libraries across Canada. AMICUS contains over 30 million records for books, magazines, newspapers, government documents, theses, sound recordings, maps, electronic texts as well as items in Braille and large print. It provides interlibrary loan services to the members. The copy cataloguing and the records downloading can also be done. (46)

5.3.36 British Columbia Electronic Library Network (BC ELN)

The British Columbia Electronic Library Network (BC ELN) is a partnership between the Province of British Columbia and its publicly-funded post-secondary libraries. It networks more than 90 public and post-secondary libraries in British Colombia. BC ELN negotiates for the licensing and consortial arrangements for access to electronic information resources for the member-libraries. The access to online databases are also provided to the consortium members which gives them access to thousands of journals, magazines, newspapers and government reports. It also coordinates the production of three union catalogues. The electronic ordering of the articles are also possible in order to speed up the delivery services. The virtual reference services are also available. (47)
5.3.37 The Canadian Research Knowledge Network (CRKN)

The Canadian Research Knowledge Network (CRKN) was established on April 1, 2004 as a not-for-profit organisation. It is a joint program of Canada’s universities, there are 72 participating universities across Canada, the part of this network. CRKN works on the Canadian National Site Licensing Project (CNSLP). It is the most important initiative. More than 2,200 scholarly journals are available online to over 650,000 university researchers and students through the online licensing arrangements. It is very heartening to note that CRKN has been able to make a big impact among the researcher community. 87% of researchers reported increased access to electronic journals as having a positive impact on their research, and 82% of library directors reported satisfaction with their participation in the CRKN initiative. (48)

5.3.38 NEBIS – Network of Libraries and Information Centres in Switzerland

NEBIS - the network of libraries and information centres in Switzerland has more than 80 Universities, Technical Colleges and Research Institution’s libraries from different parts of Switzerland as its members. The NEBIS catalogue contains more than 3 million records of books, serials and non-book materials. These documents can be ordered online. For more than 78,000 books the contents pages and the abstract of the titles are also available in the databases. (49)

5.3.39 Consortium of Academic Libraries of Catalonia (CBUC)

The CBUC was established in late 1996. The mission of the Consortium of Academic Libraries of Catalonia (CBUC) is to improve library services through cooperation. One of the main activity of CBUC is to create a union catalogue of the resources available with the members called as “Collective Catalogue of the Universities of Catalonia (CCUC)”. It has more than 34 lakh bibliographic records which provides access to more than 60 lakh physical documents which are located in 160 libraries. Also the Interlibrary Loan programme
is a popular activity. The CBUC is also now engaged in the joint purchasing of equipments, training, etc. Some specific projects of the Consortium especially the Digital Library receives special funding from the university administration. The cooperative cataloguing facility is also being provided to the member institutions. Another database which is accessible through CBUIC is the E-TOC database. It contains the table of contents of the journals which are subscribed by the University Union Catalogue of Catalonia participant institutions (CCUC). The e-mail alert service for receiving the TOC of the journals are also available. Each journal entry has a link for “Consulta” (Consult it) which informs the users about the specific libraries subscribing to the journal in the printed form and also a link to the full text if it is getting subscribed by the member institutions. The user can also place a request for getting a printed copy of the article if the electronic full text copy is not available. The TDX (Theses and Dissertations Online) services are also provided which is a digital cooperative repository of doctoral theses presented at some Spanish universities. (50)

5.3.40 Anatolian University Libraries Consortium (ANKOS), Turkey

ANKOS was established in 2000 with 12 member libraries in Turkey. It now has 95 member libraries. Through this facility, the researchers and scholars of the all the universities of turkey have access to bibliographic and full-text databases in science, mathematics, social sciences, humanities, medicine, agriculture, business, education, informatics and computing, and engineering. The network comprising of Academic Institutions (Universities and Technological Institutions), Research Institutions, National Library of Turkey, National Bank, Turkey Atomic Energy Foundation, The Scientific and Technological Research Council of Turkey (TÜBÝTAK), GATA, etc. Apart from building up the Consortium for E-resources subscription, the staff exchange programme between the member libraries is also being done. The publications of American Chemical Society (ACS), American Institute of Physics, Emerald, Gale, JSTOR, Springer E-books, Wiley (51)
5.3.41 MALMAD, Israel

