Full Length Research Paper

A study of internet literacy and usage patterns to access e-resources by Assam university library users

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The present study was undertaken with a view to know the extent of Internet Literacy amongst the University Library Users. The samples of the present study are mainly drawn from the teachers, research scholars and students are not very much comfortable using computers. In order to assess the Internet literacy and access patterns of e-resources, survey method has been adopted by the investigator, 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 awareness of ICT and Internet Literacy Skills and E-Resources access pattern for their day-to-day requirements pertaining to their academic and research activities. For carrying out the survey , purposive sampling technique has been adopted. The self designed questionnaire comprising of 18 questions has been distributed amongst the randomly selected 480 samples which comprises of faculty members, research scholars, UG/PG Students, Officers and Staff, out of which 324 respondents have responded. On the basis of filled up questionnaire received from the respondents, the data has been analysed and tabulated using SPSS Software. For data analysis and interpretation, percentage technique has been adopted. The present work was carried out during April 2009 to July 2010. Therefore the present investigation is delimited to the members of the Assam University community. The paper highlights the important survey findings in respect of ICT and Internet Literacy Skills, Internet usage pattern , Training and some problems faced by the respondents along with few suggestions and recommendations.

Keywords: Internet, Internet Literacy Skills , Assam University-Silchar, E-Resources

INTRODUCTION

Information Communication Technology (ICT) is one of the important buzzwords of today's IT world. It has changed the society into information society and our way of life. It has been integrated in every walk of our life. It has penetrated in everywhere and its makes our life comfortable and easy.

Information Communication Technology (ICT) Technology is convergence of computers and communication technology which makes processing, storage, and its retrieval very faster instant and effective.

The Internet has provided universal access to information. Technological innovation has dramatically increased the rate of conversion of knowledge, information and data into electronic format.

Developments in the software arena have generated powerful knowledge management software which has transformed the way knowledge is organized, stored, accessed and retrieved (Sharma, 2011).

The Internet is one of the most important and complex innovations of mankind. It is a powerful means of communication, dissemination and retrieval of information. It is a network of network connecting thousands of smaller computer networks together so that other networks may share information present in one network. It is one of the powerful / effective tools or technologies ever produced for getting information on fingertips from any part of the world even sitting at one's own location. Internet has been described as a system for

allowing computers to communicate with each other. It is used by millions of people throughout the world for communication, business, research, recreation and browse information for higher studies. There are various national, international / global networks systems, more than 40,000, readily accessible through the Internet. As network bandwidths increases it will become common to have video and animation over networks, thereby challenging the conventional analog media such as cable TV and videotapes. Now the facility of Internet has been increasingly used for educational course delivery (Sinha, 2004 A). The Internet facility in India has grown tremendously over the years. The efficiency and capabilities in providing right information to right person at right time has grown rapidly with the use of Internet. The recent phenomenon and the emergence of information society, knowledge driven economy and the cost effectiveness of technological gadgets has made Internet an unavoidable necessity for every institutions of higher learning and research (Sharma, Singh and Mishra, 2008). The Internet tools and services have been used by the teachers' scholars and students for variety of purposes for day to day academic and research activities.

In recent years, Internet has emerged as the most important and powerful means for information retrieval and dissemination. In today's world, for information transfer, Internet plays a very significant role in the effective utilization of its resources, thus understanding of their structure and formats is essential. There is an exponential growth in the number and variety of formal/ informal resources available on the Internet which helps researchers collecting the right information at right time easily. During the last decade, open access movement is gaining momentum and importance which makes many open access scholarly and peer reviewed journals available on Internet free of cost and the researchers may download full text research papers for their research work. The researcher may also publish their research findings in Open Access Journals which may have wide visibility for access across the world.

The Internet has emerged as a powerful educational tool. With the increasing impact of information and communication technologies on higher education, all those concerned with higher education are attempting to grasp how ICT could help in modernizing the process of teaching, learning and research. With the advent of the Internet, following dilemma arise in higher educational system (Sharma, Chawla and Madaan, 2011):

☐   learner is not dependent on teacher for interaction; and

☐   Teachers can give lectures virtually to unknown learners.

So, in this era, teachers and students can carry forward their work on the Internet in ways that are similar to and tightly intertwined with the traditional ways that they learn, teach and study in libraries, classrooms, laboratories, seminars, conferences, etc. The Internet can provide

access to essentially unlimited resources of information not conventionally obtainable through other means. Today, Professional colleges are playing an important role in imparting technical education. The students, who are the outcomes of these colleges, require the latest and pinpointed information in their respective fields. Due to the high cost of information resources, developing countries cannot provide these resources to their users. But the Internet with its advantages, make the way for the developing countries to access information at a very low cost. The present study is aimed to find out the usage of internet facility available in Professional collages at, Mathura by the students and faculty members (Sharma, Chawla and Madaan, 2011).

Status of Usage of Internet in India

Just a few years ago that the public sector organization VSNL introduced Internet to India . At present approximately 4, 00,000 commercial users have access through VSNL whereas from education and research communities 5, 00,000 users have access through ERNET. So, around 10, 00,000 Indian people are directly connected to the NET which is a small fraction of the total population of India. VSNL has been channel sing the information particularly from the four International Gateways at Mumbai, Delhi, Calcutta, and Chennai. To give more access to E-mail and Internet, VSNL has installed new Gateways at Ahmadabad, Kanpur, Ernakulum, Jullundur, Bangalore and Hyderabad. There are many advantages of the Internet which provides opportunities galore, and can be used for a variety of things. Some of the things that one can do via the Internet are E- Mail ; Access Information; Shopping; Online Chat; Downloading Software and many more where as it has many disadvantages too. The disadvantages of the Internet are to lose personal information; pornography and spamming (Sharma, Chawla and Madaan, 2011).

