USAGE OF E-RESOURCES BY THE SCIENTIFIC COMMUNITY LIBRARY USERS OF ASSAM UNIVERSITY, SILCHAR

A COMPARATIVE STUDY

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ABSTRACT

The paper describes about the usage of E-Resources available under the UGC-INFONET Digital Library Consortium and DeLCON Consortium by the scientific community Library Users of Assam University, Silchar representing from Bio-Medical Sciences and Ecology and Environmental Sciences. Survey method has been used using questionnaire as a data collection tool and Interview in some cases. Altogether 150 questionnaire was distributed and 117 responses received. This study was conducted during January 2013 to May 2013 only. This is a comparative study of utilisation of e-resources available under these two important consortia.

The survey findings reveals that e-resources available under UGC-INFONET is more popular and heavily utilised by the scientific community of Assam University Library and they prefer to access e-resources mainly from their respective department and the evening is the preferred time among the teachers, scholars and students.

The library users suggested to organised regular User Awareness Programme and enhance the infrastructural facilities in the departmental and university library.

Key Words: E-Resources, UGC-INFONET Digital Library Consortium, DeLCON Consortium, Assam University, Silchar, Bio-Medical Sciences, Ecology and Environmental Sciences
1. INTRODUCTION

Electronic publishing has been revolutionizing the format of the recorded knowledge. Electronic information services are attracting reader’s attention in today’s network environment. This changing scenario in library environment has arisen for the need and use of E-Resources along with print version. Electronic Journals (E-Journals) bring new challenges before the library and information professionals to give full text access to scholarly publications both in print and electronic version to its end users. (Sinha, 2006). The ever increasing subscription cost of journals, decreasing value of Indian rupee against major foreign currencies and the stagnant library budgets reduce the collection of journals to a very minimum level. Thus, it has affected the academic and research community in our country.

1.1 BACKGROUND OF THE STUDY

Library consortia is a community (a supportive) of two or more libraries which have formally agreed to cooperate, synchronize, organize, collaborate or consolidate certain functions to achieve joint objectives. Online Dictionary for Library and Information Science (ODLIS) defines Library Consortia as "an association of independent Libraries and/or Library systems established by formal agreement, usually for the purpose of sharing". Membership may be restricted to a specific geographical region, type of Library (Public, Academic, and Special) or subject specialization.

The emergence of Internet, particularly, the World Wide Web (WWW) as a new media of information delivery triggered proliferation of Web-based full-text online resources. Increasing number of publishers are using the Internet as a global way to offer their publications to the international community of scientists. The technology provides an unparalleled media for delivery of information with greater speed and economy. The libraries and Information Centres, as heavy consumers of electronic journals and online databases, stand to benefit greatly from this technology-driven revolution.

1.2 E-RESOURCES AND CONSORTIA : INDIAN SCENARIO

The recent advances in Communication Technology, Networking, use of Internet and Electronic Products have brought about a revolutionary change profoundly affecting the library’s landscape. It has affected the selection, acquisition and information transfer process. The Technology is mainly being used for communication, database searching, bibliographic and full text searching. It has also changed the concept of archiving. According to Swan (1992), “we are no longer accessing the whole fabric of information, rather bits of data, sound bites and images torn from it”. Currently “Economic forces and technological advances have combined together to create a new environment, where access to collective scholarly resources that no library could be ever afford, supersedes the historic quest for the great comprehensive collection” (Harloe and Budd, 1994).

1.21 Meaning of E-Resources

E-Resources encompass a wide range of its sources, which includes E-Journals, E-Books, E-Reports, E-Databases, etc. E-Resources are mostly the electronic products that delivers a collection of data, be in text referring to full-text, E-Journals, image collection, other multimedia products and numerical / graphical data.

Some of the common types are: Indexing and Abstracting databases; E-newsletter / magazine; Electronic Thesis and Dissertations; Full- text databases; E-journals; E-books; E-monographs; Numeric and statistical databases; Reference databases (directories, dictionaries, encyclopaedias, etc.). The E-Resources may be delivered on CD-ROM, DVD’s, and Magnetic tape and over the internet or web and so on.
1.22 Types of E-Resources

The E-Resources are basically divided in two major types are: Online E-Resources; and Offline E-Resources

1.23 Advantages of E-Resources

The reasons for actually embarking on the purchasing of electronic resources are generally accepted because of the ease of usability, readability, affordability and accessibility. The following are the advantages of E-Resources over the print media: Speedy Information; No time limit; Multi access; Remote access; Hyperlinks and multimedia; Content; Search facilities; E-mailing; E-mail alert; Maintenance; Physical space saving; Security; and Economical

1.24 Disadvantages of E-Resources

Although there are many advantages of E-Resources over printed resources in libraries, there are many disadvantages also. Some are: Initial high infrastructure and installation cost; Need special equipment’s to access; Lack of compatibility among publishers; Hardware and software compatibility issues between publishers and users; Excessive printing of documents; Difficulty inherent in relating to large amount of data on a screen; Causes more concern about copyright; and Efficient manpower is required.

