

Usage of Electronic Resources Available Under UGC-INFONET Digital Library Consortium by Assam University Library Users

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Abstract

The traditional functions of libraries had undergone various changes in present century and E-Resources have great importance in libraries and amongst the library users. The present study has been undertaken with an attempt 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. 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. For that purpose, survey method has been adopted by the investigators, which comprises of administration of questionnaire, observation of the participants, and interview of some of the participants for knowing the opinion of the respondents in respect of usage of electronic resources (e-journals/ e-books/databases) for their academic and research activities.

The self designed questionnaire comprising of 15 questions has been distributed amongst the randomly selected samples .The samples comprises of faculty members , research scholars, UG/PG Students and officers / staff. The filled up questionnaires have been collected from the respondents for the data analysis and interpretations. On the basis of filled up questionnaire the data has been analysed and tabulated using SPSS Software. For data analysis percentage technique, has been adopted. Due to paucity of space important results findings have been enumerated in brief. The present work was carried out during July- December 2009. Therefore the present investigation is delimited to the randomly selected population of Assam University Library Users who are regularly visiting Assam University Library and using the Internet for accessing to the e-resources available under the UGC-INFONET Digital Library Consortia of INFLIBNET/ UGC. The questionnaire was distributed to 350 samples, out of which 319 respondents have responded. The same study may be carried out on the larger section of population covering other universities of North Eastern Region of India to get more generalized and authentic findings. The findings of the present study may be taken as the preliminary findings from a pilot study. The paper highlights the important survey findings in respect of Internet Awareness, Internet Use Pattern and attitude of library users towards the electronic resources, which have been made available to them under UGC-INFONET Digital Library Consortium. Besides this, some faced by the respondents have also been discussed and few suggestions and recommendations have also been enumerated in brief.

Key Words: UGC-INFONET Digital Library Consortium, INFLIBNET Centre, E-Resources, E-Journals, India - North Eastern Region, Assam University-Silchar.

1. Introduction

The rapid growth of information and communication technologies have gave rise to the evolution of several new jargons like paperless society, electronic resources, portal / gateway and global digital library. In the day context , all types of libraries viz: academic, public and special are not only providing printed resources to their library users rather they provide printed, electronic as well as other Internet resources like e-books and databases for fulfilling the day to day academic and research requirements of the library users. The traditional functions of libraries and librarians have undergone radical changes in the present day context of ICT. Now libraries and information centers have incorporated/ adopted various electronics resources for its collection developments to fulfill the requirements of different category of library users in a better way.

1.1 E-Resources

E-resources are those resources which include documents in electronic or e-format that can be accessed via Internet in digital library environment. E-resources are that electronic product that delivers a collection of data, be it text, image collection, other multimedia products like numerical, graphical mode for commercially available for library and information centre's. These may be delivered on CD-ROM / DVD, over the Internet and so on.

Providing access to E-resources is a service to help library users to find E-Databases, E-Journals, E-Magazines, E-Books/ E-Audio/ E-Images, Data/ GIS, Digital Library Projects, Electronic Exhibitions, E-Subject Guide, E-newsletters, E-White papers, E-conferences proceedings and Web search tools on a range of topic. Many of the electronic resources are freely available to anyone over Internet access but some are commercial resources. Information and communication technology is one of the important buzzwords of today's world. It has changed the society into information society and is way of life.

In modern library the electronic resources are becoming more and more important. The printed resources are now being digitized, which has given rise in increases of the availability of books and journals in the electronic format. The electronic books are helpful because of their easy portability and its feature of incorporating more than one book in a single hand held device. The published materials are also available on open access platform. This helps the poorer also to get the information required free of cost and bridge the digital divide. They need not worry for licensing and usage of the information. The government has taken various steps to introduce E- resource facility in academic institutions for the benefit of Research Scholars. Because information resources especially journals are becoming very expensive due to their availability in electronic format. On the other hand libraries are facing financial crunch which has given rise to the birth of library cooperation / resource sharing . Due to rapid escalation in the cost of printed as well as electronic resources it is even difficult for the best universities and research organizations in the world to afford expenses for all resources they require for their library users. Due to emergence of many local, regional , national and International resource sharing knowledge network initiatives through out the world, the universities and institutions of higher learning institutions have started optimally utilizing the resources amongst themselves via resource sharing over the network available under various consortia like INDEST, UGC-INFONET and N-List Programme of MHRD/ UGC (INFLIBNET) in India to have 24X7 access to the

5500+ e-journals, e-books and databases by the faculty and researchers working in the areas of higher studies and research .