The present study has been undertaken with a view to know the extent of Internet Literacy amongst the Assam University Library Users which comprises of faculty members, research scholars, UG/PG Students, Officers and Staff. The samples of the present study are mainly drawn from the different parts of North Eastern Region of India who joined Assam University, Silchar for pursuing various courses where the penetration of Computers and Internet connectivity is very low. Therefore, the teachers, research scholars and students are not very much comfortable using computers.

In order to assess the Internet literacy and access patterns of e-resources, survey method has been adopted, which comprises of administration of questionnaire, observation of the participants, and interview of some of the participants for knowing their opinion in respect of Internet Literacy and e-resource

access patterns of Assam University Library Users for their day-to-day academic and research requirements .

The self designed questionnaire comprising of 18 questions has been distributed amongst the randomly selected samples .The samples comprises of faculty members, research scholars, UG/PG Students Officers and 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.

The present work was carried out during April 2009 to July 2010. Therefore the present investigation is delimited to the members of the Assam University community who mainly hail from the different parts of the North Eastern States and come to Assam University for job and study. Questionnaires were sent to other respondents of the North Eastern States also who have been studying / working in the university and colleges of the North Eastern States. The questionnaire was distributed to 480 samples, out of which 324 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 paper highlights the important survey findings in respect of Internet Literacy, Internet usage pattern and access to e-resources. Besides this, some problems faced by the respondents have also been discussed and few suggestions and recommendations have also been enumerated in brief.

Objectives of the Study

To examine the status of Internet Awareness and Internet Literacy amongst the Assam University Library Users Community ;

To find out the preferences of using Internet Services and tools;

To find out the preference of Internet Service providers ;

To examine the preference of place and time for access to Internet and E-Resources;

To evaluate the purpose and frequency of using Internet;

To examine the usefulness of Internet / E- Resources;

To find out the preference of search engines for information searching ;

To examine the various problems faced by the Assam University Library Users for accessing to Internet and the e-resources ; and

To examine the various suggestions put forwarded by the respondents for the improvement of Internet Services in the Assam University Campus .

Scope and Delimitation of the Study

The present work is delimited to the Assam University Community only. The study highlights the extent of Internet awareness, Internet Literacy for accessing to e-resources and the suggestions put forwarded by the respondents for the improvement of the existing ICT infrastructure in Assam University campus and need for organising users' awareness programme for optimum usage of e-resources by the Assam University community.

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. Previously many studies have been carried out in recent years on use of Internet in university library (Mishra and Satyanarayana, 2001) Internet for Libraries. (Kamlavijayan, 2001) ; Internet and its use in SJCE (Kumbar and Shirun , 2003); Internet usage by students and faculty members of Kuvempu University (Birader, Rajashekhar, and Sampat Kumar , 2004); Use of Internet by teachers and students in Shaheed Bhagat Singh College of Engineering and Technology (Rajiv Kumar and Amritpal Kaur 2004); Internet use by the researchers in Punjab University, Chandigarh (Mahajan 2005) ; Internet use by the Research Scholars in University of Delhi (Madhusudan , 2007); Use of Internet in Engineering College of thee Districts of Karnataka State (Kumbhar and Vasunatha 2007) ; Sharma , Singh and Mishra, 2008 has also studied the usage pattern of Internet by the teachers and research scholars of Kurushetra University ; Use of Internet by the Students of Bidhan Chandra Krishi Viswavidyalaya (West Bengal) (Das and Basu (2009) ; and Use of Internet among the Research Scholars of the Faculty of Science, University of Allahabad (Devender Kumar and Shukla,2009) .

Kanaujia and Satyanarayana (2003) conducted a study of the Science & Technology community of Lucknow city to assess the level of awareness and demand of web based learning environment among Science & Technology information seekers. The major findings of the study revealed that 49.2% users browsed the Web for more than 2 to 4 hours and 14% for more than 5 hours a day. The study further showed that 36.6% users consulted e-journals regularly on the Internet, 40.4% used Internet for consulting technical reports, 24.8% to find online databases and 10.4% for telnet service.

Rajeev Kumar and Amritpal Kaur (2004) studied the use of internet by teachers and students in Shaheed Bhagat Singh College of Engineering & Technology, Ferozepur (Panjab). They found that 46.7% teachers and 36.7% student's daily use the internet. About 90% respondents use internet at their college. Yahoo is found as the

favorite search engine. Only 31.7% respondents were fully satisfied, whereas 36.7% were partially satisfied with internet facilities

Asemi (2005) in his study found that all the respondents were using the Internet frequently because all faculties were provided connection to the Internet. It was revealed that the researchers of the university were getting quality information through the Internet. Fifty-five percent of the respondents searched for scientific information through the Internet because the university library had provided access to various databases and online journals for all the students and staff.

Mishra, Yadav and Bisht (2005) conducted a study to know Internet utilization pattern of the undergraduate students of G B Pant University of Agriculture and Technology, Pantnagar. The findings of the study indicated that a majority of the students (85.7%) used the Internet. Out of the Internet users 67.7% were male students and 32.3% female students. The findings of the study also showed that 61.5% of the males and 51.6% of the females used Internet for preparing assignments. A majority of the respondents i.e. 83.1% male and 61.3% female respondents indicated that they faced the problem of slow functioning of Internet connection.