1.3 E-RESOURCE CONSORTIA

The buzzword of present day digital environment is ‘Consortium’ that is intended to share the resources through collaboration within the member libraries. In the digital context, it is the access to information rather than holding information. ‘Collection building’ concept has changed to ‘Connection building’ with the help of Information and Communication Technologies (ICT). Access to the e-resources and the subscription amount is shared among the participating libraries. Significant price reduction can be achieved through consortium and individual libraries in the consortium will have collaborative acquisition of access rights to databases and E-Journals. The word consortium has been derived from Latin, meaning association or partnership. Broadly the meaning is same in the context of library; an e-journal consortium means the collaborative acquisition of access rights to electronic databases and journals. The aim of consortia is to achieve what the members of the group cannot achieve individually.

The phrase library consortium has been used to mean cooperation, coordination and collaboration between and amongst libraries with an intention to share information resources. Harrod’s Librarians’ Glossary defines cooperation as “An association of libraries and similar institutions formed for mutual assistance and understanding functions where the sharing of resources or division of costs can be advantageous and efficient.” 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.”

1.4 Types of E-R Resource Consortia

There are various types of consortia which are prevalent in India and abroad. These are (a) Open Consortium; (b) Closed Consortium; (c) Centrally-funded; (d) Shared Budget; (e) Publishers’ Initiative; (f) National Consortium; (g) International Consortium.

1.5 STATUS OF E-RESOURCES CONSORTIA IN INDIA

UGC-INFONET Digital Library Consortium, INDEST-AICTE Consortium, CSIR E-Journals Consortium, IIM Consortium and DeLCON Consortium in India are some of the well-known library consortia. Besides, library consortia that emerged with primary motive to license e-resources for their member institutions, several existing library networks have also taken-up the task to license e-resources for their
members. The concept of consortia in India is still in the formative stage and picking up slowly but steadily. Libraries in India are very slow in taking note of the advantages of networking. In India, there are many initiatives undertaken by Government and Professional organisations to form consortia at national level.

1.6 UGC-INFONET DIGITAL LIBRARY CONSORTIA

The UGC-INFONET Digital Library Consortium is major initiative of University Grants Commission (UGC) to bring qualitative change in academic libraries in India. It was formally launched in December, 2003 by Honourable Dr. A P J Abdul Kalam, the then President of India, soon after providing the Internet connectivity to the universities in the year 2003 under the UGC-INFONET programme. The Consortium provides current as well as archival access to more than 7,000+ core and peer-reviewed journals and 10 bibliographic databases from 26 publishers and aggregators in different disciplines. The access to all major e-resources was given 50 universities in first phase in the year 2004. It has now been extended to 171 universities in three different phases. Recently the E-Resources under the UGC-INFONET Digital Library Consortium has been made available for 2014 to all previous member universities.

1.7 DeLCON (DBT – Electronic Library Consortia)

The setting up of a separate Department of Biotechnology (DBT), under the Ministry of Science and Technology in 1986 gave a new impetus to the development of the field of modern biology and biotechnology in India. (Lal, 2012). DBT e-Library Consortium (DeLCON) is a unique Electronic Journal Consortium exclusively for the Department of Bio-Technology which is operational since January 2009. The Consortium operates through its Headquarter set-up at the National Brain Research Centre, Gurgaon, Haryana and Department of Biotechnology (DBT), Government of India provides funds required for subscription to electronic resources for Universities/Institutions.

A total of 917 selective Journals and a Database (SCOPUS) are covered under DeLCON. These all are accessible by the DeLCON Consortium Members through the DeLCON Portal (http://delcon.gov.in). Others can also view and access abstracts of papers as free of costs.
1.8 ASSAM UNIVERSITY, SILCHAR (http://www.aus.ac.in)

Assam University, Silchar (AUS) is one of the Central Universities situated in Southern part of Assam in North Eastern India. The main reason behind the establishment of this university was primarily to attract the students in five districts which are under the jurisdictions of Assam University. It has as many as 57 undergraduate affiliated colleges, which have been trying to meet the intellectual and education interests in the region. Assam University is having 35 Post-Graduate Departments which are distributed under 16
1.9 OBJECTIVES OF THE STUDY

The main objectives of the present study are:

- To examine the awareness of E-Resources among the Scientific community Library Users of Assam University, Silchar;
- To evaluate the extent of usage of E-Resources available under UGC-INFONET Digital Library Consortia and DeLCON Consortia by the Scientific community Library Users of Assam University, Silchar;
- To ascertain the frequency of using the E-Resources by the Scientific Community Library Users;
- To find out various purposes of using E-Resources by the Scientific Community Library Users of Assam University, Silchar;
- To compare the usage of E-resources available under both the consortia under study;
- To find out the problems in accessing to the E-Resources; and
- To suggest the ways and means to improve the usage of E-Resources by the Scientific Community Library Users of Assam University, Silchar.