MALMAD is a non-profit organization and established by eight Universities in Israel. It is an Inter-University Center for Digital Information Services. Around thirty colleges and research institutions are also a part of this network. It was established in 1988 as a part of IUCC (Inter University Computation Centre). It serves as a consortium for the acquisition, licensing and operation of information services to universities and colleges in Israel. The E-journals consortium is also being run by MALMAD. Various Union Catalogues and Union Lists are compiled by MALMAD. The Israel Union List of Serials and Union List of E-journals are amongst them. The copy cataloguing from OCLC Worldcat Catalogues is also made available to the member institutions. (52)

5.3.42 Libraries Australia (formerly Kinetica Library Network)

The Libraries Australia service replaces the earlier systems of Kinetica and the Australian National Bibliographic Database which was created in 1981. The ANBD contains the locations of more than 42 million items which are physically available in Australian academic, research, national, state, public and special libraries. The national union catalogue contains the records of more than 850 Australian libraries and are accessible through the Libraries Australia Service. The Interlibrary Loan services are one of the major services provided by the network. The ANBD also helps the libraries in the cooperative acquisition programmes especially for serials. The Libraries Australia CJK Service provides with records for Chinese, Japanese and Korean script materials - books, journals and other library materials. (53)

5.3.43 NII, Japan (formerly NACSIS)

The history of the development of NACSIS which is a major library network of Japan is mentioned below. It has subsequently lead to the establishment of NII (National Institute of Informatics). (54)
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 1983</td>
<td>The Center for Bibliographic Information is established at the University of Tokyo</td>
</tr>
<tr>
<td>December 1984</td>
<td>The Catalog Information Service is started.</td>
</tr>
<tr>
<td>April 1986</td>
<td>The National Center for Science Information Systems (NACSIS) is established</td>
</tr>
<tr>
<td>April 1987</td>
<td>Operation of Science Information Network and Information Retrieval Service (NACSIS-IR) is started.</td>
</tr>
<tr>
<td>April 1988</td>
<td>The Electronic Mail Service (NACSIS-MAIL) is started.</td>
</tr>
<tr>
<td>April 1992</td>
<td>The Inter-Library Loan System (NACSIS-ILL) is started.</td>
</tr>
<tr>
<td>April 1994</td>
<td>Operation of Internet backbone network service (SINET) is started.</td>
</tr>
<tr>
<td>April 1996</td>
<td>NACSIS-ILL is linked to the British Library Document Supply Centre (BLDSC).</td>
</tr>
<tr>
<td>April 1997</td>
<td>NACSIS-ILL System is connected with the National Diet Library (NDL).</td>
</tr>
<tr>
<td>April 2000</td>
<td>The National Institute of Informatics (NII) is established. (This involves the reorganization of NACSIS and assumption of its functions.)</td>
</tr>
<tr>
<td>June 2002</td>
<td>Operation of Intersystem Linkage of Catalogs with RLG in U.S. is started.</td>
</tr>
<tr>
<td>April 2003</td>
<td>National Research Grid Initiative (NAREGI) is started.</td>
</tr>
<tr>
<td>April 2004</td>
<td>NII begins a new chapter as a member of the new Inter-University Research Institute Corporation / Research Organization of Information and Systems.</td>
</tr>
</tbody>
</table>
The major services provided by NII includes:

1. GeNii (NII scholarly and Academic information portal)
2. Webcat Plus – contains details of books, table of contents, etc.
3. KAKEN – the research projects which are selected for Grant in aid are available with their detailed summaries.
4. Access to NII Electronic Journals Repository. The users can search for journals with full text access.
5. The Interlibrary loan services are provided (NACSIS-ILL system).
6. Online shared cataloguing system is also available (NACSIS-CAT)

5.3.44 KERIS (formerly KRIC), Korea

The formation of KERIS (Korea Education and Research Information Services) can be traced back to the 1996 when EDUNET, the first education information service was launched in Korea. In January 1999, the Korea Education and Research Information Service Act was enacted. KMEC and KRIS was merged into KERIS. In March 2001, KERIS was recognized as the National Education and Research Information Center by the Ministry of Information and Communication followed with its reorientation to National Education Information System (NEIS). In 2002, the National Education Resource Sharing system and National Digital Library Support System was launched. In November 2003, all the Universities and Research Institutions joined KERIS. In July 2005, got certified with ISO 9001. KERIS has the Research Information Service System (RISS). It provides access to full text journal articles and dissertations. It provides access to Union Catalogues, Interlibrary loan service and also the journal archives service. Also the national license for the online e-journals for the university libraries and other institutions were negotiated by KERIS only. (55)