1.2 E-Resource Consortium Initiatives

UGC-INFONET is a programme that provides electronic access to scholarly literature in all areas of learning to 179 Universities in India. The programme is wholly funded by the UGC and administered and monitored by INFLIBNET. Universities are always short of funds are greatly benefited by this facility positively, INFLIBNET (UGC) has adopted model of E-journals consortium/ Digital Library Consortium for academic libraries in India. Now the vast collections of peer reviewed electronic journals / publications and secondary databases are being made available through E-journal Digital library consortium to millions of users without any payment. With the implementation of UGC-INFONET Digital Library Consortium project, INFLIBNET has changed the fundamental roles, paradigms and organizational culture of University libraries/ Institutional and college librarians in India for giving instant access to e-resources to their users.

In India, INDEST (Indian National Digital Library in Engineering Science and Technology) was first started on the recommendation made by the expert group appointed by the Ministry of Human Resource Development (MHRD) to avail the maximum resources within the limited budget of each and every institution as per their requirements. The ministry provides funds required for subscription to electronic resources for 38 institutions including IISC, IITs, NITs, IIMs and few other centrally funded Government Institutions through the consortium headquarters, setup in the IIT Delhi, Government aided engineering colleges and technical departments in universities have joined the consortium with financial support by AICTE (All India Council for Technical Education). Moreover, the INDEST-AICTE consortium, as an open aided proposition, welcomes other institutions to joint it on their own for sharing benefits it offers in terms of highly discounted rates of subscription and better terms of agreement with the publishes 502 institutions have joined the consortium, under its self supported category. Total number of member institutions in the consortium has grown up to more than 600. (www.indest.edu.in).

The UGC-INFONET (UGC- Information Network) is an ambitious programme of UGC to interlink all the universities and also extended e-journal services to the colleges as far practicable in the country with the state-of-the-art-technology. The Hon'ble Prime Minister formally inaugurated it on 28th Dec. 2002. The network infrastructure to universities was to be provided on turnkey basis by ERNET (Education and Research Network) India. Under this programme universities were provided grants to establish the UGC-INFONET connectivity with the support of INFLIBNET and ERNET. The UGC–Infonet E-journal consortium/ Digital Library consortium covers all areas of learning, having 48% collections in Science and Technology, 46% collections in Social Sciences and 6% collections in the area of humanities. (www.inflibnet.ac.in/ugc-infonet)

In order to support the research and academic activity in the country University Grants Commission (UGC) initiated a programme to provide electronic access over the Internet to scholarly literature in all areas of learning to the university sectors in India. A banquet of E-journals has presented to the

nation by His Excellency the president of India Dr. A.P.J. Abdul Kalam in 28th Dec. 2003 during the concluding day of UGCs Golden Jubilee celebrations. This programme is wholly funded by the UGC. All universities eligible to receive grants under UGC purview are the members of the programme is executed by Information and Library Network (INFLIBNET) center, Ahmedabad, which is an autonomous institution under the UGC through which access to about 5000 scholarly journals and 09 databases are made available to 159 universities. Access to various E-Journals started from January 1, 2004, however trial access was started much ahead from October – Dec. 2003 (Sinha, Murthy and Manoj Kumar, 2006).

There are several reasons for using Internet and electronic resources by the Teachers , Researchers UG/ PG Students and staff members which are given below :

- ◆ Internet resources can be accessed from different location;
- ◆ Internet resources are very easy to access
- ◆ Internet can be accessed to full text from remote place;
- ◆ Internet resources are very much user-friendly interface;
- ◆ Through the Internet library can able to sharing their resources;
- ◆ User can easily enter other virtual library, which is in different place; and
- ◆ It helps the library to meet the changing needs and expectations of the library users; and
- ◆ The effective application of ICTs in LICs helps libraries in performing their housekeeping operations and services efficiently.

In library computer technology and electronic resources are likely to become increasingly popular amongst the users, as these resources bring about qualitative improvement in library functioning and services and make information access easy, accurate and comprehensive.

1.3 Relevance of the Study

There is no standard and accepted precise definition of the electronic resources. Basically E-resources are available in the electronic form and can be accessed using computer and communication technologies. Electronic resources contain originally published print form and later made it available electronically. They provide users faster, more convenient in 24 hours*7 desktop access from home and college or library. Usually, more than one person can use the same electronic resources simultaneously same resources, for example updated book chapters, audio and video files are only available electronically. In modern times the library and information centers face enormous challenges and opportunities. The libraries face a number of problems relating to the new media that are yet to be resolved for subscription of materials in traditional printed form. A major drawback of electronic resources is comprehensiveness. Electronic resources do not generally date back as far as their printed counterparts.

1.4 Assam University

The Assam University is one of the central universities established by an Act of parliament promulgated in 1989(Act X111) and enforced by Notification of the Government of India in 1994. With the Bhuban and Barail ranges of hills at the backdrop, lush green hillocks, natural lakes and the picturesque tea gardens of South Assam surround the University Campus. Sprawling lawns, well-nurtured gardens and eco-forests are featured in the inner landscape of the university. The scene setting makes Assam University Campus a unique one with exquisite natural beauty, which captures viewers' imagination and provides an ideal atmosphere for study and research.