1.9.1 Scope and Limitation of the Study

The scope of the present study is restricted only to the Post-Graduate Students of Department of Biomedical and Ecology & Environmental Sciences in Assam University, Silchar, Assam, India and the use of the DELCON & UGC-INFONET Digital Library consortia for their use of E-Resources. The geographical area is limited to Assam University, Silchar only. The scope of the study area is limited to the science departments of Assam University, Silchar. Only five departments which come under the Biomedical and Ecology & Environmental Science have been taken into consideration for the purpose of the present study. Following departments of Assam University, Silchar have been included in the present study: Department of Life Sciences & Bioinformatics; Department of Biotechnology; Department of Microbiology; Department of Ecology & Environmental Science; and Department of Pharmaceutical Science.

2.0 REVIEW OF LITERATURE

For the purpose of review of literature, both primary and secondary sources of information (printed resources as well as electronic/on-line resources) have been consulted by the researcher. By going through the available literature, it has been found that a number of relevant studies have been carried out on the availability and use of E-Resources in universities and research organizations. Some studies are comprehensive in nature and covered all types of e-resources. Some are specific to the use of e-journals only. Also, there were many studies conducted on the topic E-Journal consortia, particularly on UGC-INFONET Digital Library Consortium and DeLCON Consortia.

Kumbar, Vatnal, Hadagali and Patil (2006) made a study on Use of UGC-INFONET Consortium by the Faculty Members and Research Scholars of Department of Chemistry in Karnataka University which reveals that maximum number of chemists (87.5%) has got awareness about the UGC-INFONET programme. Majority of the chemists (82.5%) felt that they are in need of regular training programme to make effective use of UGC-INFONET programme. The data reveals that the majority of the chemists i.e. 47.5% have enough knowledge in using the web, including searching of different Databases.

Sinha, Murthy and Kumar (2006) made a study on “Developing E-Journals Consortium in India: A New Approach for Resource Sharing in Digital and Network Environment” Which revealed that Electronic journals bring new challenges before the library and information professionals to give full text
access to its end users? The E-Journals are very much costly. The available funds for the institutions, which are either given by the UGC through MHRD, Govt. of India, or by State Government, are being reduced due to financial crisis and escalation in the price of printing cost and newsprint. Therefore the universities and national institutions like IITs, IIMs, CSIR Research Institute, are looking forward for consortia approach. Through consortium approach various prestigious E-Journals & E-Databases, etc. are centrally subscribing; successfully through INDEST Consortium, UGC-INFONET E-Journal Consortium, CSIR Consortium FORSA Consortium, IIMs Consortium, and IGCAR Consortium.

Sinha, Singha and Sinha (2011) conducted a study on “Usage of Electronic Resources available under UGC- INFONET Digital Library Consortium by Assam University Library users” and tried to evaluate the usage pattern of electronic resources made available in the Assam University Library under the UGC-INFONET E-Journals / Digital Library Consortium of UGC/INFLIBNET amongst the research scholars and teachers of North Eastern Region of India with special reference to Assam University, Silchar.

Sinha (2012) made a study on “Status of ICT and Internet Literacy for Accessing to E-Resources Available under UGC- INFONET Digital Library Consortium”. The study has been undertaken with a view to know the status of ICT and Internet Literacy amongst the Assam University Library Users for accessing to E- Resources available under UGC-INFONET Digital Library consortium. The faculty, research scholars and students are mainly drawn from different parts of North Eastern States and few from other parts of the country which represent truly cosmopolitan population. The paper highlights the important survey findings in respect of ICT and Internet Literacy, E-Resources use pattern and attitude of library users towards the electronic resources, which have been made available to them under UGC-INFONET Digital Library Consortium.

The first author (MKS) has carried out a number of study to evaluate the usage of E-Resources available under UGC-INFONT Digital Library consortia (Sinha, 2010; Sinha, Singha and Sinha, 2011; Sinha, Bhattacharjee and Bhattacharjee, 2013, 2014) but no attempt has been made to carry out comparative study of the usage of e-resources available under UGC-INFONET Digital Library Consortium and DeLCON Consortium so far in this corner of North East India. Therefore an attempt has been taken to carry out the comparative study of the usage of e-resources available under these two important Consortia of India which have been running successfully under the INLIBNET Centre, Gandhinagar (under UGC/ MHRD) and Department of Biotechnology, Ministry of Science and Technology, Govt. of India respectively.

3.0 METHODOLOGY AND RESEARCH DESIGN

The present study was conducted by the Survey method of research using the questionnaire which is a primary data collection tool. The authors also conducted personal interview of the respondents and also observation method was applied to ascertain the authenticity of responses given by the respondents while responding the questionnaire. Besides this some background information has also been collected using the secondary sources of information and also by visiting the websites of Assam University Silchar (http://www.aus.ac.in), UGC-INFONET Digital Library Consortia (http://www.inflibnet.ac.in), and DeLCON Consortia (http://www.delcon.gov.in).