5.3.45 China Academic Library and Information System (CALIS), China

China Academic Library and Information System (CALIS) was established by the
Chineses government. It is a nationwide academic library consortium in China. CALIS promotes resource sharing among the participating libraries. CALIS has established a three-tiered coordination and management network comprising national information centers, regional information centers and member libraries. (56,57)

5.3.46 Pakistan Library Network

Pakistan Library Network is a research initiative of Planwel Academic and Research Network to build electronic access network of all the regional libraries for furthering research and development. (58)

5.3.47 DELNET-Developing Library Network

DELNET-Developing Library Network is a major resource sharing library network of India. It connects more than 1300 libraries in 30 States and UTs in India and six other countries. It provides access to more than 75 lakh records of books, journal articles, etc. The Interlibrary Loan and Document Delivery Services are the most popular services provided by DELNET. 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, Government of India. DELNET started as a city based library network – Delhi Library Network in 1988 and the name got changed to DELNET-Developing Library Network on 13th September 2000. DELNET is an operational library network, providing networked library services and promoting resources sharing among the member institutions not only within India but also in countries including Nepal, Sri Lanka, Philippines, Oman, UAE, USA, etc. The books are sent on loan to the member institutions outside India also
besides providing them the document delivery services. The services are accessible on 24/7 basis through a 11 mbps RF link. DELNET has shifted to its own newly constructed building at JNU Campus since 2005. DELNET had signed an MOU with AICTE in 2001 to network the AICTE approved technical institutions in the country. DELNET is also working for establishing Knowledge Centres in various part of country. DELNET also provides software support to the member libraries by providing them Delplus free of charge. DELNET's Coordination Unit has also been set up at Bangalore. (59)

5.3.48 INFLIBNET

Information and Library Network Centre (INFLIBNET), is an Inter-University Centre of UGC. It was established as a project in 1991 and registered as a society in 1996. It networks around 264 Universities and Colleges in the country. It provides access to the bibliographic records created by the member-institutions. Inflibnet has recently started providing the Document Delivery Services using JCC. The Soul software is provided to the University libraries for creating the machine readable records. The access to E-journals is also provided through the UGC Infonet programme. (60)

5.3.49 ADINET

ADINET is an Information Network of Libraries in and around Ahmedabad. ADINET -Ahmedabad Library Network was registered as a Society in October 1994. Initially it was sponsored by National Information System for Science and Technology (NISSAT), Department of Scientific and Industrial Research, Government of India. ADINET maintains a database of journals subscribed by more than 100 libraries in and around Ahmedabad and provides document delivery services. (61)

5.3.50 MYLIBNET

MYLIBNET- Mysore Library Network was established in May 1995 in Mysore
under the financial assistance of NISSAT to network the libraries in Mysore. The city based library network could not contribute much to the objectives and goals for which it was established. It is currently housed inside Central Food Technological Research Institute (CFTRI) and is managed by CFTRI only. (62)

5.4 Survey among the Library Networks:

I have done the survey among these fifty library networks and have tried to evaluate whether these library networks are striving towards meeting the knowledge needs of their users. These networks have been evaluated on certain parameters which are vital for the library networks keeping in view the growing needs and expectations from the existing library networks. Also an analysis has been to assess the existing scenario in the library networks worldwide and to gauge the direction in which these networks are existing. Before doing so, I did a survey among the four existing library networks in India namely DELNET, INFLIBNET, MYLIBNET and ADINET and found that none of these networks are involved in providing any knowledge-based services to their member-institutions.

The survey of the fifty library networks have shown that 98 percent of the Library Networks do not enrol the general public as the members of their library network. It is only the libraries who joins as members and the users, faculty, researchers and scholars of those registered member institutions can avail of the services. It clearly shows that the library networks caters to the needs of the member libraries and their bonafide users but the general public can not approach the library networks for support and get benefited from the services.