Robinson (2005) examined the Internet use among African-American college students. The respondents were surveyed by using the 43-item questionnaire to determine the frequency of Internet. The results of the study indicated that most of the African-American college students (76%) had used the Internet for more than three years. The use of the Internet for most African-American college students occurred at school or at the work place with 49% of the responses at home. 47% of the responses indicated that they spent an average of two hours per day on-line. A small percentage of the students spent 5-6 hours per day on the Internet. 43% of the Students used the Internet primarily to learn and find school resources.

Biradar and others (2006) conducted a study on internet usage by the Student and faculties in Kuvempu University. The results indicated that 42.1 % students use internet twice a week and 31.25% faculties use it every day. The majority of students as well as faculties use Internet for study/ teaching purpose. The favorite place for using Internet is library followed by commercial places. A thumping majority of respondents are satisfied with Internet sources and services.

Sinha (2009) has also carried out a survey on specialized group of samples who belongs to scientific disciplines (Participants of Workshop on Basic Science Research) in terms of ICT and Internet awareness and observed the similar trends of finding towards awareness of ICT and Internet and utilization of E-Resources available under UGC-INFONET Programme. Rao (2010) in his study of Internet Use in Academic Library discusses the advantages of the Internet and its impact upon academic libraries. The practical application of e-mail,

Internet and other electronic media has been also described in brief and need of more application of ICT / computers in libraries has been emphasized

Rahman and Ali (2010) conducted a study on the access and utilisation of the Internet based library services available to the faculty members of Z.H. College of Engineering and Technology, Aligarh Muslim University. 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).

Oskouei and Chaudhary (2010) have conducted a case study on Internet Usage Pattern by Female Students at Motilal Nehru National Institute of Technology Allahabad regarding usage pattern of internet facilities by female students. This study has been done by mining the log files of proxy server for three months. This period included two test and one semester examination weeks. Results of mining shows very interesting findings which shows that (1) approximately 3000 websites were visited and majority of them were non-academic websites and a classification schema for those websites is proposed.(2). Only 13% of internet users are female students and out of which only 11% use internet. (3). Dominant use (63%) of the Internet is for Non- Academic purposes. This is true for students with excellent academic performance (CPI).

Jange et al. (2010) have overviewed the status of technical institutions of India and Internet usage for accessing to the e-resources. In their overview, an attempt has been made to highlight the current developments of technical and engineering education in India with respect to plans, strategies and budget outlays to provide competitive technical education prevailing in the country and efforts made to promote quality of education to the society at large. The paper reviews the existing literature pertaining to technical education and use of Internet services in India. Explores how Internet based resources and e-resources could be utilized has been discussed providing useful resources-subject gateways and newsgroups. The national consortia e-resources covering electronic journals and databases in India have been explored. Further attempts were made to reveal the initiatives undertaken by Government of India for e-learning and courseware repositories in the country.Electronic publishing has led to a new era of information communication. The electronic journals are becoming an effective and popular medium of research communication.

Many studies have been conducted for Internet usage

at International level also. Some of the related papers are reviewed in following paras :

Brenner (1997) has conducted a survey on Internet use, abuse and addiction from the 563 users and the respondents reported the problems of managing time for Internet use which interfere with their normal routine works and also multiple –usage related problems which is of addictive in nature. The younger Internet users tended to have found more problems.

Ali et al. (2009) have carried out a case study on the Information Literacy of Engineering Students at a Malaysian college which aims to identify the strengths and weaknesses of engineering students' information literacy knowledge. It also identifies the common misconceptions and mistakes students make. The results of this study show that the respondents seriously lack information skills especially in evaluating Internet information, identifying the most efficient search strategy and using information ethically.

Majid Zorofi et al.(2011) have conducted a very interesting study on the impact of Internet usage on increasing students' social skills (Assertiveness and Haughtiness) and its effects on their scientific success and on improving their social relations which has been done by using survey method based on SSRS questionnaire. The sample size includes 288 students studying at universities in North West of Iran, who were chosen by random method. The results show there is strong correlations between two aspects of social skills and internet usage. Internet usage helps the growth of special aspect of social skills and abilities among students to bring success in the social and educational relationships. So it is necessary to develop social skills and group relations. This impact is unique to a particular group of students and there is different between various groups of students in relation to their courses and academic levels. It also suggests that students' abilities can be illustrated as a result of their using internet and other media such as cell phones etc. Many people and students are educated through using internet and media. It is the most obvious and inevitable element to experience this relation in the routine life too. It is clear that internet has a key role in human life. So we need to obtain a lot of important information about internet also about relations with other variables especially in educational contexts that are important for young generation. It describes students' social relationships and their responsibilities too. (Zorofi, et al. 2011).

Avi Goldfarb and Jeff Prince (2008)' have studied the issues of digital divide for Internet usage in America from 18,439 high income group Americans using survey method to find out whether digital divide exist for Internet connectivity and Internet usage. In their study they found that there is a well-documented "digital divide" in internet connection and high-income, educated people were more likely to have adopted the internet by December 2001. However, conditional on adoption, low-income,

less-educated people spend more time online. They examine four possible reasons for this pattern:
 (1) differences in the opportunity cost of leisure time,
 (2) differences in the usefulness of online activities,
 (3) differences in   the amount of leisure time, and
 (4) selection. The   evidence gathered from the study suggests this pattern is best explained by differences in the opportunity cost of leisure time and this results also help to determine the potential effects of internet-access subsidies.

From the review of literature on the use of Internet, awareness of ICT and Internet, 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).

Except few study conducted by Sinha, 2004 on Internet Use pattern of the academic community and local population of Barak Valley ; another study on Information Communication Technology (ICT) and Internet Awareness Amongst the College and University Teachers (Sinha 2008) ; ICT and Interne Awareness amongst the participants of Workshop on Basic Science Research (Sinha 2009) and Internet Usage (Borthakur, Das and Gohain ,2010), no comprehensive and substantial studies have been carried out on the ICT and Internet literacy for access to E-Resources available under UGC-INFONET Digital Library Consortium in North Eastern Region of India. Therefore, in present studies an attempt has been taken to study the Internet Literacy Skills and Internet Usage Pattern to access e-resources amongst the Assam University Community.