3.1 Designing the Questionnaire

Keeping in the view of set objectives of the present study , a questionnaire has been designed taking help from the previous study conducted by Sinha (2010), Sinha, Singha and Sinha (2011) and (Sinha 2012) with some modification as per the requirement of the study. The questionnaire comprised of twenty four questions covering different aspects of the problem of the study such as the personal information of users, awareness of E-Journals consortia, use of E-Resources, satisfaction level of respondents while accessing
to E-Resources, preference of E-Resources over printed resources, and suggestions/comments from the users etc.

3.2 Sampling

The researcher has used the random sampling technique for the study. The study includes 150 Assam University Library Users drawn from five science departments which includes Departments under Biomedical and Ecology & Environmental Sciences of Assam University, Silchar. Gender Wise, Category Wise and Department Wise Sampling Design and Distribution of Questionnaire has been shown in Table-1 and Table-2

3.21 Gender Wise Sampling Design for Distribution of Questionnaire

Table 1: Gender wise sample design for each department. (N=150)

<table>
<thead>
<tr>
<th>Name of the Department</th>
<th>Distributed</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Science and Bioinformatics</td>
<td>30</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>Ecology and Environmental Science</td>
<td>30</td>
<td>13</td>
<td>17</td>
</tr>
<tr>
<td>Biotechnology</td>
<td>30</td>
<td>17</td>
<td>13</td>
</tr>
<tr>
<td>Microbiology</td>
<td>30</td>
<td>19</td>
<td>11</td>
</tr>
<tr>
<td>Pharmaceutical Science</td>
<td>30</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>150</strong></td>
<td><strong>77</strong></td>
<td><strong>73</strong></td>
</tr>
</tbody>
</table>

(Source: Primary data obtained from the Questionnaire)

3.22 Category and Department Wise Distribution of Respondents

Table 2: Category Wise Sample Design for each Department (N=150)

<table>
<thead>
<tr>
<th>Name of the Department</th>
<th>Distributed</th>
<th>Professor</th>
<th>Associate, Prof</th>
<th>Asst. Prof.</th>
<th>Guest Faculty</th>
<th>Research Scholar</th>
<th>P.G. Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Science and Bioinformatics</td>
<td>30</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>0</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>Ecology and Environmental Science</td>
<td>30</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td>Biotechnology</td>
<td>30</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>Microbiology</td>
<td>30</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>Pharmaceutical Science</td>
<td>30</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>27</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>150</strong></td>
<td><strong>10</strong></td>
<td><strong>11</strong></td>
<td><strong>14</strong></td>
<td><strong>0</strong></td>
<td><strong>23</strong></td>
<td><strong>92</strong></td>
</tr>
</tbody>
</table>

(Source: Primary data obtained from the Questionnaire)
3.3 Data Collection Procedure

Assam University, Silchar has campus wide Fibre Optic LAN of BSNL and all the departments are connected either LAN or in some cases by Wi-Fi connections through which the users are accessing extensively to the online E-Resources available under these two consortia and also other open access resources available on web. Various Biomedical and Ecology & Environmental Science Departments viz., Department of Life Sciences and Bioinformatics, Department of Biotechnology, Department of Microbiology, Department of Pharmaceutical Sciences and Department of Ecology and Environmental Sciences have been visited by the researchers to distribute the questionnaire to the Post-Graduate Students with a request to answer the questions and return the questionnaire. Then the filled-in questionnaires have been received. In some cases researchers have given reminders to the respondents to return the filled questionnaire in time.

3.4 Data Analysis Techniques

On the basis of filled up Questionnaire received from the respondents, the data has been analysed and tabulated. All the results have been presented in the form of tables and/or graphs. For the data analysis percentage technique has been adopted and for creating the graphs Microsoft Excel (application software) has been used.

4.0 DATA ANALYSIS AND INTERPRETATION

The primary data have been collected by using questionnaire which have been supplemented with interview and observation. On the basis of filled up questionnaire received from the respondents, the data have been analysed and inferences have been drawn using standard statistical techniques. All the results have been presented in the form of tables and graphs and the present results has been shown in percentage (%) only. The software Microsoft Excel 2010 has been used for calculate percentage and creating graphs.