Table 57: Library Networks Enroling General Public as Members

<table>
<thead>
<tr>
<th>No/Yes</th>
<th>Library Networks (N=50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>49 (98)</td>
</tr>
<tr>
<td>Yes</td>
<td>1 (2)</td>
</tr>
</tbody>
</table>

Note: Figures in parenthesis are the percentages.
Through the survey, it is reflected that the library networks consists of more than 90 percent of the Academic Libraries and 58 percent of Special Libraries, though there is not much of Public Libraries participation, only 40 percent of the membership consists of Public Libraries. This finding shows that lesser participation of the Public Libraries lead to the lesser penetration of the library network services to the Public Libraries and the general public is not able to get benefited from the library network services. There is a greater need for networking of the Public Libraries so that the information can flow to all sections of the society.

Table 58: Type of Libraries Enroled by Library Networks as Members

<table>
<thead>
<tr>
<th>Type of Libraries</th>
<th>Library Networks (N=50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Libraries</td>
<td>45 (90)</td>
</tr>
<tr>
<td>Public Libraries</td>
<td>20 (40)</td>
</tr>
<tr>
<td>School Libraries</td>
<td>12 (24)</td>
</tr>
<tr>
<td>Special Libraries</td>
<td>29 (58)</td>
</tr>
</tbody>
</table>

Note: Figures in parenthesis are the percentages.
Multiple choices, the sum does not total to 100 percent.

The chief objective of a Library Network is to promote Resource Sharing among the member-institutions. The survey results have justified it. 80 percent of the Library Networks are engaged in promoting resource sharing by creating union catalogues, union lists, by reciprocal borrowing, etc.

Table 59: Library Networks Promoting Resource Sharing

<table>
<thead>
<tr>
<th>No/Yes</th>
<th>Library Networks (N=50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>10 (20)</td>
</tr>
<tr>
<td>Yes</td>
<td>40 (80)</td>
</tr>
</tbody>
</table>

Note: Figures in parenthesis are the percentages
Also, 74 percent of the library networks provides Document Delivery Services to the member institutions. The dimensions of DDS are also changing in this era of digital world. The users now desire to have the content digitally. The library networks have to ensure that the references sent to the users in the full text form (journal articles) should not have any copyright restrictions. Also it must carry the copyright guidelines for the end users, this is to ensure that the supplied material is used only for research and reference purposes.

Table 60: Library Networks Providing Document Delivery Services

<table>
<thead>
<tr>
<th>No/Yes</th>
<th>Library Networks (N=50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>13 (26)</td>
</tr>
<tr>
<td>Yes</td>
<td>37 (74)</td>
</tr>
</tbody>
</table>

Note: Figures in parenthesis are the percentages

The Library Networks also should provide consultancy for the digitisation to the member-libraries and help them in building up their Institutional/Knowledge Repositories. Knowledge Repositories should get networked through the Library Networks and facilitate the process of knowledge sharing. Also the archiving facility for E-journals, Institutional repositories content should be made available through the Library Networks. It has been found that only 44 percent of the Library Networks are helping their member institutions in digitisation and archiving facilities.

Table 61: Library Networks providing Digitisation and Archiving Facilities to Member-Libraries

<table>
<thead>
<tr>
<th>No/Yes</th>
<th>Library Networks (N=50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>28 (56)</td>
</tr>
<tr>
<td>Yes</td>
<td>22 (44)</td>
</tr>
</tbody>
</table>

Note: Figures in parenthesis are the percentages
Through the survey of the Library Networks it has been found that 40 percent of the library networks provides professional training to the staff of the member-libraries. It is important for the library networks to organise orientation programmes to popularise the use of services, technical programmes for developing digital libraries, creating standard MARC 21 records, implementation of open source library management, etc.

Table 62: Library Networks providing Training for Professional Development

<table>
<thead>
<tr>
<th>No/Yes</th>
<th>Library Networks (N=50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>30 (60)</td>
</tr>
<tr>
<td>Yes</td>
<td>20 (40)</td>
</tr>
</tbody>
</table>

Note: Figures in parenthesis are the percentages

It has also been revealed through the survey that only 28 percent of the Library Networks are helping the member-institutions in their automation activities e.g. providing library management software, providing proper guidelines and know-how for automation purposes. Since the member institutions contribute to the Union Catalogues and Union Lists, it is important that the libraries create the machine readable records which could eventually be a part of the Library Networks and the libraries also automate their services.

