
MAJOR FINDINGS & DISCUSSION

6.1 Findings of the Responses Received from Respondents

Evaluation of the findings of any research study is always advisable to generalize the same. In this concluding part of the work, the general findings have been taken into account to see whether the set objectives have been achieved, the formulated hypotheses are proved to be valid, etc. The following are the important/ major findings of the study which needs to be highlighted below:

General Characteristic/ Demographic Profile of the Respondents

- The response rate of the returned questionnaire of this study has been recorded as 73.55 percent;
- The University Wise received responses shows that the responses received from Tezpur University were highest (82.5%) which is followed by Dibrugarh University (78.34%) whereas 70.84% responses received from Assam University and 62.5% responses received from Gauhati University respectively;
- The Category Wise responses show that majority of respondents belongs to “Research Scholar” category (51.8%) which is followed by respondents belongs to “Faculty Member” category (48.2%).

Background Information of the Respondents

- The survey result reveals that majority of respondents (56.4%) are “Female” which is followed by “Male” respondents (43.6%);
- Further, the study shows that majority of the respondents either enrolled or completed the “Ph. D.” research study within which male respondents are 68.8% and female respondents are 73.3%;
- Thus, it is also observed from the study that most of the respondents have their highest qualification or pursuing Ph. D. degree. Further, it is very interesting to know that majority of them are female respondents. These shows that female are being empowered and pursuing higher education and research in a great way keeping male counterpart legging behind.

Age-Wise Distribution of Respondents

- Further it is found that maximum responses (29.2%) were received from the age group between” 31-35 years”, which is followed by (22.4%) respondents in the age group between” 46-55 years” and all of them belong to faculty members category whereas respondents (20.4%) in the age group between “below 30 years” and all of them belong to research scholar category;
- Thus, most of the respondents fall under the age groups of “below 35 years” and majority of them are “Research Scholar”. Again, respondents with age group of “above 46 years” belong to “Faculty Members”. Thus, in this study there are two distinct opposite age group there, which is due to active participation of research scholars and faculty members.

Designation Wise Distribution of faculty members

- Out of the total faculty members, (47.1%) belong to Assistant Professor which is followed by Associate Professor (37.6%) whereas (15.3%) belong to Professor Category;
- Further, it reveals that out of the faculty members belong to Tezpur University, majority of the respondents (47.9%) belong to Assistant Professor which is followed by Associate Professor (45.8%); whereas only (6.3%) respondents belong to Professor Category;
- Again, out of faculty members belong to Dibrugarh University, majority of the respondents (47.7%) belong to Assistant Professor which is followed by (37.8%) respondents belong to Associate Professor; whereas (15.6%) respondents belong to Professor Category; whereas out of faculty members belong to Assam University, majority of the respondents (53.5%) belong to Assistant Professor which is followed by (30.2%) respondents belong to Associate Professor; whereas (16.3%) respondents belong to Professor Category. Again, out of faculty members belong to Gauhati University, majority of the respondents (38.2%) belong to Assistant Professor which is followed by (35.3%) respondents belong to Associate Professor; whereas (26.5%) respondents belong to Professor Category;
- The study further shows that (34.7%) faculty members are having “11-20” years of experience which is followed by (32.4%) faculty members with “1-10” years of experience whereas (29.4%) faculty members have “more than 21” years of experience.

Usage Pattern of Electronic Resources by the Respondents

- In this study, it is very interesting to find that all respondents (100%) are aware of Internet/e-resource, which indicates that the all the library users belong to different universities are well aware of e-resource and extensively using Internet to access e-resource and others facilities in their day to day activities;
- Further, the study highlights that majority of the library users (84.4%) use e-journals to a maximum extent, which are followed by (55.5%) respondents use e-books, whereas (40.5%) respondents use e-dictionary. Moreover, 39.10%, 34.00%, 24.90%, 24.60% and 13.30% respondents also use e-thesis, offline databases, online database, blog and others e-resources respectively;
- Again specifying about the other e-resources, majority of the respondents generally used e-dictionary, wiki, e-newspaper, e-news alerts, etc.;
- University wise data analysis shows that the library users from Tezpur University access e-journals to a maximum extent (85.9%); which is followed by (79.8%) respondents belongs to Dibrugarh University whereas (87.1%) and (79.8%) respondents belong to Assam University and Gauhati University respectively access e-journals to a maximum extent;
- The usage of e-book is highest in Dibrugarh university (67.1%) which is followed by (54.7%) library users belong to Tezpur University whereas (52.9%) and (45.3%) library users belong to Assam University and Gauhati University respectively;