A. General Background / Personal Characteristics of the Respondents

4.1 Number of Questionnaire Distributed and Responses Received

A total of 150 questionnaires were distributed to the respondents, out of which 117 questionnaires duly filled in by the respondents were received back. The overall response rate is 78 % which is good response rate for the survey research (Table-3)

Table 3: No. of Questionnaire Distributed and Responses Received from the Respondents (N=150)

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Nos.</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Received</td>
<td>117</td>
<td>78</td>
</tr>
<tr>
<td>Not Received</td>
<td>33</td>
<td>22</td>
</tr>
<tr>
<td>Total Distributed</td>
<td>150</td>
<td>100</td>
</tr>
</tbody>
</table>

(Source: Primary data obtained from the Questionnaire)
4.2 Department Wise Distribution of Questionnaire and Responses Received

Table 4: Department Wise Distribution of Questionnaires and Responses Received (N=150)

<table>
<thead>
<tr>
<th>Name of the Department</th>
<th>Distributed</th>
<th>Received</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Science and Bioinformatics</td>
<td>30</td>
<td>25</td>
<td>83.33</td>
</tr>
<tr>
<td>Ecology and Environmental Science</td>
<td>30</td>
<td>23</td>
<td>76.67</td>
</tr>
<tr>
<td>Biotechnology</td>
<td>30</td>
<td>24</td>
<td>80.00</td>
</tr>
<tr>
<td>Microbiology</td>
<td>30</td>
<td>22</td>
<td>73.33</td>
</tr>
<tr>
<td>Pharmaceutical Science</td>
<td>30</td>
<td>23</td>
<td>76.67</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>150</strong></td>
<td><strong>117</strong></td>
<td><strong>78.00</strong></td>
</tr>
</tbody>
</table>

(Source: Primary data obtained from the Questionnaire)

Table-4 shows the Department Wise Distribution of questionnaire and responses received which shows that all the departments have almost uniformly between 73.0 % to 83.0 %. More responses have been received from the Department of Life Science and Bioinformatics (25=83.33 %) which has been followed by the Department of Biotechnology (24=78.0 %) whereas less percentage of responses was received from the respondents of Department of Microbiology

4.3 Gender Wise Distribution of Respondents

Table-5: Gender Wise Distribution of Questionnaire and Responses Received from the Respondents (N=117)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Questionnaire Distributed</th>
<th>Questionnaire Received</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>Percentage (%) (N=117)</td>
</tr>
<tr>
<td>Male</td>
<td>77</td>
<td>65</td>
</tr>
<tr>
<td>Female</td>
<td>73</td>
<td>52</td>
</tr>
<tr>
<td>Total</td>
<td>150</td>
<td>117</td>
</tr>
</tbody>
</table>

(Source: Primary data obtained from the Questionnaire)

Out of 117 respondents, 65 (55.66 %) respondents belong to male category and 52 (44.44 %) belong to female category (Table-5)
B. Library Visit Pattern

4.4 Frequency of using E-Resources

Table 6: Frequency of using E-Resources (N=117)

<table>
<thead>
<tr>
<th>Frequency</th>
<th>No. of Respondents</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>32</td>
<td>27.35</td>
</tr>
<tr>
<td>Once a Week</td>
<td>25</td>
<td>21.37</td>
</tr>
<tr>
<td>Several times a Week</td>
<td>17</td>
<td>14.53</td>
</tr>
<tr>
<td>Once in a Month</td>
<td>19</td>
<td>16.24</td>
</tr>
<tr>
<td>Several times in a Month</td>
<td>16</td>
<td>13.68</td>
</tr>
<tr>
<td>Occasionally</td>
<td>8</td>
<td>6.83</td>
</tr>
<tr>
<td>Not at all</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Total</td>
<td>117</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(Source: Primary data obtained from the Questionnaire)

Table 6 depicts the result of frequency of using E-Resources available in Assam University Library. The result shows that highest 32 (27.35%) number of the respondents use E-Resources on Daily basis which is followed by 25 (21.37%) who use E-Resources Once a week. About 17 (14.53%) respondents use e-resources Several times in a week, 19 (16.24%) uses Once in a month and 16 (13.68%) respondents uses E-Resources Several times in a month, whereas very less number of respondents 8 (6.83%) use E-Resources occasionally.

4.5 Preferred Time to access E-Resources

Table 7: Preferred time of accessing E-resources (N=117)

<table>
<thead>
<tr>
<th>Time</th>
<th>Responses in Numbers</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning (10:00-12:00)</td>
<td>32</td>
<td>27.35</td>
</tr>
<tr>
<td>Afternoon (12:00-2:00)</td>
<td>27</td>
<td>23.08</td>
</tr>
<tr>
<td>Evening (3:00-6:00)</td>
<td>58</td>
<td>49.57</td>
</tr>
<tr>
<td>Total</td>
<td>117</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(Source: Primary data obtained from the Questionnaire)

Out of 117 respondents, majority of the respondents i.e. 58 (49.57%) accesses E-resources at evening time i.e. 3:00-6:00 P.M. Followed by 32 (27.35%) users access E-resources at morning time i.e. 10:00-12:00 A.M. and rest of the respondents respond that they access E-resources at afternoon i.e. 12:00-2:00 P.M. The findings reveals that majority of respondents prefer evening time as they are busy with classes and laboratory work during morning and afternoon (Table-7).
4.6 Preferred Place to access E-Resources

Table -8: Preference of places of accessing E-Resources (N=117)

<table>
<thead>
<tr>
<th>Place</th>
<th>Responses (N=117)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library</td>
<td>27</td>
<td>23.08</td>
</tr>
<tr>
<td>Computer Centre</td>
<td>7</td>
<td>5.98</td>
</tr>
<tr>
<td>Department (LAN)</td>
<td>68</td>
<td>58.12</td>
</tr>
<tr>
<td>Wi-Fi</td>
<td>15</td>
<td>12.82</td>
</tr>
<tr>
<td>Total</td>
<td>117</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(Source: Primary data obtained from the Questionnaire)

The off-line E-Resources available in Assam University Library such as CDs, DVDs can be accessed within the Library but the on-line e-resources such as E-Journals available through UGC- Digital Library and DeLCON Consortia can be accessed from anywhere within the Assam University Campus.