Table 63: Library Networks providing Automation Services

<table>
<thead>
<tr>
<th>No/Yes</th>
<th>Library Networks (N=50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>36 (72)</td>
</tr>
<tr>
<td>Yes</td>
<td>14 (28)</td>
</tr>
</tbody>
</table>

Note: Figures in parenthesis are the percentages

The survey results have also shown that 56 percent of the library networks offer cooperative purchasing and consortium arrangements for E-journals, E-books, Online
database subscription, etc. As a result, huge budgets are getting saved by the member-institutions since the subscription is offered at the concessional rates through the Consortiums and Cooperative Purchasing Programmes.

Table 64: Library Networks offering Cooperative Purchasing and Consortium Arrangements

<table>
<thead>
<tr>
<th>No/Yes</th>
<th>Library Networks (N=50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>22 (44)</td>
</tr>
<tr>
<td>Yes</td>
<td>28 (56)</td>
</tr>
</tbody>
</table>

Note: Figures in parenthesis are the percentages

Only 24 percent of the Library Networks are providing the Cooperative Cataloguing Services, accordingly to the survey result. A lot needs to be done by the Library Networks to introduce the Cooperative Cataloguing Services so that the member-libraries gets benefited. It has been noticed that the librarians are involved in duplicating their efforts by re-cataloguing the same titles which may be available in different member-libraries. The Library Networks should make the standard bibliographic records available through Z 39.50 servers for the registered member-institutions with the download facility by the member-libraries.

Table 65: Library Networks providing Cooperative Cataloguing Services

<table>
<thead>
<tr>
<th>No/Yes</th>
<th>Library Networks (N=50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>38 (76)</td>
</tr>
<tr>
<td>Yes</td>
<td>12 (24)</td>
</tr>
</tbody>
</table>

Note: Figures in parenthesis are the percentages

The survey results have also indicated that only 14 percent of the Library Networks are providing support to the member-libraries for the adoption of standards e.g. MARC
21, Z 39.50, Dublin Core Metadata schemas, etc. It is another area wherein the Library Networks should come forward and contribute much.

Table 66: Library Networks Providing Support for Adoption of Standards/Guidelines Development in Libraries

<table>
<thead>
<tr>
<th>No/Yes</th>
<th>Library Networks (N=50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>43 (86)</td>
</tr>
<tr>
<td>Yes</td>
<td>7 (14)</td>
</tr>
</tbody>
</table>

Note: Figures in parenthesis are the percentages.

The survey has also revealed the fact that Library Networks have failed to provide their services to special populations – visually impaired, blind users. Only 4 percent of the Library Networks are catering to their needs by providing special services to them and to make the content of the library networks available to them. The Library Networks have to bridge up this gap between ‘haves’ and ‘have-nots’. The services of the library networks must get democratised and provide services to one and all of the users of their member-institutions.

Table 67: Library Networks Providing Services to Special Populations

<table>
<thead>
<tr>
<th>No/Yes</th>
<th>Library Networks (N=50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>48 (96)</td>
</tr>
<tr>
<td>Yes</td>
<td>2 (4.0)</td>
</tr>
</tbody>
</table>

Note: Figures in parenthesis are the percentages.

5.5 Library Networks in the Knowledge Era

The role of library networks in the knowledge era is challenging. The library networks have been in existence for past more than forty years. There has been a continuous
transition and evolutionary change in the scope and functionalities of these library networks. From providing bibliographic records to access online databases, cooperative cataloguing, consortial licensing of electronic resources, etc. the library networks have been working on meeting the growing needs and demands of its member institutions and its users, faculty and research scholars. Since the library networks depends wholly on the technological implementation of the new tools and technologies in the libraries, it is quite vital that the libraries also embrace new developments in order to make themselves competent to handle and perform in the knowledge era.