Research Methodology Adopted

The Questionnaire developed by Sinha, 2008 has been followed with few modifications for conducting the present study. To elicit the opinion of the respondents for ICT and Internet Literacy, E-resources usage the questionnaire comprising of 18 questions was designed. The questionnaire was distributed as per the requirement of the objectives of the present study. The researcher has used the stratified random sampling technique. The present study includes 319 respondents using Internet drawn from 29 departments of Assam University, Silchar.

The questionnaire has been distributed to the various categories of Assam University Community and requested them to fill the questionnaire as per their convenience and returned the questionnaire to the investigators as early as possible. The filled up questionnaire has been collected from the respondents

Table 1. Distribution of Questionnaire and Responses Received (N=350)

No. of Questionnaire Distributed	No. of Questionnaire Received Back	Percentage
350	319	91 %

Table 2. Classification and General Characteristics of Respondents (N=319)

Category of E-Resources and Internet Users		
Category of Library Users	**Frequency**	**Percentage**
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
Sex-Wise Distribution of Internet Users (N=319)		
Sex	No. of Respondents	Percentage
Male	122	38.00
Female	197	62.00
Total	319	100.00
Age-Wise Distribution of Respondents(N=319)		
Age	Frequency	Percentage
15-25	137	43.00
26-35	75	23.00
36-45	70	22.00
46-55	28	9.00
55-onwards	9	3.00
Total	319	100.00
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**	**100.00**
Income /Family Income Group Wise Distribution of Respondents (N=319)		
Income Group (Monthly in 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**

for the data analysis and interpretation. 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 Internet Literacy and Internet Usage pattern for accessing to the E-Resources/ Web Resources by the Post-Graduate Students, Research Scholars, Teachers and Staff of Assam University, Silchar.

Table 3. ICT and Internet Literacy (N=319)

Are you ICT and INTERNET Literates	No. of Respondents	Percentage
Yes	257	81.00
No	62	19.00
Total	319	100.00

Table 4. Category of User for Internet Literacy (N=257)

Category of Internet literacy	No. of Respondents	Percentage
Novice	57	22.00
Intermediate	143	56.00
Expert	57	22.00
Total	257	100.00

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 paper results have been shown in the tabular and graphical format. Due to paucity of space, only tables have been shown in the present paper. As the investigator approached the library users personally, response rate is significantly high.

Out of 350 questionnaires distributed 319 filled up questionnaires were received. The response rate is about 91%.

Classification and General Characteristics of Respondents

General classification and characteristics of the respondents have been shown in Table-2 which shows that 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%).

The age-wise distribution of 319 respondents of E-resources and Internet users 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-2).

The sex-wise distribution of 319 respondents 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-2).

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 (Table-2).

The qualification–wise distribution of respondents shows 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 (Table-2).

Income Group/Family Income Group Wise Distribution of Respondents *s*hows that the 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-2).

ICT and Internet Literacy

Now-a-days Internet service has become a faster communication tool for library services. It is the most important instant means of communication interactions for the academicians all over the world. The survey result shows that out of 319 respondents 257 respondents (81%) are aware of Internet services, as they are internet literate where as only 62 respondents (19%) are not having much knowledge of internet access / usage (Table-3).

Category of Users for ICT and Internet Literacy

From the Table- 3 it has been observed that 257 (81.0 %) respondents are ICT and Internet literate, whereas the Table-4 reveals that out of 257 respondents, 57 (22%) respondents are novice groups, 143 (56%) respondents

Table 5. Ranking of Internet Services (N=257)

Internet Services and Web Resources	Rank Order				
	1	2	3	4	5
E-Journal	**126(49%)**	59(23%)	37(14%)	25(10%)	10(4%)
Search from In-house Database	69(27%)	**113(44%)**	35(13%)	23(9%)	17(7%)
E-mail Services	32(12%)	71(28%)	**112(44%)**	26(10%)	16(6%)
INFLIBNET Database Search	13(5%)	21(8%)	77(30%)	**99(39%)**	47(18%)
Web Page Search (WWW)	20(8%)	25(10%)	78(30%)	37(14%)	**97(38%)**

Table 6. Preference of E-Mail Providers/Internet Service Providers (N=257)

E-mail Service Provider	No. of Respondent	Percentage (%)
BSNL/VSNL	85	33.00
Yahoo.Com	35	14.00
Indiatimes.com	15	6.00
Rediffmail.com	53	21.00
NICNET Mail Service	10	4.00
ERNET Mail Service	8	3.00
Gmail Service	47	18.00
Any other mail service	4	1.00
TOTAL	**257**	**100.00**

are intermediate and 57 (22%) respondents belong to expert groups.

Ranking of Internet Services

Table-5 shows ranking of Internet services and tools available on internet viz; e-mail, www, search from in house database, INFLIBNET Database Search, E-Journal access. Out of 257 respondents, 126 (49%) respondents have ranked E-journal Access at first place which is followed by Internet search from in-house database (113,44%) and 2nd place, e-mail services (112,44%) at 3rd place, INFLIBNET database search (99,39%) at 4th place and WWW/ Internet services (97,38%) at 5th place. The rank of WWW, Internet service at 5th because this service can be accessed in any internet service centre at any time.