Table -8 reveals that highest number 68 (58.12%) of the respondents access E-Resources from their respective department (LAN), which is followed by 27 (23.08%) respondents who use E-Resources within the AUS Library. Whereas 15 (12.82%) respondent access E-Resources through Wi-Fi connection and surprisingly only 7 (5.98%) respondent’s access E-Resources from Computer Centre (Table-8).

As the Internet connectivity is available throughout the campus, so most of the scientific community library users prefer to access to E-Resources from their respective departmental terminals (LAN) along with their experimental works without wasting time for going to library. Their presence in library should be increased by another resource which might be useful for their academic and research activities.

4.7 Use of Library Resources by the Respondents

Table -9: Use of Library Resources by the Respondents (N=117)

<table>
<thead>
<tr>
<th>Responses</th>
<th>Nos.</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>103</td>
<td>88.0</td>
</tr>
<tr>
<td>No</td>
<td>14</td>
<td>12.0</td>
</tr>
<tr>
<td>Total</td>
<td>117</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(Source: Primary data obtained from the Questionnaire)

Out of 117 respondents, majority of respondents 103 (88.0 %) use library resources effectively whereas only 14 (12.0%) are not dependent on the library resources which might be due to their heavy dependency on Internet resources or their own available resources. So there is need to attract all those library users who are not coming to the library regularly by making library services more effective and attractive (Table-9).
4.8 Awareness and Usage of E-Resources

Survey finding as shown in Table-10 reveals that out of 117 respondents maximum number of respondents 84 (71.79 %) are well aware of availability of E-Resources under these consortia where as only 33 (28.21 %) respondents are not well aware of the E-resources which matter of concern that the e-resources are not fully utilised by the scientific community library users. Therefore, there is need to have more User Awareness Programme for the library users. The Central Library in collaboration with INFLIBNET Centre and Department of Biotechnology and Publishers providing the resources should regularly organise the E-Resources User Awareness Programme for the library users.

Table -10: Usage of E-resources (N=117)

<table>
<thead>
<tr>
<th>Response</th>
<th>Nos.</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>84</td>
<td>71.79</td>
</tr>
<tr>
<td>No</td>
<td>33</td>
<td>28.21</td>
</tr>
<tr>
<td>Total</td>
<td>117</td>
<td>100</td>
</tr>
</tbody>
</table>

(Source: Primary data obtained from the Questionnaire)

4.91 Purposes of Using E-Resources

The survey finding as shown in Figure -4 majority of respondents are using E-Resources available under these two consortia for preparing class notes & assignments and writing papers for research, writing papers, and attending seminars and conferences, while few respondents are using the E-Resources for writing projects and other purposes. (Figure-4).

Figure 4: Purposes of using E-Resources
(Source: Primary data obtained from the Questionnaire)
4.92 Awareness / Knowledge of UGC-INFONET Digital Library consortia and DeLCON Consortia

The survey findings as shown in Figure -5 shows the awareness / knowledge of availability of these two consortia for Scientific Community Library Users of Assam University. From the findings it is evident that the library users are more aware of UGC-INFONET Digital Library Consortium (85.49%) in comparison to DeLCON Consortium (47.6%) which indicates that UGC-INFONET Consortium is more popular among the scientific community library users of Assam University, Silchar.

As DeLCON Consortium has been recently introduced in Assam University, Silchar, so there might be little awareness among the library users which needs organisation of more general awareness training programme regularly by the Central Library, Assam University, Silchar.

4.93 Period for Awareness of UGC-INFONET and DeLCON Consortia among users

The survey findings as shown in Figure -6 shows the period of awareness of these two consortia. The respondents were asked to indicate their period for awareness and availability of E-Resources under these two consortia and result reveals that maximum number of library users are well aware of E-Resources available under UGC-INFONET Digital Library Consortium (61.82%) and DeLCON Consortium (60.87%) for the period of more than one year. Still there is large number of respondents who are novice in accessing to the e-resources and the library must arrange user awareness training for them to have more familiarisation to the E-Resources available under these two consortia.
Figure 6: Period for Awareness about DeLCON and UGC-INFONET Digital Library Consortia
(Source: Primary data obtained from the Questionnaire)

4.94 Modes of Access to E-Resources

Figure 7: Linkage to Consortia (N=117 for Each Items)
(Source: Primary data obtained from the Questionnaire)

The survey findings as shown in Figure -7 reveals that 95.15 % respondents access E-Resources available under UGC-INFONET Consortium and 78.26 % respondents access E-Resources available under DeLCON Consortium by searching through search engine respectively. While 64.85 % and 66.30 % respondents access E-Resources available under UGC-INFONET and DeLCON Consortia by directly going to Link for Databases available in the Home Page of these two consortia respectively whereas only few are accessing to E-Resources by visiting directly the publishers web site 45.44 % for UGC-INFONET and 23.91 % DeLCON Consortia.