- But, it is also observed that (26.1%) library users do not access e-book whereas (38.5%) respondents do not access e-dictionary. This shows that majority users are not comfortable in using e-book/ e-dictionary. But, in case of e-thesis, it is found that highest numbers of the respondents (48.7%) belong to Tezpur University who are using e-thesis;
- Moreover, majority of the respondents 40.5%, 43.9% and 35.7% does not use offline databases, online database and blog respectively;
- The study shows that majority respondents are not using various kinds of e-resources while accessing e-resources. Proper awareness service should be provided to them for making maximum utilization of e-resources;
- It is interesting to highlight that the library users from Science, Technology and Management (STM) use e-journals to a maximum extent (53.5%) whereas only (30.7%) library users from Linguistic, Humanities and Social Science (LH&SS) use e-journals;
- Again, majority of the respondents belong to STM (38.8%) use e-book, whereas (15.7%) respondents belong to LH&SS use e-book;
- Further, it is also shown that E-dictionary (30.6%), E-Thesis (27.5%), Offline databases (24.4%), Blog (23.1%), Online database (17.6%) and other resources (13.3%) used by STM respondents are comparatively higher than LH&SS respondents with (11.0%) “E-Dictionary”, (11.6%) “E-Thesis”, (9.6%) “Offline databases”, (7.4%) “Online database”, (3.5%) “Blog” and (0.2%) “Other resources” respectively;
- These shows that the usage pattern of e-journals/ e-books by Science, Technology and Management (STM) and Linguistics, Humanities and Social Science (LH&SS) respondents are not same. STM respondents are

generally using e-resources very effectively whereas LH&SS are not using it or they may be getting their required documents.

Awareness among Library Consortia

- Further, it shows that out of total respondents who are aware of Library Consortia, majority of the respondents (98.5%) belong to Science, Technology and Management (STM) Stream whereas 81.6% respondents from the Humanities and Social Science (LH&SS) are aware of Library Consortia;
- This shows that STM library users are extremely using the Library Consortia in compare to LH&SS library users, which may be due to less availability of e-resource in their respective fields or may be less aware about Library Consortia;
- It is also found that majority of the respondents belong to Tezpur University (96.9%) are aware of library consortia; which is followed by (91.4%) respondents belong to Dibrugarh University; whereas (88.2%) respondents belong to Assam University and (85.3%) respondents belong to Gauhati University;
- These study shows that the majority of library users are aware of Library Consortia among all four universities under the study of Assam. But maximum of the respondents belong to Tezpur University which is followed by Dibrugarh University are aware of Library Consortia Services.

Awareness of Specific Consortia under the University Library

- The study shows that out of all the consortia which is available in the universities libraries of Assam, majority respondents (77.6%) are aware of UGC-INFONET Digital Library Consortium which is followed by (18.1%) respondents are aware of DeLCON Consortium whereas only (14.2%) respondents are aware of INDEST Consortium. Thus, it is found that UGC-INFONET Digital Library Consortium is famous among the respondents in compare to all other consortia available in the university libraries of Assam;
- Further, it is found that the UGC-INFONET Digital Library Consortium is known by respondents belong of Dibrugarh University to maximum extent (83.0%) which is followed by (80.8%) respondents belong to Tezpur University; whereas (70.6%) and (74.7%) respondents belong to Assam University and Gauhati University respectively;
- Again, University wise distribution towards awareness of DeLCON Consortia shows that very less numbers of respondents (18.1%) are aware of this consortium numbers;
- Further, University wise distribution towards awareness of INDEST Consortia shows that only (14.2%) respondents are aware of INDEST Consortia;
- Further, university wise responses shows that very few respondents (22.4%) belong to Assam University use INDEST Consortia, which is followed by (12.1%) respondents belong to Tezpur University; whereas (11.7%) and (10.7%) respondents belong to Dibrugarh University and Gauhati University respectively use INDEST Consortia services.

Preference of Library Consortia under the University Library Services

- From the study it is found that UGC-INFONET Digital Library Consortium is one of the most well-known Library Consortia among all others consortia subscribe by the university libraries of Assam. This may be due to majority library users are getting their required material by using UGC-INFONET Digital Library Consortium;
- Again, out of total respondents those who are aware of UGC-INFONET Digital Library Consortium, (46.4%) belong to STM stream which is followed by (38.9%) belong to LH&SS stream;
- Again, out of total respondents, those who are aware of DeLCON Consortium; almost all of them (31.2%) belong to STM stream whereas (3.8%) belong to LH&SS stream;
- Further, out of total respondents, those who are aware of INDEST Library Consortium; almost all of them belong to STM stream and are aware of INDEST Library Consortium.