Preference of E-Mail/Internet Service Providers (ISPs)

E-mail is provided by the many Internet Service Providers companies like BSNL, VSNL, NICNET, ERNET etc. There are commercial e-mail services like Yahoo mail, Indiatimes mail, Rediffmail, Google mail etc. which provide free email services. Out of 257 respondents , E-mail Services provided by BSNL (85= 33.0 %) is more popular amongst the library users which is followed by Rediffmail (53= 21.00%) , Gmail Service (47= 18.00 %) , Yahoo mail (35= 14.00 %) , Indiatimes Mail Service (10= 6.00 %) whereas Mail Services provided by NICNET (10= 4.0 %), ERNET (8= 3.00 %) and other Mail Services

(4=1 .00 %) are comparatively very less number of respondents (Table-6).

Preference of Time to Access to Internet

The survey finding shows that out of 257 respondents, maximum number of respondents (120=47.00 %) prefer morning time to access Internet , which is followed by afternoon (78=30%), evening (42=16%), night (15=6%) whereas only few (2=1%) respondents prefer late night access to Internet The survey result reveals the maximum usage of Internet during morning and afternoon time in comparison to evening, night and late night (Table-7).

Purpose of Using Internet 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.

Frequency of Usage of Internet

Table- 9 shows that out of 257 respondents most of the respondents (127= 50 %) are using e-resources on

Table 7. Preference of Time to Access Internet (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

Table 8. Purpose of Using Internet (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

Table 9. Frequency of Using Internet (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

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.

Rate of Usefulness of Internet

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

Use of Search Engines for Accessing to Internet

A search engine is a searchable database of Internet for information search. Almost all the search engine provides information to the users at no cost. The Table -11 gives us the details about the most commonly used search engines by the users.

The survey result as shown in Table- 11 reveals that the majority of the respondents (145=57.00 %) placed Google Search Engine at the 1st Rank which is followed by Yahoo (121=47.00 %) at 2nd Rank, Alta-Vista (99=39.0 %) at 3rd Rank, MSN (53=20.0 %) at 4th Rank , Indiatimes (45=18.0 %) at 5th Rank whereas Rediffmail (175=68.00 %) has been kept at 6th rank which has been used by very less number of users for searching information. The survey finding reveals that the Google Search Engine is most popular amongst the Assam University users community.

Time Spent for On-Line Searching of Information per Week

The survey result as shown in Table -12 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

Table 10. Rating of Usefulness of Internet for On-Line Access to E-Resources (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

Table 11. Use of Search Engines for Accessing to Internet (N=257)

Search Engines	Rank Order						
	1	2	3	4	5	None	Total
www.google.com	**145(57%)**	75(29%)	0.0	21(8%)	6(2%)	32(12%)	257
www.yahoo.com	71(28%)	**121(47%)**	8(3%)	12(5%)	4(2%)	41(13%)	257
www.altavista.com	12(5%)	52(20%)	**99(39%)**	6(2%)	3(1%)	85(33%)	257
www.msn.com	7(3%)	36(14%)	45(17%)	**53(20%)**	0.0	116(45%)	257
www.indiatimes.com	5(2%)	26(10%)	37(14%)	15(6%)	**45(18%)**	129(%))	257
www.rediff.com	2(1%)	4(2%)	17(6%)	30(11%)	29(11%)	**175(68%)**	257

Table 12. Time Spent On Online Searching of Information per Week (N=257)

Time Spent	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

Table 13. Usage of Internet to Access 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)
E-Books	60(24%)	**111(43%)**	31(12%)	20(8%)	18(7%)	11(4%)	3(1%)	3(1%)	257 (100)
Online Databases	41(16%)	70(27%)	**101(39%)**	18(7%)	11(4%)	4(2%)	0	10(4%)	257 (100)
CD-ROM Databases	33(13%)	29(11%)	51(20%)	**99(39%)**	16(6%)	26(10%)	2(1%)	3(1%)	257 (100)
Theses / Dissertations	28(10%)	49(19%)	43(17%)	23(9%)	**89(35%)**	10(4%)	0.0	13(5%)	257 (100)
Index/ Abstract	21(8%)	68(26%)	26(10%)	37(15%)	20(8%)	**79(31%)**	2(1%)	6(2%)	257 (100)
OPAC	19(7%)	58(23%)	15(6%)	46(18%)	29(11%)	30(12%)	**55(21%)**	5(2%)	257 (100)

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.

Usage of Internet to Access Electronic Resources

The study shows that the majority of the respondent (117=45%) access to E-journals, which is placed at 1st

Table 14. Problem Faced by the University Library Users for Accessing to E-Resources /Web Resources (N=257)

Users faced problems	Yes	No	Total
Do Internet Users face problems	175 (68%)	82(32%)	257

Table- 15 :Problems faced by the Internet Users (N=257)

Problems Encountered While Accessing to Internet	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%)**

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- 19 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 (Table-13).

Problem faced by the Respondents to Access Internet

Table- 14 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.

Types of Problems faced by the Internet Users

Table- 15 presents the problems faced by the E-resource/ Web Resource users, among the 257 respondents,the prboblems 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 problemis limited working hours, 2nd

priority problem is lack of adequate number of computers, 3rd priority problems 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 down loading article and 7th priority problem is problem over searching.

Suggestions as Received from the Respondents

The findings of the study revealed majority of the respondents use Internet to access 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 (8 A.M. to8 A.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 laboratory ;
   To subscribe to more e-books ,e-journals and other Web Resources ;
   The Computer Termnals must be of latest configurations;
   speed of search should be increased;
   More provision for database search;

   Creation of awareness among users about different on-line resources and INFLIBNET E-journal Consortium;

Adequate power facilities should be ensured ; and Provide adequate User Awareness Trainng to users the effective utlisation of Internet and e-resources / web resources available in the university library.