Here also the user’s needs training for accessing to E-Resources quickly by going to the consortia site. The Library should give links of consortia to the Assam University Web Site, so that users can without wasting time can access E-Resources effectively (Figure-7)
4.95 Preference of Consortia among Scientific Community Library Users

![Figure 8: Most preferred consortia for accessing E-Resources](https://via.placeholder.com/150)

(Source: Primary data obtained from the Questionnaire)

When asked from the respondents their preference of consortia, most of the respondents 75.0 % prefer E-Resources available under UGC-INFONET Consortium whereas only 25.0 % respondents prefer to use DeLCON Consortia which might be due to their ignorance or types of contents available in DeLCON Consortium. The respondents from Biotechnology and Life Sciences & Bioinformatics and Microbiology only might be using DeLCON E-Resources extensively and other departments might not be using the same as they use UGC-INFONET resources. This needs further detailed investigation (Figure-8).

The library may organise extensive User Awareness Programme to make the scientific community library users effectively use the resources.

4.96 Utilisation of E-Resources available under DeLCON and UGC-INFONET Consortia (N=117 for each items)

The survey findings as shown in Figure-9 shows that most of the respondents are accessing to E-Resources and downloading them as per their requirements. Some needs full text, some users need abstracts only, some users need Table of Contents and some users need all format of e-resources by visiting the Consortia web sites.

From the Figure-9 it is clearly indicated that 80.00 % respondents downloading full text from UGC-INFONET Consortium whereas 40.22 % respondents downloading full text from DeLCON Consortium. Similarly abstracts 55.43 % DeLCON Users; 58.79 % UGC-INFONET Users TOC 13.04 % DeLCON Users; 9.09 % UGC-INFONET Users are accessed and downloaded by the users respectively.
If we look at the access to all format of E-resources, UGC-INFOENT is used by 92.12 % whereas DeLCON is used by 83.70 % which indicates that UGC-INFONET resources are being utilised by more number of users (Figure-9).

During the interview of the respondents it was found that after the introduction of E-Resources available through consortia, users now have more online journals to be accessed and these online journals prove to be extremely useful especially for research scholars, and all these in turn enhance user satisfaction to manifold.

5.0 IMPORTANT FINDINGS

- Most of the respondents (27.35%) use E-Resources on Daily basis which is followed by 21.37% respondents who use E-Resources Once in a week.
- Majority of the respondents (49.57%) prefer to access E-Resources at evening time from 3:00-6:00 P.M.
- Most of the respondents (58.12%) access electronic resources through respective Department LAN.
- Majority of respondents are using E-Resources available under these two consortia for preparing notes (53.33%), for writing seminars (45.93%), and for research work (34.89%).
- About (47.67%) respondents were aware about DeLCON Consortia while (85.49%) respondents were aware about UGC-INFONET Digital Library Consortia.
- Majority (61.82%) of users are aware of DeLCON and UGC-INFONET Digital Library Consortia for more than a year.
- Most of the respondents (95.15%) prefer Search Engine to access different types of E-Resources from Consortia.
- It is found from the study that (83.70%) DeLCON and (92.12%) UGC-INFONET Digital Library Consortia users need the E-Resource available under these two Consortia to fulfil their all purposes (Abstract of the articles, Full text view of the journals and Table of contents of the articles) more or less.
- About (75%) respondents prefer UGC-INFONET Digital Library Consortia while rest of the (25%) respondents prefer DeLCON Consortia for accessing E-Resources which indicate that UGC-INFONET Digital Library Consortia is most popular among the users of E-Resources in Biomedical and Ecology & Environmental Sciences in Assam University.
5.1 Suggestions and Recommendations

At the end of the questionnaire, respondents were asked to express their opinion about the E-resources available in Assam University through DeLCON and UGC-INFONET Digital Library Consortia and provide suggestions that would help to improve the E-resource collection and Assam University Library services.