5.5.1 National Knowledge Commission: National Knowledge Commission was constituted in 2005 by the Government of India as a high-level advisory body to the Prime Minister of India. The chief aim of this Commission is to transform India into a vibrant knowledge-based society. This will facilitate a radical improvement in existing systems of knowledge and it will also help in generating new forms of knowledge. Its focus is on five key areas – access to knowledge, knowledge-concepts, knowledge-creation, knowledge-application and development of better knowledge services. It is desired that knowledge resources and institutions should be build up, improving upon the access and dissemination of knowledge. A Working Group on Libraries was constituted to recommend the necessary changes in the libraries. It is also desired that the local knowledge be translated into the various Indian languages. Also according to the Working Group on Libraries, the Libraries and Librarians have to recognise their social functions and should contribute in creating a knowledge society. (63)

5.5.2 Knowledge Models for a Library Network

I would like to know discuss the various models which have been proposed for a library network. Owen and Wiercx was the first to propose a knowledge model for a library network. (64) The knowledge model was based on the knowledge economy. Herein the library specialises not only in the traditional mechanisms of knowledge acquisition but
also in the new areas of knowledge access and knowledge sharing. The three evolutionary application models which have been suggested are mentioned below. These models are hierarchical in nature, starting from simple to the complex ones. Also the former ones are on stand-alone basis while the later ones are in the integrated networked mode.

1. Networked Library Model
2. The Cooperative Library Network Model
3. Knowledge Environment Model

5.5.2.1 The Networked Library Model:

In this model the libraries are found to be independent and self-reliant and self-sufficient. It is able to run all functions of the libraries of its own which are needed for providing satisfactory services to its users. It doesn’t rely on other libraries for any cooperation or support. Such kind of libraries are expected to have the various facilities developed at their Institutions including:

- the storage facilities for the print and electronic resources – the proper stack area as well as the sophisticated servers with appropriate software tools to store the electronic resources.

- The availability of the integrated resource discovery systems i.e. the catalogue systems

- The Support system to be provided by the library including in person, over phone, through email, or other mechanisms.

- The availability of the proper hardware so that the users can have access to the online catalogues and resources of the library.

In this model, the libraries create their own collections including the database creation work for their internal and external resources. Also they provide their own ILL services for their users. It is worth noting that the concept of networking should be prevalent.
within the individual libraries also i.e. in resource discovery systems, within the various sections of the library systems, etc. and to avoid the duplication of work, wherever it seems possible to do so. The libraries belonging to the corporate sector like Infosys, Wipro, TCS falls into this category.

5.5.2.2 The Cooperative Network Model

In this model – Cooperative Network Model the various functions can be distributes among various libraries. As a result, the library resources gets fully utilised among the wider clientele and users. In this model, we can see the phenomenon of the server-client, wherein the resources are created and developed by the server libraries in a specialised subject disaciplines and they are then offered and accessed by the client libraries. The server libraries develops specialised resources in a specific subject domain e.g. medical sciences, anthropology, marine engineering, etc. The client libraries specialising in those disciplines makes optimum use of the resources and services provided by these server libraries. It is worth noting that the client libraries do no develop the full scale services for their users and depends on the server libraries for accessing to the resources. In this domain approach, the individual libraries are assigned the task for developing a comprehensive service on a specific domain basis. They are involved with the resource description, resource discovery, the storage and also the support for the information seekers. In this client server architecture, there is a continuous cooperation prevailing between the server and the client libraries. Some of the activities involved with this model are listed below:

- Shared cataloguing of resources
- Shared collecting and storing of resources
- Shared resource discovery system
- Shared document delivery procedures
- Shared license agreements for purchasing of e-resources
- Shared user support
A major section of the library networks follows this model.

5.5.2.3 Knowledge Environment Model – Changing roles and dimensions of a Library Network

The Knowledge Environment Model is more focused on the clients, the users of the systems rather than on the systems itself. The Knowledge Environment Models assess the users needs and requirements for the specific resources and facilitates the process by extending cooperation among the member institutions. In this model, the library or a network is considered as a social space wherein all information related activities can occur. The network provides access to the internal resources as well as to the external resources. It is proposed that a library network has to undergo various stages of development which is evolutionary in nature. These various stages can be divided into Initial, Intermediate and Advance. The Networked Library Model as discussed earlier belongs to the initial stage whereas the Cooperative Library Model is an Intermediate stage. The Knowledge Environment Model is the most advanced stage. The survey done among the library networks have shown that there is no major work being done on this front.

The survey results have shown that 96 percent of the Library Networks are not providing access to Knowledge Resources through their network. The reason can also be attributed to the fact that libraries are still trying to catch up with the creation and management of knowledge resources in their libraries.