DISCUSSION

Internet Access and Usage of Electronic Journals

Biradar and others (2006) conducted a study on Internet usage by the Student and faculties in Kuvempu University. The results indicated that 42.1 % students use Internet twice a week and 31.25% faculties use it every day. The majority of students as well as faculty members used Internet for study/ teaching purpose. The favorite place for using Internet is library followed by commercial places. A thumping majority of respondents are satisfied with Internet sources and services. Whereas in the present study 38% respondents are accessing to e-resources on daily basis, 50% use once in a week, 9% access Internet on forthnightly whereas only 3% access monthly basis.

Asemi (2005) in his study found that all the respondents were using the Internet frequently because all faculties were provided connection to the Internet. It was revealed that the researchers of the university were getting quality information through the Internet. Fifty-five percent of the respondents searched for scientific information through the Internet because the university library had provided access to various databases and online journals for all the students and staff.

Mishra, Yadav and Bisht (2005) conducted a study to know Internet utilization pattern of the undergraduate students of G B Pant University of Agriculture and Technology, Pantnagar. The findings of the study indicated that a majority of the students (85.7%) used the Internet. Out of the Internet users 67.7% were male students and 32.3% female students. The findings of the study also showed that 61.5% of the males and 51.6% of the females used Internet for preparing assignments. A majority of the respondents i.e. 83.1% male and 61.3% female respondents indicated that they faced the problem of slow functioning of Internet connection.

Whereas in the present study most of Internet literate respondents (45%) are using Interent for accessing to the electronic resources for their study purpose , 25% respondents Using it for publishing their research papers in scholarly journals ,15% respondents using Internet for research and development ,11% of project work and only 4% respondents are using Internet for exchange of ideas.

Robinson (2005) examined the Internet use among African-American college students. The respondents were surveyed by using the 43-item questionnaire to determine the frequency of Internet. The results of the study indicated that most of the African-American college students (76%) had used the Internet for more than three years. The use of the Internet for most African-American college students occurred at school or at the work place with 49% of the responses at home. 47% of the responses indicated that they spent an average of two hours per day on-line. A small percentage of the students spent 5-6 hours per day on the Internet. 43% of the Students used the Internet primarily to learn and find school resources.

Rajeev Kumar and Amritpal Kaur (2004) studied the use of Internet by teachers and students in Shaheed Bhagat Singh College of Engineering & Technology, Ferozepur (Panjab). They found that 46.7% teachers and 36.7% student use Internet on daily basis. About 90% respondents use Internet at their college. Yahoo is found as the favorite search engine. Only 31.7% respondents were fully satisfied, whereas 36.7% were partially satisfied with Internet facilities

Kanaujia and Satyanarayana (2003) conducted a study of the Science & Technology community of Lucknow city to assess the level of awareness and demand of web based learning environment among Science & Technology information seekers. The major findings of the study revealed that 49.2% users browsed the Web for more than 2 to 4 hours and 14% for more than 5 hours a day. The study further showed that 36.6% users consulted e-journals regularly on the Internet, 40.4% used Internet for consulting technical reports, 24.8% to find online databases and 10.4% for telnet service.

According to a study conducted by Sharma , Chawla and Madaan (2011) *on "Internet Usage by the Faculty members & the students in* Professional *Colleges at Mathura Region" using* sample of 940 faculty members and students belong to a various discipline in use of Internet. The study examines and found the similar type of results which corroborates with the findings of the present study to some extent. These findings are:

Most of the faculty members and students from various discipline use the Internet more than 4 year, while less no. of students and faculty members use the Internet 2-4 year and a very small number of students and faculty members use the Internet less than 6 months;

Approximately 48% of faculty members and students use the Internet 2-3 times in a weak, while less no. of faculty members and students from various discipline use the Internet daily and a very small no. of faculty members and students use the Internet occasionally;

Approximately 59% of faculty members and students spend time on Internet for more than 1 hour, while less no. of faculty members and students spend time on Internet for more than 2 hour and a very small no. of faculty members and students spend time on Internet for more than 3 hour;

Approximately 39% of faculty members and students from various discipline use Internet at college library, while less use Internet at home, Internet café or any other place;

More than 52% faculty members and students use Internet for education, whereas 31% use Internet for research, 22% use Internet for entertainment and only 19% use Internet for E-mail purpose;

More than 37% faculty members and students in various discipline take help from colleagues, where as 27% use trial error method;

Mostly faculty members and students in various discipline use Internet services like E-mail, www, chatting, search engines, Remote login, FTP, FAQ, whereas less no. of user use like Archie, Listserv;

Mostly faculty members and students in various discipline face slow Internet access speed and difficulties in finding relevant Information;

Approximately 49% of faculty members and students from various discipline browse Information by using search engines, while less than 44% browse Information by type the web address directly and only 5% students and faculty members browse Information by using subscribed databases;

85% faculty members and students from various discipline use Google as a search engine, more than 81% use Rediff as a search engine, 63% use yahoo as a search engine, while less than 23% user use Hotboat and Bingo as a search engine;

More than 50% faculty members and students give response that Internet Improved Professional Competencies where as less no. of respondents give response that dependency on Internet increase, expedited the research process and use of traditional document decreased;

Mostly respondents give response that Internet is time saving, more useful, easy to use and more preferred, where as less than 46% give response that Internet is more expensive;

More than 80% faculty members and students are strongly agreed with the internet facility provided by the professional collages, where as less no. of faculty members and students are disagreed; and

62% give response that the Internet use cannot replace the library services where as only 37% of users give response that the Internet cannot replace library services;

Singh, Bhupesh Kumar and Kulvir Kaur (2006) in a study of usage of electronic journals found that 83-100 % of various category of users of Guru Nanak Dev University, Amritsar prefer electronic medium over the print journals as the electronic journals are becoming an effective and popular medium of communication these days amongst the researchers which has led electronic publishing a new methods of information communication.