Silchar city being the gateway to the entire southern parts of North East India is the hub of commercial activities and distance between the campus at Darogakona and Silchar city is about 23 km. The university campus is spread over an area of about 633 acres on which 34 Post Graduate Departments, 4 new Interdisciplinary centres under 09 schools of the University are functioning. The current roll strength is around more than 2500 at the Post Graduate level and integrated courses and around more than 900 at M. Phil, and Ph.D level. There are 53 affiliated and permitted colleges in the five districts of South Assam. The colleges include the under graduate colleges, medical college, B.Ed. and Law colleges.

1.4.1 Rabindra Library

Assam University Library (Rabindra library) was started with the establishment of the University in the year 1994 as a central agency for meeting the requirements of the academic community of this university. The Central Library of Assam University has been shifted to its new permanent Central Library cum Computer Centre building and started functioning since January (21, 2006). The new building is having the total plinth area of 38,700 Square feet with a beautiful fencing. The main function of Library includes collection development of knowledge resources, technical processing, organization, retrieval and dissemination of information to the end users of Barak Valley in particular as well as the entire North Eastern Region in general. In 2008, the Assam University Library is renamed as Rabindra Library. (Annual report 2009-10)

The Knowledge Resources available in Assam University Library have been categorized in 13 collections arranged in separate Hall. 1) Text Book Collection, 2) Social Science and Humanities Collection (including Business Studies, Commerce & Information Science), 3) Language Collection, 4) Science Collection, 5) Reference Collection, 6) Periodical Collection (Current and Back Volumes), 7) Ph.D. Theses/ M.Phil Theses Collection, 8) Reports and Conference Proceedings Collection, 9) Gifted Collection, 10) Donated Collection of Eminent Scholars of the Locality having important Manuscripts and rare documents. 11) North East Collection, 12) Audio visual Collection and 13) Digital Collection including CD-ROM Databases, E-Journals, Internet Resources, In-House Databases of Books, Serial, and Theses and On-Line OPAC Service. (Annual Report 2007-08)

1.4.2 Automation and Networking of Rabindra Library under INFLIBNET Programme

Assam University Library is one of the libraries chosen by U.G.C for automation and Networking under INFLIBNET Programme during IX th plan. The computers were networked with WINDOWS NT and in-house training of the Library staff has been provided for Database creation of Books, Serials and Thesis. At present Library has been using SOUL Software for Library automation and Networking. University library has been connected to campus wide optic fiber network of BSNL for Internet Services. The library has been provided with on-line access to e-resources under UGC-INFONET Digital Library Consortium of INFLIBNET Centre for accessing to 5000+ peer reviewed e-journals and databases. (Annual Report 2008-09)

1.5 Scope and Delimitation of the Study

There are two Central Universities (viz. Tezpur University and Assam University) and two State Universities (viz. Gauhati University and Dibrugarh University) are located in Assam. The present investigation was has been conducted during July –December 2009 which is delimited to an exploratory study pertaining to the awareness, usage and modes of Access to on-line/ offline E-Resources by the Assam University Library users only. Its aim is to fulfill the academic requirements of library users which include mainly Offline Databases available on CD-ROMs/ DVDs, Bibliographic Databases of Books Serials, Theses through in-house OPAC/ Web OPAC and online E-Resources (Online Databases, E-Books and E-Journals).

1.6 Objectives of the Study

The Primary objectives of the study are to identify the usage of electronic resources amongst the faculty members researchers, students and staff members of Assam University Library Users . The specific objectives of the present investigations are:

- ◆ To examine the awareness of Library users for E-Resources ;
- ◆ To identify availability of different types of electronic resources in Assam University library;
- ◆ To evaluate the frequency, time spent, purpose and utilization of E- Resources by the library uses;
- ◆ To identify the frequently used databases /E-journals; and
- ◆ To find out the problems, prospects and measures for improving the usage of e-resources in Assam University Library.

2. Review of Literature

For the present study the primary as well as the secondary source of literatures has been consulted. Some journal articles and theses have also been consulted. A number of studies have been conducted

on Information Resources on the Internet for Higher Education and Research (Parekh, Harsha. 1999); Use of E-Resources by IT Professionals (Gireesh and Rajashekara, 2009) ; Use of Information Resources by the Researchers in the University Libraries in Karnataka (Gowda and Shivalingaiah, 2009); Use and Impact of Digital Resources (Mendhe ,Taksande, and Taksande 2009; Use and Usage Statistics of Electronic Resources at Central Library , Tezpur University (Mishra and Gohain, 2010).