Time Spend by the Library Users in Accessing E-Resources/ E- Consortia

- The study also reveals that majority of the respondents (43.6%) used E-Resources/ Library Consortium on “Daily basis”; whereas only (16.7%) respondents used E-Resources/ Library Consortium on “Bi-weekly basis” and (13.3%) respondents used E-Resources/ Library Consortium on “Bi-monthly basis”;
- This shows that usability of E-Resources/ Library Consortium is comparability low; which need to be solved with a proper mechanism;

Library professional should take initiative in this regards to make maximum utility of the resources;

- Again, the study shows that majority of the respondents (34.6%) used E-Resources/ Library Consortia for 1- 6 hours a week; which is followed by (15.3%) used E-Resources/ Library Consortia for 13-18 hours a week whereas (15.0%) used E-Resources/ Library Consortia for 13-18 hours a week. Again, (9.4%) used E-Resources/ Library Consortia for more than 18 hours a week;
- Again, it is found that the majority of the respondents (27.4%) used E-Resources/ Library Consortium on “Daily basis” belong to STM; whereas only (16.1%) respondents belong to LH&SS used E-Resources/ Library Consortium on “Daily basis”;
- Further, majority of the respondents (17.5%) used E-Resources/ Library Consortium on “Bi-Monthly basis” belong to STM; whereas only (8.1%) respondents belong to LH&SS used E-Resources/ Library Consortium on “Bi-Monthly basis”. This result may be due to STM respondents feel much comfortable in accessing to E-Resources/ Library Consortium in compare to LH&SS;
- Majority of the respondents (34.6%) used E-Resources/ Library Consortia for 1- 6 hours a week; which is followed by (15.3%) used E-Resources/ Library Consortia for 13-18 hours a week whereas (15.0%) used E-Resources/ Library Consortia for 13-18 hours a week. Again, (9.4%) used E-Resources/ Library Consortia for more than 18 hours a week.

Purpose of Accessing E-Resources/ Library Consortia

- The study shows that the majority of the respondent (82.0%) use E-Resources/ Library Consortia for learning/ guiding, which is placed at 1st rank which is followed by reference search/ consultation purpose (80.4%) and placed at the 2nd rank order, whereas to keep up-to-date with journal or database (73.6%) is placed at the 3rd rank order;
- Further, (72.6%) responses received as “to exchange idea” and placed at the 4th rank order. Similarly, “for publishing journal article” (65.8%) is placed at the 5th rank order; for research & development (63.9%) is placed at the 6th rank order and “project work” (61.7%) is placed at the 7th rank order respectively;
- Again, it shows that majority of the respondents belong to SSH&L (83.8%) using E-Resources/ Library Consortium for learning/ guiding purpose in compare to the respondents belong to STM (80.8%).

Status and Usefulness of E-Consortia under University Library

- The study shows that majority of the respondents belong to Faculty Members (48.9%) rate consortia services of their own university as “highly useful”; whereas only (19.7%) respondents belong to Research Scholar rate it as “highly useful”. Further, (23.0%) and (20.3%) respondents belong to “Faculty Members” and “Research Scholars” rate consortia services as “Useful” respectively. Moreover, (19.2%) and (6.5%) respondents belong to “Faculty” and “Research Scholar” rate consortia services as “Less Useful” respectively;

- Moreover, majority of the respondents (66.7%) belong to Tezpur University rate consortia as “highly useful”; which is followed by only (25.9%) respondents belong to Assam University rate consortia as “highly useful”. Further, (30.9%) and (29.3%) respondents belong to Dibrugarh University and Gauhati University rate consortia as “useful”;
- Moreover (23.5%) and (14.1%) respondents belong to Assam University and Tezpur University rate consortia as “less useful” respectively;
- Further, it is also found that majority of the respondents belong to STM (45.1%) rate consortia as “highly useful”; whereas only (19.6%) respondents belong to SSH&L rate consortia as “highly useful”;
- Further (8.2%) and (18.4%) respondents belong to STM and SSH&L rate consortia as “less useful” respectively. This result may be due to less availability of e-resources in their field in compare to STM group;
- Majority of the respondents (48.5%) belong to STM feels that the services of UGC-INFONET are satisfactory; whereas (42.8%) belong to SSH&L feels that the services of UGC-INFONET is somehow poor;
- This leads to conclude that SSH&L respondents are not getting the required e-resources properly from UGC-INFONET Digital Library Consortium. Thus initiative must be taken into consideration to include more numbers of e-resource in UGC-INFONET Digital Library Consortium especially keeping in view the requirement of SSH&L respondents;
- It is also found that majority of the respondents (14.2%) feel that the services of AICTE-INDEST Consortium is poor whereas (23.6%)

numbers of respondents feel the services of DeLCON consortia is very poor;

- This leads to conclude by saying that majority of the respondents from both the stream are not getting the required e-resources properly from AICTE-INDEST and DeLCON consortium. This may be due to that those consortia are mainly designed for the engineering or bio-technology background respondents. But, as STM respondents also are not fully satisfied with the INDEST and DeLCON consortia, thus initiative must be taken to include more numbers of e-resources in AICTE-INDEST and DeLCON consortia services.