Sharma , Singh and Mishra, 2008 has also studied the usage pattern of Internet by the teachers and research scholars of Kurushetra University and found that 100 % respondents use Internet for e-mail which is followed by research purposes (83.33 %) and 83.33 % respondents use Google as their favorite search engine for accessing

information . About 64.16 % respondents reported about privacy problems while accessing information whereas 60.83 % respondents are fully satisfied with the Internet services available at Kurukshetra University.

It has been also found that the usage percentage is higher has some of their counterparts in other institutions. More than 80 % respondents find e-journals easier to access, time saving and less expensive as compared to the print journals. It has been noted that 41-46 % of the users satisfied with services being provided by the publishers of e-journals. However, most of them were not satisfied with the quality of Internet Connectivity provided by the university Guru Nanak Dev University and the library users have put forwarded some suggestions regarding improvement of Internet Connectivity (Singh, Bhupesh Kumar and Kulvir Kaur ,2006) out of which some of the suggestions are similar to the present study like speed of Internet should be very high; Broadband Connectivity should be provided (at least up to 2 mbps line) and campus wide connectivity should be provided for non-stop 24x7 Internet access which should be at par with the other national level institutions of higher learning for high quality academic and research activities. The respondent also suggested for print copy of some selected journals for archival purposes and printing facility should also be provided to the users.

Rahman and Ali (2010) conducted a study on the access and utilisation of the Internet based library services available to the faculty members of Z.H. College of Engineering and Technology , Aligarh Muslim University which include information on the various aspect of the Internet based services, frequency of library visit, purpose of library visit Internet usage, purpose of using the Internet services, se of popular search engines , awareness about Internet services, number of e-journals consulted and behaviour of library staff towards the users. The study reveals that the most of the faculty members utilise the services offered by the college library and emphasizes that the services may be improved further after proper training for familiarity with the latest information and communication technologies and improvement of the existing ICT infrastructure.

The important findings of the study reveals that the maximum number of faculty members (Lecturer Grade) use Internet based library and information services regularly. The majority of users (54.55 %) consulted On-line e-journals and maximum number of users access Internet for at least one hour on daily basis which is due to inconvenience of time of Internet access but majority of users are satisfied with the available ICT infrastructure for providing Internet Services in ZHCET Library. Some suggestions have been put forwarded by the respondents like 24x7 Internet facility in the campus ; higher Internet Speed; need of extensive ICT/ Internet Training programme to be organised in the campus; installation of latest versions of Anti-Virus Software, increased number of access points or Internet terminals which are similar to

the present findings.

Rao (2010) in his study of Internet Use in Academic Library discusses the advantages of the Internet and its impact upon academic libraries. The practical application of e-mail, Internet and other electronic media has been also described in brief and need of more application of ICT / computers in libraries has been emphasized.

Borthakur, Das and Gohain (2010) studied the usage of e-resources and traces the availability of e-resources under UGC-INFONET E-Journal Consortium in the selected three University Libraries of Assam which highlights the status of current usage of e-journals and publisher wise usage of journals amongst the library users of these three universities viz., Dibrugarh University, Dibrugarh; and Tezpur University, Tezpur; and Assam University, Silchar located in Assam. It was observed that during 2009 the total number of download amongst these three universities are 12, 815 journal articles and the Springerlink journal articles (4,386 articles downloads) are used maximum by the users which corroborates with the findings of the present study which indicates that Springer link Journals are more popular amongst the library users of North Eastern Region.

From the usage statistics it was found that Tezpur University stands at 1st place for downloading articles (5896 articles) which is followed by Assam University and Dibrugarh University which indicates that the usage of e-journals which are freely available to the faculty and research scholars under UGC-INFONET E-Journals/ Digital Library Consortium is very poor in Assam in particular and North Eastern States in general . It might be due to lack of awareness amongst the library users especially amongst the faculty members and research scholars which needs to be taken care of.

The present study reveals almost similar trend of findings as highlighted in different study in India and abraod. The findings are enumerated in brief in following lines :

About 68 % respondents are saying that e- resources available under UGC-INFONET Consrtia are highly useful and 32% respodents agree that these resources are useful for their research activities.

While examining the preference of time to access Internet for E-Resources , it was found that most of respondents (47%) prefered morning hours for Internet access, which is followed by afternoon (30%), evening time (16%),whereas only few respondents 6% and 1 % prefere night time and latenight to access Internet respectively.

The favourite Search Engines used by the respondents for Internet access and   access to E-Resources.

are Google (57%) followed by   Yahoo (47%) whereas other search engines like Altavista, MSN, Indiatime search engines etc are negligible in use when compared to Google and Yahoo search engines , which

might be due to ignorance of users .

Time spent on searching on-line resources per week reveals that 70% respondents spent 1-3 hours, to search Internet , 20% respondents spent for 4-6 hours and only 10% respondents spent for 7-10 hours in a week for searching online e-resources/ Web –Resources .The university library is most suitable place for access to Internet and E-journals / other web resources. Because the facility for accessing   to e-journals and other electronic databases are available only in the Assam University Library under UGC-INFONET Digital Library consortium.

While coming to address problems faced by the respondets for accessing Internet/ E-resources it was found that 68% respondents faced problem while accessing to Internet / e-resources whereas 32% do not faced any problem. On the other hand 72% respondents are facing problem while accessing to e-journals and other web web resources.