Lohar and Roopashree (2006) studied the use of electronic resources and how the electronic resources are improving the academic carrier of the faculty and what are the problems that are faced in using the electronic resources has been the academic willingness of the users. The analysis based on the faculty members only except the student and staff. Manohar (2007) analyzed the internet usage of agriculture scientist and impact to Internet users and other E- resources on academic efficiency whereas Sornam, Monahar and Mathew (2007) studied to identify the different types of electronic resources used by the students of Kerela Agricultural University, its time spent, problems and prospects faced by the users. Manohar's (2007) find out the internet accessibility of agriculture scientists in the college of agriculture and analyze impact of internet, E-resources, print or electronic media on academic efficiency. Singh (2009) examines the search pattern of online journals among the faculty members, Research scholars and post-graduate students to collect the required data. The study reveals that the majority of users are aware about the availability of online Journals. It was found that users faced problem when using online journals. They are also interested to take training to use online Journals.

From the review of literature on the Usage of off-line and on-line e-resources (CD-ROM Databases and E-Journals) , it has been found that most of the study have been carried out in Northern India (Rajiv Kumar and Amritpal Kaur 2004; Singh, Bhupesh Kumar and Kulvir Kaur , 2006; Mahajan, 2005; Madhusudan , 2007 ; Sharma , Singh and Mishra, 2008 ; Rahman and Ali , 2010; and Southern India (Birader, Rajashekhar, and Sampat Kumar , 2004; Khumbar and Vasuntha Raju (2007) Rao, 2010 and Singson and Leeladharan 2010) ,Lohar and Roopashree (2006), Manohar (2007) , Sornam, Monahar and Mathew (2007) , Singh (2009) and no comprehensive and substantial studies have been carried out on the usage and access to E-Resources available under UGC-INFONET Digital Library Consortium in North Eastern Region of India except a pilot study carried out by Sinha (2008, 2009 and 2010) and Sinha and Sarkar (2010).

Although this study summarizes conclusion from recent research studies and highlights some conclusion about how people use Electronic resources, there are individual and library-specific differences that make it beneficial for many libraries to collect their own data.

3. Research Methodology Adopted

3.1 Sampling

The researcher has used the stratified random sampling technique. The present study includes 319 E-resource and Internet users drawn from 29 departments in Assam University.

3.2 Design of Questionnaire

The Questionnaire developed by Sinha, 2008 has been followed with few modifications for conducting the present study. To elicit the opinion of the E-resources the questionnaire comprising of 15 questions was designed. The questionnaire was distributed as per the requirement of the objectives of the present study.

3.3 Administration and Collection of Questionnaire

The questionnaire has been distributed among the Assam University Library users and requested them to fill the questionnaire as per their convenience and returned the questionnaire to the investigator as early as possible. The filled up questionnaire has been collected from the respondents for the data analysis and interpretation.

3.4 Data Analysis and Interpretations

On the basis of filled up Questionnaire the data has been analyzed and tabulated. All the results have been shows in tabular and/ or graphical representation. For the data analysis only percentage technique has been adopted. The present paper addresses only the E-Resources Usage Pattern by the Post-Graduate Students, Research Scholars, Teachers and Staff of Assam University, Silchar.

4. Data Analysis and Interpretation/Discussion

The data collected were carefully analyzed and processed. The analysis of collected data has been tabulated and in the present report results have been shown in the tabular and graphical format.

4.1 Classification and General Characteristics of Respondents

4.1.1 Distribution of Questionnaire and Responses received from the Respondents

Table 1: Distribution of Questionnaire and Responses Received (N=319)

Category of E-Resources & Internet Users	No. of questionnaire distributed	Filled questionnaire received	
		Numbers	%
Faculty members	88	72	82
Ph.D Scholars	58	56	97
M.Phil Students	35	33	94
P.G.Students	87	84	97
Under graduate students	62	58	94
Non-teaching Staff	20	16	80
TOTAL	350	319	91

Out of 350 questionnaires distributed 319 filled up questionnaires were received. The response rate is about 91%. Out of 88 faculty members, 72 (82%) responded, out of 58 Ph.D. scholars 56 (97%) responded, out of 35 M. Phil. Students 33 (94%) responded, out of 87 P.G. Students 58 (94%) responded, out of 20 Non-teaching staff 16 (80%) responded. (Table –1).

4.1.2 Categorywise Distribution of Respondents

Table 2: Distribution of Respondents According to Category(N=319)

Category of E-Resources and Internet Users	Filled Questionnaires Received	
	No.	%
Faculty Members	72	23
Ph. D Scholars	56	18
M. Phil. Students	33	10
P. G. Students	84	26
Undergraduate student	58	18
Non-teaching staff	16	05
TOTAL	319	100

Table - 2 shows that out of 319 respondents, 72 (23%) belongs to faculty members, 56 (18%) belongs to Ph. D Scholars, 33 (10%) belongs to M. Phil. students, 84 (26%) belongs to P.G. Students, 58 (18%) belongs to Undergraduate student, where as 16 (05%) respondents belongs to Non-teaching staff. A survey finding reveals that a maximum of about 36% respondents belong to Ph. D/ M. Phil research scholar’s category which is followed by P. G. Students (26%), faculty members (23%).