Preference of E-Resources/ E-Journal Publishers

- The study shows that the majority of the respondents (81.9%) preferred “Emerald” journal most of the time, which is placed at 1st rank which is followed by (72.6%) respondents preferred “Oxford University Press” and placed at the 2nd rank order, whereas (67.8%) respondents preferred “Science Direct” journals and placed at the 3rd rank order;
- Further, (60.1%) respondents preferred “JSTOR” and placed at the 4th rank order; whereas (55.0%) respondents preferred “Springer” and placed at the 5th rank order; and (54.2%) respondents preferred “Pro Quest Science” journal and placed at the 6th rank order;
- Again, (50.8%) respondents preferred “American Chemical Society” and placed at the 7th rank order; whereas (55.0%) respondents preferred “Annual Reviews” and placed at the 8th rank order. Moreover, (34.4%) respondents preferred “Taylor and Francis” journal and placed at the 9th

rank order; whereas (32.1%) respondents preferred “American Institute of Physics” and placed at the 10th rank order.

Details of the Research Publications Trends by the Respondents

- It is further found that majority of the respondents (65.4%) have their own publications. Further, it is found that respondents belong to STM have more publication (70.8%) in compare to the respondents belong to SSH&L (58.9%);
- Again, it shows that the faculty members have more publication (88.2%) in compare to the research scholars (44.3%);
- Moreover, it shows that majority of the respondents (71.7%) belong to Tezpur University have more numbers of publications which is followed by (70.2%) respondents belong to Dibrugarh University; whereas (58.8%) respondents belong to Assam University and (64.0%) respondents belong to Guwahati University have their own publications;
- Further, among STM respondents; majority of the respondents (34.8%) have publications in the range of “26-50”; whereas (15.3%) respondents have publications in the range of “1-10” and “11-25” each. Further, (13.8%) respondents have publications in the range of “51-75” numbers whereas only (4.4%) respondents has publications in the range of “76-100” numbers and (16.7%) respondents have publications in the range of “more than 100” numbers;
- Again among SSH&L respondents; majority of the respondents (30.2%) have publications in the range of “11-25” numbers; whereas (23.7%) respondents have publications in the range of “1-10” numbers and

(22.6%) respondents has publications in the range of “26-50” numbers. Further, (17.3%) respondents have publications in the range of “51-75” numbers whereas (6.5%) respondents have publications in the range of “76-100” numbers and (2.2%) respondents has publications in the range of “more than 100” numbers. This shows that in STM majority respondents’ have higher numbers of publication in compare to SSH&L respondents;

- It is further found that majority of the respondents have (49.3%) numbers of publications in “International Journal” which is followed by (48.4%) publications in “National Journal”. Further, 41.4%, 42.5%, 29.5%, 19.8% and 18.4% numbers of respondents have publications in “International Conference Proceeding”, “Chapters in Edited Book”, “National Edited Book”, “National Book” and “National Journal without ISSN/ ISBN” respectively;
- Moreover, (17.0%) numbers of respondents have publication in “International Book” whereas (16.9%) respondents have publication in “National Book without ISBN”;
- Out of total respondents, only (18.4%) numbers of respondents have the publication under subscribed e-consortia available under own university. Further, majority of the respondents (31.2%) belong to faculty member’s which is followed by (23.8%) belong to research scholar category;
- It also shows that majority of the respondents (10.3%) belong to Tezpur University which is followed by (7.3%) belong to Gauhati University whereas (5.6%) belong to Dibrugarh University and (4.7%) belong to Assam University respectively.

Problems Faced by the Respondents

- The study shows that out of total respondents, most of the respondents (83.9%) are facing problem due to “Less no. of relevant journals”. Again comparing within University wise responses, it is observed that majority of the respondents belong to Assam University (82.4%) and Gauhati University (84.0%) are facing the problem of non-adequate e-journals whereas respondents belong to Tezpur University (13.7%) and Dibrugarh University (35.1%) are not facing it as major problems;
- Again, it shows that majority of the respondents are facing problems due to difficulty in judging relevant information (60.6%); which is followed by “problem in accessing relevant information from e-resources/ e-consortium” (55.2%) whereas (52.4%) respondents face “problems on accessing articles in their own field”;
- Further, University wise responses shows that majority of the respondents belong to Tezpur University (47.6%) face the problem “due to difficulties in judging relevant information” whereas majority of respondents belong to Dibrugarh University (56.4%) face problems while accessing articles in their own field;
- Majority of the respondents such as 50.7%, 43.9%, 38.0%, 26.3%, 18.7% face problem due to "lack of ICT knowledge", "perpetual information retrieval problems", "long time for downloading article", "and lack of proper infrastructure facility “,” slow internet connectivity" respectively;
- Again (18.7%) respondents face problems due to some other factors, which are non-availability of full text articles, less numbers of subscribes

journals in the consortia especially in SSH&L field, non- availability of linguistic field journals within consortia, etc.

