1.1 Introduction

The origin of library consortia can be traced back to 1886 when Melvil Dewey wrote about “library cooperation” in an issue of the Library Journal and in a similar manner E. A. Mac also presented his views on “cooperation versus competition” in the same journal in 1887. R. B. Downs expressed his views on “library cooperation” in his paper “One for All: A Historical Sketch of Library Cooperation 1930-1970” which was included in the 1939 symposium organized by (American Library Association) ALA on the topic “library of tomorrow”.

The consortia approach for online access to e-resources plays an important role in the higher education system. This contributes a lot to boost the academic activities, viz, learning, teaching and research activities in the field of engineering education.

Engineering education system has witnessed enormous growth in India. In 1947, there were only 42 engineering colleges with an intake capacity of 3200 which increased to 3495 engineering colleges with a student intake of 1761976 in March 2013; thereby translating into a growth of more than 7800%.

National Knowledge Commission (NKC) suggested setting up of 1500 universities by 2015. Mr. Sam Pitroda, then the Chairman of National Knowledge Commission (NKC), also suggested setting up an Indian Institute of Library and Information Science to boost the research and development of library systems in the country.

Information technology has played an important role in library and information science. Due to rapid strides in the field of Information and Communication Technologies (ICTs), a huge number of electronic resources in every subject area are now being published every day. Now-a-days library collection is not limited to printed documents only but also to electronic resources, which are found to be less expensive, easily accessible and hardly occupying physical any space of a library. Use of electronic resources is increasing day-by-day as compared with print documents especially in libraries of universities/institutes.
With the increasing popularity of electronic resources, academic libraries have moved from print format to electronic format and the use of e-resources is growing dramatically as compared to print documents.

In 2012, AICTE proposed mandatory e-resources for the AICTE affiliated engineering colleges⁴.

Engineering colleges in the country hampered by budget constraints find it hard to provide electronic resources to their users. As a result no library is able to procure, process or store all documents that its users demand. According to Kent “it is difficult for any single library to acquire even one percent of the total documents published in the world⁵.” The only solution for this kind of problem is to share the resources.

Ameen says that “the Alexandria library used to share its collection with the Pergamum library [even] in 200 B.C⁶.”

Resource sharing amongst libraries is a good old practice that is aimed at overcoming budgetary constraints. In India, a number of resource sharing networks started with the initiatives of NISSAT in forming CALIBNET in 1986, DELNET in 1988 and INFLIBNET in 1991. The establishment of a number of local library networks such as CALIBNET (Calcutta,1986), BONET (Bombay,1993), PUNET (Pune), MALIBNET (Madras, 1993), MYLIBNET (Mysore), HYLIBLET (Hyderabad), ADINET (Ahmedabad), and countrywide ones like ERNET (Educational and Research Institutions), SIRNET (CSIR Laboratories) are some of the early library cooperation initiatives in India.

With the advent of internet, the academic libraries have started forming consortia to provide common access to electronic resources across the internet. The consortia arrangements enable libraries save money, survive financial constraints, and eliminate redundant resources and activities.

The concept of library consortia is not new. Library cooperation in America has existed for over a century. However, library consortia first began in the mid-nineties in the USA. In India the library consortia became operational after 2000 with the advent of e-resources.
During the last decade, Libraries all over the world started adopting the consortia approach to meet the users' needs and provide access to e-resources at lower price. At present there are about 200 members of the International Coalition of Library Consortia (ICOLC), which is an informal group having members from all over the world.

During the past decade, in India, various academic, scientific and technical organizations set up their own consortia to provide access to e-resources at highly discounted rates to their users. Library consortia have been initiated in India but efforts to form library consortia are still in their infancy. In this connection, the Indian National Digital Library in Engineering Sciences and Technology (INDEST-AICTE) Consortium was set up by the Ministry of Human Resource Development (MHRD) in the year 2003. The consortium enables the academic libraries to access to e-resources from reputed publishers and aggregators at much lower rates of subscription.