On the basis of the response and opinion given by the respondents following suggestions have been made, which would definitely help the effective use of available E-Resources available under these two important consortia viz., DeLCON and UGC-INFONET Digital Library Consortia:

- There is a need to evaluate the DeLCON & UGC-INFONET Digital Library Consortia periodically and include more number of relevant E-Journals in the consortium;
- A good number of users suggested that necessary arrangements should be made to access the full text of more E-Journals from Science Direct;
- Number of E-Journals provided through the UGC-INFONET Digital Library Consortium and DeLCON should be increased and to make available more full text article in the emerging field of research;
- Libraries should organize workshops / User Awareness Programme in collaboration with INFLIBNET centre or other agencies on regular basis to enhance usage of DeLCON & UGC-INFONET Digital Library Consortia among users;
- The libraries should try to introduce electronic document supply services;
- The infrastructure facilities should be enhanced for better utilization of available E-Resources;
- Higher speeds Wi-Fi campus needs to be developed by AUS, so that user members can use online E-Resources within the campus according to their suitability;
- Networked printers must be provided in the central as well as in the departmental libraries so that the users can take print-outs.

6.0 CONCLUSION

The present study reveals that there is increased acceptance of electronic journals by the university academicians and also by the Information Centres. All the librarians were of the opinion that electronic journals played a constructive role in enhancing services, user satisfaction, meeting user’s demands, user’s expectations and above all the image of the library. The rapid developments in information communication technology have facilitated the convergence of new electronic devices and formats. Information has been embedded in a variety of ways and forms in various kinds of electronic resources.

The recent advances in Communication Technology, Networking, use of Internet and Electronic Products have brought about a revolutionary change profoundly affecting the library’s landscape. A rapid change in information seeking behaviour and use of Internet and On-line access of E-Resources has become the vital part of various information needs. The users develop the skills and knowledge to use the E-Resources and services.

References


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Dr. Manoj Kumar Sinha (b.1965) did Graduation, Post-Graduation and Ph.D. Degree in Zoology, Library and Information Science from T.M. Bhagalpur University, Bhagalpur. Besides this, he has acquired B. Ed. Degree from Annamalai University in 1995 and also did Post-Graduate Diploma in Higher Education from IGNOU, New Delhi in 2002. At present he has been working as Associate Professor in the Department of Library and Information Science, Assam University, Silchar and he has been appointed as the Head of the Department w.e.f December 11, 2009. Prior to this he served the Assam University, Silchar as Assistant University Librarian from January 30, 1997 to January 30, 2003 and Assistant University Librarian (Sr. Scale) from January 31, 2003 to November 18, 2009 and as Reader, Department of Library and Information Science from November 19, 2009 to November 18, 2012. Before joining Assam University, Silchar, he served as Librarian in Jawahar Navodaya Vidyalaya, Gorakhpur (Navodaya Vidyalaya Samiti, Lucknow Region, Dept. of Education, and Ministry of HRD, Govt. of India) from February 15, 1993 to January 28, 1997. Before coming to library profession, he worked as JRF and SRF in Life Sciences under the CSIR Sponsored Research Project entitled “Ecology and Phytochemistry of Biocidal Plants of Santhal Parganas, Bihar” at University Department of Botany, T.M. Bhagalpur University, Bhagalpur. He has published about 135 research papers and articles in the areas of Botany, Zoology, Environmental Sciences, and Library & Information Sciences. His areas of interest are Traditional Librarianship, Academic Library System, Public Library System, HRD issues, Users Study and Users Education, User Empowerment through ICT, Quality Management, Knowledge Management, Library Automation and Networking, Digital Library, e-learning, etc.

He is life member of ILA, IASLIC, UPLA, SIS, MANLIBNET, JILA, Assam Library Association, FBAI, and actively associated with research and academic work. He is Member of Board of Post-Graduate Studies in Library and Information Science, Member, School Board of School of Information Sciences; Member, Swami Vivekananda School of Library Sciences (Feb 2011); Member of Academic Council; Assam University Court since December 2009. His biography has been included in many Biographical Directory of National and International importance. He has been associated with few journals as a Member of Editorial Board. He served as reviewer for few Indian and foreign journals. He has guided four M. Phil. Students and 19 Masters of Library and Information Science students and also nominated as a Subject Expert in sister departments of Assam University. He has also been associated with many universities of India and served as Subject Expert for evaluation of M. Phil/ and Ph.D. Theses, also conducted P G Practical Examinations, and acted as a Paper Setter etc. He has been regularly invited by the NERO, UGC Guwahati for evaluating Minor Research Proposals (MRP) and Seminar Proposals.

He has wide experience in organizing events like Book Fair and Exhibition and also organized PLANNER-2005, Seminar on Digital Library Management (2008), Librarians Day and Organizing Orientation Programme for Fresher’ regularly since 1997 on behalf of Assam University Library. Recently he has successfully organized National Seminar on Collection Development (NSCD-2011) in collaboration with Central Reference Library, Kolkata (Ministry of Culture, Govt. of India). He also organized Four Day National Training Programme on Application of Open Source Software for Library and Information Services. He has been actively participating contributing and presenting Invited / Contributed Research Papers in National and International Seminar/ Conferences, attended several Training Programmes and Workshops pertaining to ICT Application in Library and Information Services. Besides this he has honour of Chairing Technical Sessions in many Seminars and also acted as
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