4.1.3 Age-Wise Distribution of E-Resources Users

Survey result as indicated in Table 3 shows the age-wise distribution of 319 respondents of E-resources and Internet users. Which reveals that 137 respondents (43%) are belongs to (15-25) years age group which is followed by 75 respondents (23%) who belongs to (26-35) years age group, 70 respondents (22%) belongs to (36-45) years age group, where as 28 respondents (9%) belongs to (55-onwards) years age group.

Table 3: Age-Wise Distribution of E-Resources (N-319)

AGE	Frequency	Percent (%)
15-25	137	43
26-35	75	23
36-45	70	22
46-55	28	9
55-onwards	9	3
TOTAL	319	100

4.1.4 Sex-Wise Distribution of E-Resources Users

Table -4 presents the sex-wise distribution of 319 respondents, which reveals that out of 319 respondents, 122 respondents (38%) are male members and 197 respondents (62%) are female members. This is a unique example of male-female imbalance in the case of E-resources and Internet users in Assam University Library.

Table-4: Sex-Wise Distribution of E-Resources Users (N=319)

Sex	No. of Respondents	Percentage
Male	122	38.00
Female	197	62.00
Total	319	100.00

The survey finding shows that the inclinations of female library users are more towards the usage of e-resources and internet access in Assam University Library.

4.1.5 Qualification-Wise Distribution of Respondents

Table 5: Qualification-Wise Distribution of Respondents (N=319)

Qualification	No. of Respondents	Percentage
Undergraduate	63	20.00
Graduate	89	28.00
Post- Graduate	92	29.00
M. Phil.	5	1.50
Ph. D.	62	19.00
JRF/SRF/AR/Research Scholars/Others	8	2.50
TOTAL	319	100

Table- 5 shows the qualification-wise distribution of respondents which reveals that out of 319 respondents, about 92 respondents (29%) are Post-Graduate which is followed by Graduate (89=28 %) , undergraduate (63=20%) , Ph.D. Scholars (62 = 19%) , 8 respondents JRF/SRF/AR/Research Scholars/Others (8= 2.50 %) whereas 5 (1.50 %) are M. Phil Scholars.

4.1.6 Income Group/Family Income Group Wise Distribution of Respondents

Most of the respondents (229=72%) fall under 20,001/- and above income group which is followed by 49 (15%) respondents for 15,001 to 20,000/ income group, 34(11%) respondents are between 10,001 to 15,000 income group where as only 1% respondents belong to income group between Rs. 5001 to 10,000. The finding reveals that as most of respondents belong to the higher income group.

Table 6: Income / Family Income group wise Distribution of Respondents (N=319)

Income Group (Monthly) Rs.	No. of Respondents	Percentage (%)
Below Rs.5000/	2	0.62
5001/-10,000/	5	1.56
10,001/-15,000/	34	10.65
15,001/-20,000/	49	15.36
20,001/-above	229	71.78
Total	319	99.97= 100.00

4.2 Usage of Electronic Resources/ Access of E-Journals Under UGC–INFONET Programmes

4.2.1 Awareness of Access to E-Journals available Under UGC–INFONET Programmes

The survey result as indicated in Table- 7 reveals that out of 319 respondents only 224 respondents have the awareness about the UGC INFONET CONSORTIUM for the E-Journal access. As far as the extent of using of UGC-INFONET is concerned, majority of the respondents are of the view that they are "somewhat aware of UGC-INFONET Programme". Out of 319 respondents, maximum number of respondents (224 = 70%) is aware of availability of E-resources under UGC-INFONET Digital Library Consortium whereas 67 (21.00 %) respondents are not aware of these resources and only few (28= 9.00 %) informed that they can't say anything about E-Journals available under UGC-INFONET Programme.

The detailed finding shows that out of 224 respondents the faculty members 72 respondents were aware of UGC-INFONET Programme, 46 respondents of Ph. D Scholars aware of UGC-INFONET Programme, 29 M. Phil. respondents aware of UGC-INFONET Programme, 56 P.G. respondents aware of UGC-INFONET Programme, 15 Undergraduate respondents are the aware of UGC-INFONET Programme, 8 respondents of the Non-teaching staff were aware of this programme (Table-7).