Table 68: Library Networks Providing Access to Knowledge Resources

<table>
<thead>
<tr>
<th>No/Yes</th>
<th>Library Networks (N=50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>48 (96)</td>
</tr>
<tr>
<td>Yes</td>
<td>2 (4)</td>
</tr>
</tbody>
</table>

Note: Figures in parenthesis are the percentages
No initiative yet has been taken up by the library networks for creating a knowledge repository. 100 percent of the library networks declined undertaking such activity through their services, according to the survey.

Table 69: Knowledge Repositories Networked by Library Networks

<table>
<thead>
<tr>
<th>No/Yes</th>
<th>Library Networks (N=50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>50 (100)</td>
</tr>
<tr>
<td>Yes</td>
<td>0 (0)</td>
</tr>
</tbody>
</table>

Note: Figures in parenthesis are the percentages

Also, we could encounter that though Knowledge Centres has come up in different parts of the World, but no library network is engaged in developing a Knowledge Centre themselves. The Public Libraries are getting transformed into the Knowledge Centres but Library Networks are still keeping themselves away from this major crucial activity of knowledge sharing.

Table 70: Library Networks Running Knowledge Centres

<table>
<thead>
<tr>
<th>No/Yes</th>
<th>Library Networks (N=50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>50 (100)</td>
</tr>
<tr>
<td>Yes</td>
<td>0 (0)</td>
</tr>
</tbody>
</table>

Note: Figures in parenthesis are the percentages.

The survey results have also reflected the fact that only 6 percent of the Library Networks are providing “Ask-an-Expert” service through the network. More and more library networks should introduce this facility through their networks since it promotes knowledge sharing among the researchers and scholars.
Table 71: Library Networks Providing Ask-an-Expert Service

<table>
<thead>
<tr>
<th>No/Yes</th>
<th>Library Networks (N=50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>47 (94)</td>
</tr>
<tr>
<td>Yes</td>
<td>3 (6)</td>
</tr>
</tbody>
</table>

Note: Figures in parenthesis are the percentages.

The growing trend of utilizing the Social Software/Web 2.0 tools like Blogs, RSS, Facebook, etc. for building up strong affinity with the users could be seen through the results of the survey. 18 percent of the library networks are found to be using these tools through their network.

Table 72: Library Networks Utilising Social Software/Web 2.0 Tools

<table>
<thead>
<tr>
<th>No/Yes</th>
<th>Library Networks (N=50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>41 (82)</td>
</tr>
<tr>
<td>Yes</td>
<td>9 (18)</td>
</tr>
</tbody>
</table>

Note: Figures in parenthesis are the percentages.

I am going to discuss in detail the major differences between the Library Networks and the Knowledge Networks and how the Library Networks could get transformed into the Knowledge Networks in Chapter 6: “Knowledge Networking: Tools, Technology and Delivery”.

5.6 Knowledge Centres

The main objective of a Knowledge Centre is to impart appropriate knowledge to every individual of a society, best tailored to his needs and demands. The Knowledge Centre is an extension of a Public Library wherein the focus of the services, the knowledge services are all centered around the users. In a Knowledge Centre, the knowledge is collected, acquired by the knowledge experts, gets verified and then it becomes
a part of a central knowledge repository. Each facet of universe of knowledge gets tapped through these Knowledge Centres. There is a tremendous growth in the domain specific knowledge centres and the library networks have to play a crucial role in interlinking all these knowledge centres and therefore networking the content i.e. networking knowledge. The Knowledge Centre should become a “One-stop Centre” wherein a user gets access to the appropriate knowledge content. (65)

I am listing below some of the Knowledge Centres:

5.6.1 The Library of Birmingham Knowledge Centre (UK)

The Knowledge Centre activities involves themes such as Arts and Creativity; Business, Science and Innovation; Citizenship and Community, etc. (66)

5.6.2 Libraries and Knowledge Centres (LKC), Australia

The Knowledge Centre allows the members to interact, share and access knowledge. (67)

5.6.3 The Wallace Knowledge Center: It offers useful knowledge which is of vital importance to policymakers, practitioners, researchers and general public. (68)

5.6.4 M. S. Swaminathan Research Foundation’s Rural Knowledge Centre: M. S. Swaminathan Research Foundation has opened up a number of Knowledge Centres for the rural masses of the country. It helps them in selling their products at much better rates and also helps them in increasing the crop yield. (69)