Suggestions Provided by the Respondents

- The result shows that majority of the respondent (70.8%) suggested “to develop adequate e-journal collection”, which is followed by (67.7%) respondents feel “printing facilities on demands” should be done effectively, whereas (65.4%) respondents suggest “e-resources orientation/ training program” should be introduced at regular interval short of time” and “comfortable sitting arrangements for long term usage of e-resources”;
- Further, (48.7%) respondents suggest “training program for relevant information/website”; which is followed by (36.8%) respondents suggest “more numbers of Internet terminal in library/ departments” whereas (32.6%) and (21.5%) respondents suggest "regular power supply" and "internet privacy" respectively;
- Again (16.7%) respondents suggest some other suggestions, which can be summarized as below:
 - Like the NLIST Services, all the library consortium available under university libraries of Assam should also be made available facilitating users to access resources at their desktop in his/her own place which will enable them in accessing online resources beyond the campus LAN and confirm 24x7 access;
 - Need for e-resource collection development;
 - E-resource sharing between library must be increased;

- Adequate number of e-journals should be provided; and
 - Library services should be made users friendly.
- Some most common personal comments provided by respondents are shown in a more generalized form below:
- To find out mechanism for require e-journals in their relevant fields;
 - More e-books should be subscribed;
 - The speed of the internet should be increased;
 - Perpetual access of journal should be continued;
 - Wi-Fi should be added to all departments for better e-resource assess; and
 - Mechanism should develop to get appropriate services like, Web of Science, Sci-finder, Chem-finder, etc. in all university.

University Library Services/ Management Scenario

- The university libraries are using various kinds of library management software. SOUL is used by majority of the libraries viz. Gauhati University and Dibrugarh University library; whereas KOHA and LIBSYS is used by only in Assam University library and Tezpur University library respectively;
- Further, it is also found that except Assam University library; remaining all libraries is fully automated. Assam University has started their automation process and it is providing partially automated service mainly in cataloguing/ circulation section;

- All university libraries have their own server and Internet connectivity. Further, all university libraries are also members of INFLIBNET library network;
- Again four universities are providing user orientation program to its users. Out of four universities; except Tezpur University; rest three universities provide orientation program annually; whereas Tezpur University provide orientation program bi-annually;
- Library users belong to Tezpur University library users has download more than 1 lakh e-journals at maximum extent at above cited period; which is followed by Gauhati University and Dibrugarh University library users has download 75001-1lakh of e-journals each; whereas Assam University library users has download 50001-75000 numbers of e-journals;
- It is found that some common e-resources which are being subscribed by all the four universities from UGC-INFONET Digital Library Consortium are Emerald, American Chemical Society, American Institute of Physics, American Physical Society, Annual Reviews, Cambridge University Press, etc. Further, Tezpur University subscribed Springer Link form UGC-INFONET Consortia;
- It is also found that some common e-resources which are being subscribed by all the four universities from DELCON Consortia are American Association for Cancer Research (MCR), Marry ANN liebert, Oxford University Press (OUP), Springer India, etc. Springer Link is subscribed only by Gauhati University from DeLCON Consortia.

6.2 Summary of the Results of the Tested Hypotheses

- There is a significant difference between different categories of users with awareness of library consortia;
- There is no significant difference between users belong to various universities with awareness of library consortia;
- There is a significant difference between users belong to different stream with awareness of library consortia;
- There is a significant difference between different categories of users with level of satisfaction while accessing e-resource from UGC-INFONET;
- There is a significant difference between different categories of users with level of satisfaction while accessing e-resource from INDEST consortia;
- There is a significant difference between different categories of users with level of satisfaction while accessing e-resource from DeLCON consortia.

6.3 Discussions with the Previous Studies

Various kinds of literature are found related to e-resources and its usage pattern. These literatures give rise to general opinion regarding what problems university library users face while accessing information from library in rapid changing environment mainly due to lacking of relevant document as per their needs (Kanungo, 1997; Fidzani, 1998; Laloo, 2002; Patitungkho & Deshpande, 2005; Sinha, 2012; Catalano, 2013; Kumar & Sanaman, 2015). These had shown that the university library website was heavily used on campus by users. Free scholarly journals, resources downloaded, e-journals, e-books and donated personal collections were among the top most used resources and services. (Arshad & Ameen, 2000; Mahapatra, Swain & Senapati, 2000).

Whereas from this study, it is found that most of the respondents generally access e-journals, e-books, e-dictionary, e-thesis, offline databases, online database, blog.