Table 7: User Awareness about UGC-INFONET (N=319)

Category	Yes	%	No	%	Cant' say	%
Faculty	72	23.00	-	-	-	-
Ph.D. Scholars	46	14.00	10	3	-	-
M. Phil.	29	9.00	4	1	-	-
P. G. Student	54	16.00	23	7	7	2.5
Undergraduate	15	5.00	27	9	16	5
Non-Teaching Staff	8	3.00	3	1	5	1.5
Total	224	70.00	67.00	21.00	28.00	9.00

4.2.2 Purpose of Using the Electronic Resources

Survey result as shown in Table- 8 shows that a majority of the respondents (115 = 45.00 %) are using electronic resources for study purpose which is followed by the respondents who are using electronic resources for publishing journals (65= 25.00 %) , Research and Development (39=15%) and Project works (27=11.00 %) where as only very few respondents (11=4.00 %) are using e-resources to exchange ideas.

Table-8: Purpose of Using Electronic Resources (N=257)

Purpose	No. of respondents	Percentage
Studying	115	45.00
Publishing journal article	65	25.00
Research and Development	39	15.00
Project	27	11.00
To exchange ideas	11	4.00
TOTAL	257	100.00

4.2.3 Frequency of Usage of E-Resources

Table- 9 shows that out of 257 respondents most of the respondents (127= 50 %) are using e-resources on weekly basis which is followed by 98 (38.00%) respondents who uses e-resources on daily basis , 23 (9.00%) respondents access e-resources on fortnightly basis whereas only 9 (3.00 %) respondents access e-resources on monthly basis. The present study finding reveals that more than half of the respondents use electronic resources on weekly basis.

Table 9: Frequency of Usage of E-Resources (N=257)

Frequency	No. of Respondent	Percentage
Daily	98	38.00
Weekly	127	50.00
Forth nightly	23	9.00
Monthly	9	3.00
TOTAL	257	100.00

4.2.4 Rate of Usefulness of E-Resources Accessed from E- Journal Consortium Like UGC-INFONET and INDEST Consortium

Many of the respondents affirmed the importance to access E-consortium like UGC-INFONET, INDEST etc. The study shows that use of the E-consortium has created a great impact on the respondents out of 172 respondents,117 (68.02 %) respondents that E-consortium is highly useful where as 55(31.97 %) found it useful for study purpose and research activities (Table-10).

Table 10: Usefulness of E-Resources under Digital Library Consortium (N=172)

Usefulness	No. of respondents	Percentage
Highly useful	117	68.02
Useful	55	31.97
Less useful	0	0.00
Not useful	0	0.00
	172	99.99 = 100.00

4.2.5 Preference of Time to Access E-Resources by the Assam University Library Users

The survey finding shows that out of 257 respondents, maximum number of respondents (120=47.00 %) prefer morning time to access E-resources, which is followed by afternoon (78=30%), evening (42=16%), night (15=6%) whereas only few (2=1%) respondents prefer late night access to E-

Resources. The survey result reveals the maximum usage of E- resources during morning and afternoon time in comparison to evening, night and late night (Table-11).

Table-11: Preference of Time to Access E-Resources (N=257)

Preferred time	No. of Respondents	Percentage
Morning	120	47.00
Afternoon	78	30.00
Evening	42	16.00
Night	15	6.00
Late night	2	1.00
Total	257	100.00

4.2.6 USAGE OF ELECTRONICS RESOURCES

Table 12: Usage of Electronics Resources (N=257)

Types of Resources / Rank	Rank-1 (%)	Rank-2 (%)	Rank-3 (%)	Rank-4 (%)	Rank-5 (%)	Rank-6 (%)	Rank-7 (%)	None (%)	Total (%)
E-Journals	117(45%)	56(22%)	36(14%)	23(9%)	20(8%)	5(2%)	0.0	0.0	257 (100.00)
E-Books	60(24%)	111(43%)	31(12%)	20(8%)	18(7%)	11(4%)	3(1%)	3(1%)	257 (100.00)
Online Databases	41(16%)	70(27%)	101(39%)	18(7%)	11(4%)	4(2%)	0	10(4%)	257 (100.00)
CD-ROM Databases	33(13%)	29(11%)	51(20%)	99(39%)	16(6%)	26(10%)	2(1%)	3(1%)	257 (100.00)
Theses / Dissertations	28(10%)	49(19%)	43(17%)	23(9%)	89(35%)	10(4%)	0.0	13(5%)	257 (100.00)
Index/ Abstract	21(8%)	68(26%)	26(10%)	37(15%)	20(8%)	79(31%)	2(1%)	6(2%)	257 (100.00)
OPAC	19(7%)	58(23%)	15(6%)	46(18%)	29(11%)	30(12%)	55(21%)	5(2%)	257 (100.00)

The study shows that the majority of the respondent (117=45%) access to E-journals, which is placed at 1st rank which is followed by E-book (111=43%) and placed at the 2nd rank order, online databases (101=39%) is placed at the 3rd rank order, CDROM (99=39%) is placed at the 4th rank order, Theses /Dissertation (89=35%) is placed at the 5th rank order, whereas Index/ abstract (79=31%) has been placed at the 6th rank order and OPAC (55=21%) has been placed at the 7th rank order. Hence from the Table- 12 it has been observed that E-journals and E-books are the most

popular E-resources used by the Assam University Library Users and these are also frequently used electronic resources in comparison to other offline resources available in Library.