5.6.5 United Nations Economic and Social Commission for Asia and the Pacific “Village Knowledge Centres”. A special project has been initiated to provide information and knowledge related to drought, climate management, augmentation of water, maximizing crop yield, to build skills and capabilities of the rural poor. The Knowledge Centre provides online decision support, interactive farmers advisory services, weather services, etc. (70)
5.7 Conclusion

I would like to conclude that the Library Networks worldwide are engaged in providing the information support to the users of their network. These library networks do not provide any knowledge based services to their users. Also there is a non inclusion of knowledge resources into the networked services. Early attempts for integrating the Web 2.0 tools into the services of library networks can be seen as more library networks are coming forward to start utilising such tools for better use interaction and their participation and to facilitate the social networking, enriching the knowledge sharing among the libraries and also among their users. The Library Networks should begin to network domain specific knowledge and make them available. Also the services including “Ask an Expert” can be started collaboratively with the member-institutions participation.

References


3 Ibid.


7 Online Computer Library Center, OCLC (www.oclc.org)


10 OCLC Western (www.oclc.org/western).


12 Southeastern Library Network – SOLINET (www.solinet.net)


14 Amigos (www.amigos.net)

15 www.bcr.org

16 Federal Library and Information Network (www.loc.gov/flicc)

17 ILLINET–Illinois Library and Information Network (library.ilcso.illinois.edu/ilcso/cgi-bin/welcome)

18 INCOLSA (www.incolsa.net)

19 Michigan Library Consortium (www.mlcnet.org)

20 MINITEX Library Information Network (MINITEX) (www.minitex.umn.edu)

21 Missouri Library Network Corporation (MLNC) (www.mlnc.org)

22 Nebraska Library Commission (NEBASE) (www.nlc.state.ne.us/nebase/)

23 NELINET (www.nelinet.net)

206
24 NYLINK (http://nylink.org)
25 Oakland Library Consortium (www.library.cmu.edu/Libraries/olc.html)
26 PALINET (www.palinet.org)
27 Wisconsin Library Services (WiLS) (www.wils.wisc.edu)
28 Ohionet (www.ohionet.org)
29 Louisiana Library Network, USA (http://appl003.lsu.edu/ocsweb/louishome.nsf/index)
30 Triangle Research Libraries Network (TRLN) (http://www.trln.org/)
32 DALNET -Detroit Area Library Network. (www.dalnet.lib.mi.us)
33 Colorado Alliance of Research Libraries (http://www.coalliance.org/)
34 BLCMP – Birmingham Libraries Co-operative Mechanisation Project (www.talis.co.uk)
36 CURL and COPAC (www.copac.ac.uk)
37 People’s Network (www.peoplesnetwork.co.uk)
38 UKOLN – the UK Office for Library and Information Networking (www.ukoln.ac.uk)
40 Danish Library Network (www.bibliotek.dk)
41 Bavarian Library Network, Germany (http://www.bibliothek.uni-wuerzburg.de)
42 GBV Common Library Network, Germany (http://www.gbv.de)
44 http://www.oclcpi.ca
46 AMICUS (www.collectionscanada.gc.ca/amicus/index-e.html)
47 British Columbia Electronic Library Network (BC ELN) (http://www.eln.bc.ca)
48 The Canadian Research Knowledge Network (CRKN) http://www.researchknowledge.ca
49 NEBIS, Switzerland (www.nebis.ch)
50 Consortium of Academic Libraries of Catalonia (CBUC) (www.cbuc.es)
51 3.39 Anatolian University Libraries Consortium (ANKOS), Turkey (www.ankos.gen.tr)
52 MALMAD, Israel (http://malmad.iucc.ac.il/default.asp?lang=En)
54 Nil, Japan (formerly NACSIS) (www.nii.ac.jp)
55 KERIS (http://english.keris.or.kr/es_main/index.jsp)

Pakistan Library Network. (http://www.planwel.edu/pln.htm)

DELNET-Developing Library Network (www.delnet.nic.in)

INFLIBNET (www.inflibnet.ac.in)

ADINET (www.alibnet.org)

MYLIBNET (www.mylibnet.org)


http://www.birmingham.gov.uk

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http://www.wallacefoundation.org/KnowledgeCenter/

www.mssrf.org/tsunami/rkc_toolkit.pdf