Some other review of literature also suggested that importance of web based information resources with specific reference to e-books and the various types of web based information resources such as information, sources, services, adequate collection, various channels of information and the constraints faced by the research scholars in using or searching information through electronic sources. (Chandra, 2003; Manjunatha & Shivalingaiah, 2003; Choukhande & Dongre; 2004). *Whereas from this study, it is found that most of the respondents (26.1%) does not access e-books. Further, the usage of e-book is highest in Dibrugarh University (67.1%) which is followed by 54.7% library users belong to Tezpur University.*

Few more studies were also conducted to know the usage patterns of a university library website, which shows that majority of the users used the e-resource for information seeking purpose on daily basis atleast one time (Bruce, 1998; Arshad & Ameen, 2015; Pant, 2015). *Whereas, from this study it is found that majority of the respondents (49.7%) belong to STM and 36.0% respondents belong to LH&SS used E-Resources/ Library Consortium on "Daily basis".*

Further studies were conducted to know the various aspects of e-publishing with special emphasis on e-journals, pricing models of e-journals, e-books and factors influencing the electronic resource sharing between STM and LH&SS respondents (Bhattacharya & Siddiqui, 2003; Manjunatha, 2003; Sinha, 2004). *Whereas, from this study it is found that e-dictionary, e-thesis, offline databases, blog used by STM respondents are comparatively higher than LH&SS respondents.*

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). On the other hand, the use and subsequent study of CD-ROM databases in areas like Africa or India by end-users in libraries were relatively very rare at that time (Hsieh-Yee, 1993; Okpala & Igbeka, 2005; Kamila 2007). *Whereas, from this study; it is also found almost similar types of result. The usage pattern of most of the respondent's for CD-ROM databases is very less. Now people are shifting from offline database to online database and access to web resources.*

Various studies were conducted earlier to know the usage patterns of electronic and printed documents provided by university library at India which reveals that the library users are not fully satisfied with the document available in the library. Moreover it was also found that library users had less awareness towards the availability of resources within library (Sinha, 2004; Gupta, 2011; Sinha, Bhattacharjee & Bhattacharjee, 2013; Pandey *et. al.*, 2015). *Whereas, this study; it is found almost similar types of results, which indicates that most of the respondents also feel that library collections are not sufficient to meet their requirements.*

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). *Whereas from this study; it is found almost similar types of results, STM library users are extremely using the Library Consortia in compare to LH&SS library users, which may be due to less availability of e-resource in their respective fields or may be less awareness among Library Consortia.*

Mishra and Gohain (2010) carried out a study on use and usage statistics of electronic resources at central library, Tezpur University; which highlights the use, evaluation and management of e- resources in Central Library, Tezpur University where the user community take the opportunities to make the best use of e- resources provided by the said library. Natarajan *et. al.* (2010) conducted a study on use and user perception of electronic resources in Annamalai University. The study reveals that despite the availability of wide range of e-resources the frequency of their use was low which was due to lack of time, lack of awareness, lack of subject coverage and slows downloading. *Whereas from this study; it is found almost similar types of results, the library users from Tezpur University access e-journals to a maximum extent (85.9%); which is followed by 79.8% respondents belongs to Dibrugarh University.*

Many studies were conducted to discuss the necessity for increasing the information resources in electronic form to meet the current demand of academic libraries and institutions at affordable cost and also discuss the need and importance of e-journal consortium and resource sharing among libraries and information centers (Prakash, 2015; Singh & Arora, 2015; Singh, Singh & Singh, 2015). *Whereas from this study; it is found that aware of Library Consortia are quite good among all four universities under the study of Assam. But most of the respondents belong to Tezpur University and Dibrugarh University aware of Library Consortia Services.*

Most of the studies have been conducted on Internet Use pattern of the academic community and local population of Barak Valley (Sinha, 2004); Information Communication Technology (ICT) and Internet Awareness Amongst the College and University Teachers (Sinha, 2008), impact of UGC INFONET Digital Library Consortium of the Maharaja Sayajirao University of Baroda (Bhatt & Joshi, 2009), ICT and Internet Literacy for accessing to E-Resources available under UGC-INFONET Digital Library Consortium in North Eastern Region of India (Sinha, 2011, Sinha, 2012). *Whereas from this study; it is found that the consortia which is being subscribed by the universities libraries of Assam, majority respondents aware of UGC-INFONET Digital Library Consortium which is followed by respondents aware of DeLCON Consortium whereas only few respondents aware of INDEST Consortium. Thus, it is found that UGC-INFONET Library Consortium is famous consortium among the respondents.*

Various literatures were found related to the E-resource Consortia. The result of the study shows the most preferred e-publishers such as ACM Digital Library, IEEE/IEE Electronic Library, Science Direct of Elsevier, and Springer Link (Sahoo, Kshyanaprava & Jeevan, 2005), ASME, Emerald, Professional Engineering, Royal Society of Chemistry, Sage, Springer, Taylor-Francis, Wiley, World scientific, etc (Malviya & Kumar, 2007). *Whereas from this study; it is found that the majority of the respondents (81.9%) preferred “Emerald” journal most of the time, which is placed at 1st rank which is followed by 72.6% respondents preferred “Oxford University Press” and placed at the 2nd rank order, whereas 67.8% respondents preferred “Science Direct” journals and placed at the 3rd rank order.*