Hence, the “Consortia-based subscription to electronic resources for Technical Education System in India” is the most ambitious initiative taken so far in the country by the MHRD under the Chairmanship of Prof. N. Balakrishanan. However, Consortia-based subscription of electronic resources in the Indian Statistical Institute (ISI) Library, Kolkata, was first mooted in 1999.

1.2 E-Resources for the Engineering Colleges in India through the INDEST-AICTE Consortium

Before describing the INDEST-AICTE Consortium, it is essential to know the general terms of “E-Resources” and “Consortium” which are variously defined by different scientists. Some of important ones are as follows:

1.3 Electronic Resources

Adams, J. A. and Bonk, S. C.: “Electronic resources are usually referred to as databases, books, journals, newspapers, magazines, archives, theses, conference papers, examination papers, government papers, research reports, scripts and monographs in an electronic form.”
Spark Jones, Bennett et al.: “A research resource is a generic term that refers to a broad range of materials that can be useful for researchers. In the same sense an electronic resource can mean anything from the journals available electronically at a university library to a list of web links.”

Graham: “electronic resources”, has broadly been defined as, information accessed by a computer, may be useful as bibliographic guides to potential sources but, as of yet, they infrequently appear as cited references in their own right.”

M. G. Sreekumar: “E-Resources predominantly include e-journals, e-books, scholarly databases (abstract, index, and full-text), e-reference works, online e-book libraries, value added information portals etc.”

![Fig. 1.1 Sample Set of E-Resources & Services](image)

In general words, it is said that e-resources are resources in which information is stored electronically and accessible through electronic systems and networks.

### 1.4 Historical Background and Growth of Electronic Resources

Most of the electronic journals launched in the early 1990s, the publishers and universities explored ways of creating electronic journals that could be retrieved on the users’ desktop. There was a significant growth in the number of electronic
journals in these days. The 7th edition (1997) of *The ARL Dictionary of Electronic Journals Newsletters and Academic Discussion Lists* shows that the number increased from 110 in 1991 to 675 in 1995 and to a further 3,414 in 1997.\(^{12}\)

At present, the estimated number of STM (Science, Technology and Medicine) journals is about 25,000. Out of this 15,000 journals are peer-reviewed and 12,000 are available online.\(^{13}\) There has been a voluminous growth of published documents in the recent past.

### 1.5 Increasing Price and Library Budget

The costs have increased three-folds every 15 years and 226 per cent during the last 20 years in terms of dollars, which may be further compounded by currency conversion whereas the increase in library budget was only 110 per cent during the same period.\(^{14}\)

In another study by the Association of Research Libraries in the USA, it was found that average CPI (Consumer Price Index) for US increased by 73 per cent during 1986-2004, but the expenditures of research libraries for journals increased by 273 per cent during the same period.\(^{15}\)

Based on a survey on more than 8000 scholarly journals of leading international publishers, White and Creaser reported that journal prices are estimated to have increased by 39 per cent between 2001 and 2006, while the retail price index has risen by 16 per cent over the same period.\(^{16}\)

### 1.6 Advantages of Consortia

The advantages of library consortia are as under:\(^{17}\):

- Promote collaboration in different library activities.
- Better sharing of existing resources and jointly acquiring new e-resources at great savings.
- Negotiating and finalizing terms and conditions with the publishers.
- Streamlining and consolidating technical services through compilation of union catalogue.
- Professional development and training.
- Promotion of new standards for managing usage statistics.
1.7 Definitions of Library Consortium

The ‘consortia’ is the plural form of ‘consortium’ but it is often used in place of singular form. It is derived from the Latin word for ‘fellowship’- the meaning emphasizes coming together of separate groups for a purpose. Synonymously the term is used as alliance, coalition, collaboration, cooperation, partnership, etc\textsuperscript{18}. The dictionary.com defines it as “cooperative agreement among group or institutions”.