Limited working hours (68%) , lack of adequate numbers of computers (61%), less speed (58%), lack infrastructure facilities (49%), frequently power failure (39%), problem on downloading articles (39%) and problem over searching (32%) are the major problems faced by the respondents while accessing to the Internet and e-resources in the Assam University campus.

The above findings indicate that usage of e-journals is not very encouraging. Especially in the faculty of Humanities, Social Science and Languages, it has been found that the awareness of Internet/ E-resources is very poor in comparison to the scholars and faculty of science disciplines (Sinha2009). Therefore for the proper and optimum utilization of e-resources available under UGC-INFONET Digital Library Consortium, extensive user awareness programme should be organised frequently by the INFLIBNET Centre in collaboration with the concerned college/ university/ institutional libraries.

On the basis of the user statistics and for the effective utlisation of printed as well as e-resources , Rabindra Library (Central Library) , Assam University , Silchar has started organizing Library Orientation –Cum-User Awareness Programme this year for newly admitted research scholars who are pursuing course work for Pre-Ph. D. Programme for one semester as per UGC Guidelines. Altogether 450 scholars have participated in this programme in order to have basic idea/ information in terms of library rules and regulations; availability of library resources (both printed and electronic); their locations; and the proper and effective utilization of printed and on-line/ off-line electronic resources available under UGC-INFONNET Digital Library Consortium Programme.

Implication of Study

From the review of literature on the use of Internet, awareness of ICT and Internet, 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, 2006; 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). Except few study (Sinha, 2004; Sinha 2008; Sinha 2009, Borthakur, Das and Gohain , 2010) no comprehensive study has been carried out in North Eastern India.

As we know that in North Eastern Region, there are nine Central and two State Universities one Central two NIT ,one IIT and one IIM and four Medical Colleges / Institutions, three Agricultural Universities / Institutions. All Central and State Universities and Institutions have been given access to either e-resource available under UGC-INFONET Consortium and or through INDEST Consortium (especially NITs, IITs, and IIMs) and Central Government has been paying millions of rupees to get access of peer reviewed scholarly publications from more than 25 world class publishers and aggregators.

Therefore, it is obvious that the electronic resources available under these two consortia should be fully utilized for the academic and research activities but unfortunately the resources has not been used optimally which defeat the very purpose of acquiring e-resources for the faculty members, research scholars and post-graduate students which might be due to lack of awareness amongst the research scholars and faculty members of this region. As we are connected to Internet and getting access to world class scholarly publications, no longer we are located in remote area

Therefore there is a need of organizing extensive user awareness programme for effective utilization of library resources (both printed as well as electronic). In order to have background study on the awareness of ICT and Internet for the access to e- resources which are available under UGC-INFONET E-Journal/ Digital Library Consortium, the present study has been conceived and the findings will be of immense use of the planner and decision makers to make necessary comprehensive user awareness programme / ICT or Internet Training for maximum utilization of the resources.

Suggestions and Recommendations for Internet Literacy for Access to Internet Resources

The followings are few suggestions and recommendations for the dire need for empowering the library users through Internet Literacy / Awareness Training Programnme for the optimum utilisation of the Internet facilities and access to the available e-journals /

web resources:

The Authority should conduct trainning programme for Information Communication Technology (ICT application) / Internet awareness, access of E-resources, E-Books, E-journals for the Assam University Library users and they should be encouraged to take part in the E-Resource Awarenenss Programme;

More computers/Terminals with latest configurations should be made available in the library 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 under UGC INFONET Digital Library Consortium of INFLIBNET Centre, Ahmedabad, the campus wide local area network should bestrenthen and made available in the different locations of the campus like academic departments, computer centres, faculty residennce and all goys and girls hostel of the university to have maximum utilisation of E-Resources ;

As the user communities have expressed their dissatisfation 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 properly help the novive library users and research 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 and the restricted sites should be blocked;

More fund should be given to acquire electronic resources;

Adequate ICT infrastructural facilities should be developed in the various academic departments , library , hostels for the effective utilisation of Internet and E-resources ;

Proper vigilance in the computer laboratory should be ensured;

Library should be opened during holidays also. It should be 24x7;

Web OPAC should be made operational for searching inhouse well as on-line databases databases; and Printing, scaning facilities should be made available to library users on payment basis.

CONCLUSION

The study showed that the use of the Internet has 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 faciliated 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 Internet as a means for accessing to the relevant information for academic and research works , whereas the elderly people are still conversent with traditional resources who are using printed resources available in library, but the volume of frequent usage of e-resources among the users have been found to be at optimum level.

Many respondents are not aware of using Internet for their day to day activities , so the library can take initiatives to organise Orientation Programmes and User Awareness Programme in collaboration with Computer Centre of the University or INFLIBNET / DELNET/ other agencies for imparting adequate training to library uses for improving their Internet Literacy skills for accessing to the Internet/ E-Resources/ Web Resources effectively.

As the Central Library has the facilities to access Internet for on-line access to the e-resources available under various consortia, 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 for 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 Internet based services. The On-line resources like 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 university libraries of North Eastern Region is one of the vital factors in the usage of Internet, e-resouces and e-journals in Assam University Library in particular and other University / College Libraries of North Eastern Regions of India in general.

This study helps to improve the facilities and services related to facility of providing Internet Literacy Programme for access to various Internet resources. If proper training is imparted to the faculty members, research scholars, students , officers and staff members , the performance of the post-graduate students, research

scholars and teachers of the academic community of universities will be incresed to make the Assam University Campus in particular and other University Campus of North Eastern States in general a Internet Literate campus for effectively accessing to Internet for their academic and reseach work.

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