Review of literature related to the UGC-INFONET shows that how UGC-INFONET bring various forms of e-resources available to the universities (Kembhavi & Murthy, 2003; Murthy et. al., 2005; Gupta, 2006), on usage of UGC-INFONET e-journal

consortia in north-east universities (Chand, Devi & Chauhan, 2006; Chand.*et. al*, 2008), use of e-journals and databases subscribed by UGC- INFONET consortium by the users of University of Mysore (Nikarn & Pramodini, 2007), Aligarh Muslim University (Bharati & Zaidi, 2008), Manipur University (Veenapani, Singh & Devi, 2008), among researchers of IT-BHU (Upadhyay & Chakraborty, 2008), universities of Gujarat (Joshi, 2014). *Whereas from this study; it is found that the majority of the respondents feel UGC-INFONET Digital Library Consortium is one of the most well know Library Consortia among all others consortia subscribe by the university. This is may be due to majority library users are getting their required material by using UGC-INFONET Digital Library Consortium. It is also found that UGC-INFONET Library Consortium is known by respondents belong to Dibrugarh University to maximum extent which is followed by the respondents belong to Tezpur University.*

Review of literature related to the INDEST Consortium shows that selection of e-resources, review of e-resources, license agreement with publishers, fair use, usage analysis of various e-resources, economics of expenditure, and future plan for the consortium (Arora & Agrawal, 2003; Joshi, 2005; Mudhol & Vasanth, 2005; Nisha, Ali & Ara, 2008; Ratnakar, Prerna & Satyanaryana, 2009; Sahoo & Agarwal, 2012; Srivastava & Verma, 2014; Choudhury & Unindajyoti, 2015). *Whereas from this study; it is found that only 14.2% respondents aware of INDEST Consortia. Further, university wise responses shows that very few respondents belong to Assam University use INDEST Consortia, which is followed by most of the respondents belong to Tezpur University.*

Gupta (2010) also carried out a study on comparative study of India, China and South Korea in S&T publications output during 1999-2008. The present paper compares overall S&T publications output of India, China and South Korea across twenty broad subjects as defined by Scopus bibliographical database in terms of annual growth rate,

national publications share, h-index, share of international collaborative papers and high-cited papers. Patra, Swapan Kumar (2014) conducted a study on Google Scholar-based citation analysis of Indian library and information science journals. This study also suggested to the researchers to increase collaborations for better visibility of their research. *Whereas from this study; it is found some different types of results. It shows that majority of the respondents belong to Tezpur University have more numbers of publications which is followed by most of the respondents belong to Dibrugarh University; have their own publications. Further, it is found that respondents belong to STM have more publication in compare to the respondents belong to SSH&L.*

Thus, discussion part is carried out as per the results of reviews of earlier studies by matching with finding of the current study. These studies help to identify the common factors mainly to understand the similarity; whereas mismatched earlier studies leads to identify the various factors mainly to understand the gaps or changing patterns of the respondents.

6.4 Meeting the Objectives of the Study

Keeping in view the usefulness of e-resources/e-consortia and the usage pattern of e-resources/e-consortia in the university libraries of Assam by the faculty members and the research scholars of both the library users of “Linguistics, Humanity & Social Sciences” as well as Science Technology & Management (LH&SS) in Universities of Assam, it was proposed to study the area with few basic objectives. These objectives are given due heed while preparing the thesis, the way in which the objectives are studied and the results received are described here briefly in the following points.

Objective 1: To examine the e-resource usage pattern among the university library users of Assam.

- From the study, it is found that all respondents/ library users are aware of Internet/e-resources and extensively using Internet to access e-resource and others facilities in their day to day activities.
- Further, the study highlights that majority of the library users use e-journals e-books, e-dictionary, e-thesis, offline databases, online database, blog and others e-resources respectively.
- Again specifying about the other e-resources, majority of the respondents generally used e-dictionary, wiki, e-newspaper, e-news alerts, etc.
- Moreover, majority of the respondents do not use offline databases, online database, and blog respectively.
- The study highlights that the library users from Science, Technology and Management (STM) use e-resources available in the university libraries of Assam to a maximum extent in compare to the library users from Linguistic, Humanities and Social Science (LH&SS).
- Again, majority of the respondents belong to STM use e-book, whereas very less number of respondents belong to LH&SS who use e-book.
- Further, it is also found that the use of E-Dictionary , E-Thesis, Offline databases, , Online database and other resources used by STM respondents are comparatively higher than the respondents of LH&SS.
- These shows that usage pattern of e-resources by the library users of Science, Technology and Management (STM) is high in compare to the library users of Linguistics, Humanities and Social Science (LH&SS) respondents.

Objective 2: To examine the preference of e-resources by the university library users of Assam.