Allen and Hirshon have explained library consortium as “a generic term to indicate any group of libraries that are working together towards a common goal, whether to expand cooperation on traditional library services (such as collection development) or electronic information services. It is now used perhaps too broadly, and encompasses everything from formal legal entities to information groups that come together solely to achieve better pricing for purchasing electronic information”\textsuperscript{19}.

According to Dong and Zou a “library consortium is an association for libraries established by formal agreement, usually for the purpose of improving services through resource sharing among its members\textsuperscript{20}.”

As quoted by N. R. Narayana Murthy from a hymn of Vedas\textsuperscript{21}. 

“Man can live individually, but can survive only collectively.
Hence, our challenge is to from a progressive community by balancing the interest of the individual and that of the society. To meet this we need to develop a value system where people accept modest sacrifices for the common good”.

Therefore, the common focus of all definitions are ‘coming together of libraries having common interests and needs, to achieve a common goal that is beyond what an individual library could achieve on its own.’

1.8 Need of Library Consortium

According to Laxman Rao’s description, the consortia, “deal collectively with the problems of purchasing online products, to benefit from the best possible volume pricing, and to secure the best terms of agreement from online publishers\textsuperscript{22}.”
Some of the major issues that address the need for consortium are:

- Indian universities are finding it hard to maintain the subscriptions even for core journals due to ever increasing cost of the journal subscriptions and also a shrinking budget.
- Academic and research users can now hope to have access to their learned journals articles in electronic form.
- There should be an increase in the availability of information in electronic form with more and more literature published in e-form.
- Reduction in the staff strength and cost savings for library budget would be beneficial.
- Greater buying and increased access to sources would be beneficial.

### 1.9 Types of Consortia

There are many types of consortia. Formation of a particular type of consortium depends upon many factors. There are, broadly, the following groups with different features:

- Open Consortium: In this type, libraries are free to join and leave as and when they please. Member libraries are usually homogeneous in nature and require cross-sharing of the resources in a specific subject area, for example, INDEST Consortium of MHRD, Government of India.
- Closed Consortium: As the name indicates, this type of consortium is formed by coalition, affiliation, and collaboration among exclusive member libraries, for example, CSIR, DAE, and IIM Consortia.
- Centrally-funded: In this type, a parent body or the coordinating agency will have the financial responsibility for running the consortium, for example, CSIR, INDEST, UGC-INFONET, and ICMR Consortia, etc.
- Shared Budget: In this type, management of funds and other aspects are handled individually by the member libraries, for example, IIM, and Forum for Resource Sharing in Astronomy and Astrophysics (FORSA).
• Publishers’ Initiative: Certain publishers are also encouraging consortium formation by giving a deep discount in prices to the member libraries, for example, Emeralds’ Publishing Group.
• National Consortium: This is a model perceived at national level which includes member libraries from one country.
• International Consortium: The end of this model is international level.

1.10 Library Consortia Initiative in India

The International Coalition of Library Consortia (ICOLC) which is an informal group, at present lists approximately 200 library consortia from around the world. It supports participating consortia by facilitating discussion on issues of common interest. After China, India is the second largest subscriber of consortia based library subscription of e-resources.

Within the last decade, in India, more than half a dozen library consortia have been formed by various government bodies for providing access of e-resources to the users. Besides, INDEST-AICTE Consortium and UGC-INFONET Digital Library Consortium, none of these consortia serves the engineering colleges in India.