4.2.7 Preferable Place for Accessing to E-Journal under UGC-INFONET Programme

The survey findings show that the University library is most suitable place for E-journal access because in university library the facility for access to e-journals and other electronic databases are available under UGC-INFONET E-journals Consortium. All respondents (100.00 %) are visiting Central Library for access to e-resources available under UGC-INFONET Digital Library Consortium.

4.2.8 Time Spent for On-Line Searching of E-Resources Per Week

The survey result as shown in Table -14 indicates that out of 257 respondents about 179 (70.00 %) respondents spent 1-3 hours time for online searching per week which is followed by 53 (20.00 %) respondents who spent 4-6 hours per week whereas only few respondents 25 (10%) spent more than 7-10 hours per week for searching desired information from the Internet. The survey finding shows that very few Assam University Library users search on-line information for maximum hours but most of the users visit library regularly to search and access to the electronic resources frequently for their academic and research purposes.

Table 14: Time Spent On Online Searching Per Week (N=257)

Time	No. of Respondent	Percentage
1-3hours	179	70.00
4-6 hours	53	20.00
7-10 hours	25	10.00
TOTAL	257	100.00

4.2.9 Preferences of E-Journals Publishers

Table: 15: Preferences of E-Journals Publishers (N=224)

Name of the Journals	No. of Respondent	Percentage
Springer Link Verlag Pub	56	25.00
Kluwer On-line Publication	41	18.00
American institute of Physics pub	25	11.00
Elsevier Science	23	10.00
American Chemical Society Pub	29	13.00
All publication available under UGC-INFONET	50	23.00
Total	224	100.00

There are more than 25 world class publishers participating in UGC INFONET E-journals Consortium with around 5000+ scholarly e-journals and databases covering maximum areas of science and technology management, social sciences, humanities and languages. From the Table- 20, it has been observed that out of 319 respondents, Springer-Link is preferred by 56 (25.00 %) respondents, Kluwer On-line publication is preferred by 41(18.00 %) respondents, American Institute of Physics Publication is preferred by 25 (11.00 %) respondents, Elsevier Science is preferred by 23(10.00 %) respondents, American Chemical Society Publication is preferred by 29 (13.00%) respondents whereas all publication available under UGC-INFONET is preferred 50 (23.00%) respondents.

4.3 PROBLEM FACED BY THE ACCESSING E-RESOURCES AND E-JOURNAL USERS

Table- 16 shows that out of 257 e-resource users, 175 (68.00 %) respondents faced problem while accessing to e-resources whereas 82 (32.00 %) respondents are not facing any problem to access e-journal / e-resources.

Table 16: Problem Faced by the Accessing E-Resources and E-Journal Users

Users faced problems	Yes	No	Total
E-Resources Users / E Journal Users	175 (68%)	82(32%)	257

4.3.1 Various Types of Problems Faced by the E-Resources Users

Table- 17 presents the problems faced by the E-resource users, among the 257 respondents, the problems faced by the users are viz: limited working hours, lack of adequate number of computers, less speed, lack of infrastructure facilities, frequently power failure, problem on downloading article and problem over searching.

The 1st priority problem is limited working hours, 2nd priority problem is lack of adequate number of computers, 3rd priority problem is less speed of the connectivity, 4th priority problem is lack of infrastructure facilities, 5th priority problem is frequently power failure, 6th priority problem on downloading article and 7th priority problem is problem over searching.

Table 17: Problems Faced by the E-Resources Users (N=257)

Problems Encountered While Accessing to Internet for Using E-Resources	RANK ORDER						
	1	2	3	4	5	6	7
Limited working hours	175(68%)	53(21%)	15(6%)	6(2%)	4(2%)	3(1%)	-----
Lack of adequate number of computer	75(29%)	156(61%)	21(8%)	3(1%)	2(1%)	-----	-----
Less Speed	53(21%)	26(10%)	149(58%)	12(4%)	9(3%)	4(2%)	4(2%)
Lack of infrastructure facility	68(27%)	39(15%)	10(4%)	125(49%)	8(3%)	5(2%)	2(1%)
Frequently power failure	45(18%)	47(18%)	50(19%)	11(4%)	101(39%)	3(1%)	-----
Problems on downloading articles	15(6%)	27(11%)	29(11%)	39(15%)	43(17%)	99(39%)	5(2%)
Problems over Searching	19(7%)	18(7%)	7(3%)	41(16%)	27(11%)	63(26%)	82(32%)