- University wise data analysis shows that the library users from Tezpur University access e-journals to a maximum extent (85.9%); which is followed by 79.8% respondents belongs to Dibrugarh University whereas 87.1% and 79.8% respondents belong to Assam University and Gauhati University respectively access e-journals to a maximum extent.
- Further, the usage of e-book is highest in Dibrugarh university (67.1%) which is followed by 54.7% library users belong to Tezpur University.
- Again specifying about the other e-resources, majority of the respondents generally used e-dictionary, wiki, e-newspaper, e-news alerts, etc.
- The study highlights that the library users from Science, Technology and Management (STM) use e-journals to a maximum extent in compare to the library users from Linguistic, Humanities and Social Science (LH&SS) use e-journals.
- Again, majority of the respondents belong to STM who use e-book, whereas very less number of respondents belong to LH&SS use e-book.
- Further, it is also found that the use of E-Dictionary, E-Thesis, Offline databases, Online database and other resources used by STM respondents are comparatively higher than the respondents of LH&SS
- The study highlights that majority of the library users from Science, Technology and Management (STM) use e-journals to a maximum extent, which are followed by e-books, e-dictionary, e-thesis, offline databases, online database, blog and others e-resources respectively.

- But university wise result depicts that the library users of Tezpur University give first preference to e-journal whereas the library users of Dibrugarh University give first preference to e-books which is followed by e-dictionary , e-thesis, offline databases, , online database and other e-resources.
- The study also highlights that the library users from Science, Technology and Management (STM) use e-journals to a maximum extent in compare to the library users from Linguistic, Humanities and Social Science (LH&SS) use e-journals.

Objective 3: To examine the usefulness of e-resources available under library consortia and the preference of e-journals among the university library users of Assam.

- The study shows that out of total respondents who are aware of Library Consortia, majority of the respondents (98.5%) belong to Science, Technology and Management (STM) Stream whereas 81.6% respondents from the Humanities and Social Science (LH&SS) are aware of Library Consortia.
- It is also found that majority of the respondents belong to Tezpur University (96.9%) aware of library consortia; which is followed by 91.4% respondents belong to Dibrugarh University; whereas 88.2% respondents belong to Assam University and 85.3% respondents belong to Gauhati University.
- The study shows that majority of the respondents belong to Faculty Members (48.9%) rate consortia services of their own university as

“highly useful”; whereas only 19.7% respondents belong to Research Scholar rate it as “highly useful”.

- Moreover, majority of the respondents (66.7%) belong to Tezpur University rate consortia as “highly useful”; which is followed by only 25.9% respondents belong to Assam University rate consortia as “highly useful”. Further, 30.9% and 29.3% respondents belong to Dibrugarh University and Gauhati University rate consortia as “useful”.
- Further, it is also found that majority of the respondents belong to STM (45.1%) rate consortia as “highly useful”; whereas only 19.6% respondents belong to SSH&L rate consortia as “highly useful”.
- Majority of the respondents (48.5%) belong to STM feel the services of UGC-INFONET satisfactory; whereas 42.8% belong to SSH&L feel the services of UGC-INFONET somehow poor.
- This leads to conclude that SSH&L respondents are not getting the required e-resources properly from UGC-INFONET consortia. Thus initiative must be taken into consideration to include more numbers of e-resource in UGC-INFONET consortia especially keeping in view the requirement of SSH&L respondents.
- It is also found that majority of the respondents (14.2%) feel the services of AICTE-INDEST as poor whereas and 23.6% numbers of respondents feel the services of DeLCON consortia as very poor.
- This leads to conclude that majority of the respondents from both the stream are not getting the required e-resources from AICTE-INDEST and DeLCON consortia. This may be due to lack of availability of e-resources of their demand from those consortia which are mainly designed for the

engineering or bio-technology background respondents. But as STM respondents also are not fully satisfied with the INDEST and DeLCON consortia, thus initiative must be taken to include more numbers of e-resource in INDEST and DeLCON consortia services.

- These finding shows that awareness of Library Consortia are quite good among all the four universities of Assam under study. But most of the respondents belong to Tezpur University and Dibrugarh University is more aware of library consortia services.

Objective 4: To find out the problems, prospects and measures for improving the usage of e-resources available under library consortia in the university libraries of Assam

- The study shows that out of total respondents, the most of the respondent are facing problem due to “Less no. of relevant journals”. Again comparing within University wise responses, it is observed that majority of the respondents belong to Assam University and Gauhati University are facing the problem of non-adequate e-journals whereas respondents belong to Tezpur University and Dibrugarh University are not facing it as major problems.
- Again, it shows that majority of the respondents are facing problems due to the difficulty in judging relevant information which is followed by “problem in accessing relevant information from e-resources/ e-consortium” whereas respondents also face “problems on accessing articles in their own field”.

- Further, University wise result shows that majority of the respondents belong to Tezpur University face the problem due to difficulties in judging relevant information whereas majority of respondents belong to Dibrugarh University face problems while accessing articles in their own field.
- Majority of the respondents face problem due to "lack of ICT knowledge", "perpetual Information Retrieval Problems", "long time for downloading article", "and lack of proper infrastructure facility “,” slow Internet connectivity" respectively.
- Again some respondents face problems due to some other factors like non-availability of full text articles, less numbers of subscribes journals in the consortia especially in SSH&L field, non- availability of linguistic field journals within consortia, etc.