Some of the important library consortia successfully operational in India are as follows:

• INDEST-AICTE Consortium
• CSIR E-Journals Consortium
• UGC-INFONET Digital Library Consortium
• IIM Library Consortium
• FORSA Consortium
• ICAR-CeRA Consortiumt

Further details of some of the major Indian library consortia are given in Table 1.1. Considering the fact that a new consortium was being formed in India every year in the last ten years, it is time to give a fresh look at access to electronic resources in the country through the consortium.
With regard to consortium initiatives in India, Chakravarthy and Singh concluded that the efforts of UGC-INFONET and INDEST Consortium will strengthen higher education system in India\textsuperscript{27}. 
### Table 1.1
Library Consortia in India

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of Consortium</th>
<th>URL</th>
<th>Year of Inception</th>
<th>Funding Body</th>
<th>Subject/Course</th>
<th>No. of Resources</th>
<th>No. of Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>INDEST-AICTE</td>
<td><a href="http://panit.iitd.ac.in/indest/">http://panit.iitd.ac.in/indest/</a></td>
<td>2003</td>
<td>MHRD, GOI</td>
<td>Science, Technology &amp; Management</td>
<td>30</td>
<td>1259</td>
</tr>
<tr>
<td>2.</td>
<td>UGC-INFONET Digital Library Consortium</td>
<td><a href="http://www.inflibnet.ac.in/econ/">http://www.inflibnet.ac.in/econ/</a></td>
<td>2004</td>
<td>UGC, MHRD</td>
<td>All subject</td>
<td>29</td>
<td>321 (207 universities and 108 colleges)</td>
</tr>
<tr>
<td>3.</td>
<td>N-LIST</td>
<td><a href="http://nlist.inflibnet.ac.in/">http://nlist.inflibnet.ac.in/</a></td>
<td>2010</td>
<td>MHRD, GOI</td>
<td>All subject</td>
<td>25</td>
<td>2513 colleges, 100 universities and 35 technical institutions</td>
</tr>
<tr>
<td>5.</td>
<td>DAE</td>
<td><a href="http://www.csr.res.in/">http://www.csr.res.in/</a></td>
<td>2001</td>
<td>DAE</td>
<td>Atomic Energy</td>
<td>4</td>
<td>36 Institution including BARC, IITR &amp; SAMEER</td>
</tr>
<tr>
<td>6.</td>
<td>DeLCON</td>
<td><a href="http://delcon.gov.in/">http://delcon.gov.in/</a></td>
<td>2009</td>
<td>DBT, MST, GOI</td>
<td>Biological Sciences</td>
<td>18</td>
<td>33 (15 DBT and 18 NER Institutions)</td>
</tr>
<tr>
<td>8.</td>
<td>MCIT</td>
<td><a href="http://mcitconsortium.nic.in/">http://mcitconsortium.nic.in/</a></td>
<td>2005</td>
<td>MCIT</td>
<td>4</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>ERMED</td>
<td><a href="http://www.nmlermed.in/">http://www.nmlermed.in/</a></td>
<td>2008</td>
<td>DGHS</td>
<td>Medical Sciences and allied field</td>
<td>9</td>
<td>98</td>
</tr>
<tr>
<td>10.</td>
<td>DELNET Consortium</td>
<td><a href="http://delnet.nic.in/">http://delnet.nic.in/</a></td>
<td></td>
<td>DELNET</td>
<td>All subject</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>RGUHS-HELINET</td>
<td><a href="http://www.rguhs.ac.in/HELINETHOSTCONSORTIUM/homehelinethost.htm">http://www.rguhs.ac.in/HELINETHOSTCONSORTIUM/homehelinethost.htm</a></td>
<td>2007</td>
<td>Medical/Health Sciences</td>
<td>276+ Medical Colleges</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1.11 Role of Library Consortia in India

All educational institutions in India, especially the universities, faced acute shortage of funds to subscribe to international scholarly journals before the consortium trends. It is estimated that a typical university in India subscribes to less than 200 international journals. Moreover, some the Indian universities do not subscribe to any international journal at all. While there are around 50,000 scholarly journals published the world over, all research institutes and universities in India put together had combined subscription to only around 1,500 journals in print until a few years ago.

Many smaller colleges and institutes subscribe to a fewer than 100 journals. Most colleges, including those running postgraduate and doctoral programmes, do not have financial resources to subscribe to any international journal and their subscription list includes only a few Indian journals and some popular magazines.