4.3.2 Suggestions Received from the Respondents (As Feed Back received from the Users)

The findings of the study revealed majority of the respondents use electronic resources and e-journals for their benefits, the respondents suggested the following to encourage users in the use of Electronic resources, E-journals and Internet users :

- ◆ Library working hours should be increased at least 12 hours (8a.m to8p.m);
- ◆ to increase the number of computers with Internet access;
- ◆ to provide on-line facilities for students in their hostels and their departments;
- ◆ to develop infrastructure facilities ;
- ◆ to controlled different unsocial activity to the Internet lab;
- ◆ to subscribe to more e-books and e-journals;
- ◆ Latest configuration of systems should be procured for higher speed;
- ◆ Bandwidth should be increased for speedy access to e-resources ;
- ◆ More provision for database search;
- ◆ Creation of awareness among users about different on-line resources and INFLIBNET E-journal Consortium;

- ◆ Adequate Uninterrupted supply of proper should be ensured ; and
- ◆ Extensive User Awareness Programmes / Orientation programme should be organised about the e-resources and e-journals which are available in the university library.

5. Suggestions and Recommendations

The followings are few suggestions and recommendations for the awareness of access to Internet, e-journals and e-resources usage:

- ◆ The Authority should conduct training programme for Information Communication Technology ICT application/ Internet awareness, access of E-resources, E-Books, E-journals for the users of Assam University Central Library and they should be encouraged to take part in these activities;
- ◆ More computers/Terminals should be installed in the library with latest specifications and multimedia so that the users can use Internet, e-resources and e-journals and other usefull services of the Internet effectively;
- ◆ To utilise the facilities of e-journals access provided through VSAT under UGC INFONET E-journal / Digital Library Consortium of INFLIBNET Centre, Ahmedabad, the campus wide local area network should be available in campus, hostel and the different departments of the university;
- ◆ As the user communities have expressed their dissatisfaction towards the speed of Internet connectivity due to low bandwidth, it is recommended to establish campus wide Internet facilities with dedicated leased line facility for speedy access to Internet facility and number of nodes to the users should be increased as per requirements;
- ◆ Training in electronic resources management should be offered to library staff . So that they can guide the Scholars;
- ◆ The study indicates the need of orientation/workshop of e-resources for faculty members and research scholars also;
- ◆ The frequently power failure is one of the major problem in the University Library. So the users are facing lots of problem in E-resources access. To maitain their interest towards e-resources the University must ensure adequate and continuous uninterrupted power supply;
- ◆ To prevent misuse of Internet facilities, proper monitoring of services should be ensured as restricted sites should be blocked;
- ◆ More fund should be given to acquire electronic resources;
- ◆ The E-resources like e-books, e-journals subscribes to increased in their optimum utilization;
- ◆ The infrastructure facilities should be well for the comfortable service;
- ◆ Library working hours should be increased for 12 hours from 8a.m. to 8p.m. ;

- ◆ Proper vigilance in the computer laboratory should be ensured;
- ◆ Library should be opened during holidays also. It should be 24*7;
- ◆ More provision for database search. OPAC should be made operational and search inhouse databases;
- ◆ Printing, scanning facilities must be available ;
- ◆ Intranet facilities should be given at hostels and departments to access e-resources;
- ◆ Creation of awareness among students about the different on-line resources; and
- ◆ Library staffs who are not aware of using Internet and e-resourses should be given training from grass root level for proper service to the users.

6. Conclusion

The study showed that the use of the Internet and electronic resources have created a great impact upon users of Assam University Central Library in their research and development works. 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. So far the systematic research has not been done in this area particularly in the use of on-line electronic resources among the users of Assam University Central Library. It is clear from the study that the younger generation has accepted the electronic resources, but the volume of frequent usage of e-resources among the users have been found to be optimum level.

Many of the respondents are unaware and have not used On-line thesis/dissertations, abstracts/indexes, OPAC, On-line databases, which are very relevant for their study and research. So the library can take initiatives to organise Orientation Programmes and user awareness programme in this area.

As the Central Library has the facilities to access e-resources, the library authority should take some steps to increase the number of systems with higher configuration and speed of access to use of e-resources, also the library service hours should be increased so that prolonged stay and study, in the library is possible.

A rapid change in information seeking behaviour and use of Internet and On-line access of E-resources have become the vital part of various information needs. The users develop the skills and knowledge to use the e-resources and services. The On-line journals ie e-journals are the most important for the research community. It is proved that the on-line journals save the times of the users. Many users are suggesting to subscribe more on-line journals and e-resources of various publishers. Lack of training among users and proper infrastructure in the libraries is a major demotivating factor in the use of internet, e-resources and e-journals in Assam University Library. This study helps to improve the facilities and services related to On-line access to E-resources.

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