The situation indicates that the Indian libraries were earlier not in a position to subscribe to the printed foreign scholarly journals before the consortium trends because of paucity of fund. However, the accessibility to international journals in Indian universities and technical institutes has increased many-fold with the setting up of a number of Government-funded library consortia. The consortium facilitates the libraries to get the benefit of wider access to electronic resources at affordable cost and the best terms of licenses. Prior to these consortia, access to e-resources was restricted to premier institutes like IISC, IITs, IIMs and a few Central Universities which were subscribing to a small number of e-resources including bibliographic databases on CD-ROM, a few e-journals accessible free with subscription to their print versions and a negligible fraction of journals on subscription.

After the launch of the “Indian National Digital Library in Engineering Sciences and Technology (INDEST) Consortium” in 2003 and ‘UGC-INFONET Digital Library Consortium” in 2004, availability and accessibility of e-resources increased phenomenally in centrally funded technical institutes (IITs, IISc, IIMs, IIITs, etc.) and universities, setting up a new culture of electronic access and browsing in educational institutes.
At present, most of the libraries of Indian universities and research institutions have access to more than 1000 scholarly international e-journals under consortium mode. These universities and research institutes are now rich in e-resources. Access of e-resources has also been started up at college level in the university system through consortia.

On utilization of consortium based e-resources, it is found that the average cost of a full-text article was ₹ 24.74 for INDEST-AICTE Consortium and ₹ 75.95 for UGC-INFONET Digital Library Consortium in the year 2008. One of the interesting results came out by these studies that average cost of a full-text article is three folds higher in UGC-INFONET Digital Library Consortium as compared to INDEST-AICTE Consortium. It indicates that in the INDEST-AICTE Consortium, with the help of AICTE, played major role in bringing the IT culture in engineering college libraries in India.

The success of a library consortium has often been judged by its savings in expenditure. It is found in a study that an amount of more than ₹ 5 crore has been saved by the DRDO labs in the year 2009; this amount is recurring annually through consortia. The consortia have also an important role in ensuring perpetual access for future generation.

### 1.12 About INDEST-AICTE Consortium

In the year 2003, the “Indian National Digital Library in Engineering Sciences and Technology (INDEST) Consortium” was set-up by the Ministry of Human Resource Development (MHRD) on the recommendation of an Expert Group appointed by the Ministry. The IIT Delhi was designated as the Consortium Headquarters to coordinate its activities. The INDEST Consortium was re-named as INDEST-AICTE Consortium in December 2005 as AICTE took the lead to spread the access to e-resources to all its affiliated engineering colleges and technological institutions as members of the Consortium for selected e-resources at much lower rates of subscription.

As on March 2012, the INDEST-AICTE Consortium has 1259 engineering colleges as members. They are categorized in three different types of members, namely, Core
member institutions supported by MHRD, AICTE-supported institutions, and Self-supported institutions. Number of members in the Consortium has increased from 115 in 2003 to 1259 in 2011. In March 2011, INDEST-AICTE Consortium had 62 core members, 60 AICTE-Supported members and 1137 self-supported members. It provides access to over 12,000 e-journals and six bibliographic databases from 23 publishers and aggregators\(^\text{36}\).

The consortium website at (http://indest.iitd.ac.in/indest) hosts searchable databases of journals and member institutions to locate journals subscribed by the Consortium, their URLs and details of member institutions.

Dr. Jagdish Arora was its first National Coordinator and continued in this role up to August 2007. Prof. G. P. Agarwal took charge as National Coordinator of the consortium from Dr. Arora and served this post for five years beginning September 2007 to end of August 2012. Since September 1, 2012, Prof. B. D. Gupta has taken charge as the National Coordinator\(^\text{37}\).

However, the INDEST-AICTE Consortium is described in details (such as the genesis of INDEST-AICTE Consortium, objectives, functions, activities and services etc.) in Chapter 4.

1.13 References


