

## **A Study of Library Use and Services in Central Universities of North-East, India**

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### **Abstract**

Recognized as the realistic value and hub center of learning, libraries since their primitive stage of establishment have been imparting services in teaching, learning and research. Induction of ICT in library precipitated to a change in knowledge acquisition, organization, dissemination, representation and preservation. Further, the espousal of technology precipitated many new form of learning procedures. All the developments in libraries centre round to impart services to the users. The paper focuses the pertinent issues relating to the use of library resources by the users and services imparted by the central universities of North East, India.

**Keywords:** Library Services, Information Sources, E-resources, Consortium, Central University, India.

### **Introduction**

Institution of central universities in various states primarily aims at providing high academic value and North-East India is no exception to it where, eight central universities excluding one Agricultural university function in different states to develop efficiency, skills through incredible academic value for a sustainable growth of the society. The libraries attached to these central institutes perform as the backbone, strength and soul for the academic development through supplementing various information resources to the academic mass including students and research scholar. Equipped with modern technologies, the library attached to each of the eight central universities in the North-East India is discussed in Table 1 which not only facilitates innumerable sources of reading materials to the students, research scholars and faculty members but also contribute to mounting capacity building. Further, in the present technological age, e-resources play a pragmatic role in providing the up to date, multiple and nascent information to the user communities by the libraries.

Table 1

*Alphabetical List of Central Universities in North-East, India*

S.N	Name of the University	Year of Estt.	State	Place
1	Assam University (AU)	1994	Assam	Silchar
2	Manipur University (MU)	2005	Manipur	Imphal
3	Mizoram University (MZU)	2001	Mizoram	Aizawl
4	Nagaland University (UN)	1994	Nagaland	Kohima

S.N	Name of the University	Year of Estt.	State	Place
5	North Eastern Hill University (NEHU)	1973	Meghalaya	Shillong
6	Rajiv Gandhi University (RGU)	2008	Arunachal Pradesh	Itanagar
7	Sikkim University (SU)	2007	Sikkim	Yangang
8	Tezpur University (TU)	1994	Assam	Tezpur
9	Tripura University (TRU)	2007	Tripura	Agartala

Source: [http://mhrd.gov.in/central\\_univ\\_eng](http://mhrd.gov.in/central_univ_eng) (Accessed on 20.5.14)

### Objectives of the Study

The primary objectives associated with the present study are as follows.

- To assess the resources available in the libraries under study;
- To ascertain the use of library resources by the users in central university libraries in North-East;
- To find out the purpose of using the e-resources in the libraries;
- To determine the awareness and place of access of consortium based e-resources;
- To take cognizance of users on e-resources
- To determine the satisfaction/dissatisfaction level of the users with regard to library services; and
- To predict problems encountered by the users while accessing e-resources

### Scope of the Study

A sound collection of e-resources and sharing them equally among the central university libraries in North Eastern States, substantially add research input for the scholars pursuing their works in inter-disciplinary areas in the respective universities; as a result, developing an Integrated Library Network/ Library Consortium among the central university libraries of North-Eastern States has become imminent in view of their strategic locations; and this is the scope of the study. The scope of the study further extends to i) Library Networking, ii) Internet iii) Networking and Technologies, iv) Collection and Management of e-resources, v) Developing policies for building of digital collections, vi) Requirements of electronic infrastructures for digitization, and etc. A viable model of library network and consortia in North-East Region was among all the nine libraries under the study.

The present study, however, excludes the study of any other central organization libraries and Agricultural university prevailing in the North-East. Furthermore, the two universities of Tripura University and Tezpur University have been excluded from the purview of study due to non-receipt of the filled-in questionnaires from the users. As a result, the study is limited to 7 central university libraries and the data is up to 2011. Moreover, the scope of the study is limited to the proposal for effective use of resources among the library members of each University covered under UGC-INFONET Digital Library Consortia.

### Methodology

A structured questionnaire covering various relevant facets relating to research topic was prepared and submitted to the respective librarian of all nine central universities from which, 7 (seven) filled-in questionnaires were received (constituting 78% responses). Further, a

stratified sampling technique was used to obtain representative samples as the user samples constituting a heterogeneous group. The total populations were divided into several sub-groups which were individually homogenous. The items were selected from each stratum to constitute a sample. Accordingly, 50 questionnaires were distributed to each of the library users constituting faculty members, research scholars and the students of all the nine libraries of central universities which formed a total population of 450 excluding 7 librarians. As discussed, non-receipt of the questionnaires from two university libraries limited the population size to 350. Thus, out of 350 questionnaires, 312 filled in questionnaires were received from the users of the libraries of seven central universities which formed 89% in total leaving behind the non-respondent 38 (11%).

Apart from the above method, interview and observation methods were applied to ascertain the view from the users encountering problems while accessing the e-journals. The filled-in questionnaires both from the Librarians and the users were scrutinized, tabulated, and analyzed to draw inferences.

### **Review of Literature**

While reviewing articles in the literature related to this field of study, it was found that most of the authors have emphasized on developing skills, collection management of both traditional and e-resources, developing user-centric collections etc. for providing the effective services and attract the users in maximizing the use of library resources (Dinkins (2003), Edward, 2005; Knievel, Wicht, and Cannaway, 2006; Korobil, Tilikidou, and Delistavrou, 2006; Sangamesh, 2006. (...name the authors...). More importantly, providing quality services in academic libraries has become a major and challenging task as the librarians require developing the skills in operating various library functions as the technology and automation have changed the way users perceive the libraries. In such a scenario, the librarians also requires to re-evaluating themselves to tune to the present need of the users.

Geoffrey, (2011) discussed the results of a 2010 survey of LIS selectors at ARL institutions/libraries that do not support an ALA-accredited program to learn how and why LIS materials are collected at these institutions. Tyagi (2011) in his study stressed upon to improve the quality of library services and the professionals need to change their mind setup in view of the changing environment. Osagie, (2008) described that a balanced and usable collection is an important aspect of library services. He further opined that academic library collections are built to meet specific research and information needs of the institution's academic programmes and the curriculum is the frame upon which the library collection is built. All programs must be covered to facilitate effective teaching, learning, research, and community services. Collection analysis and evaluation are crucial to ensuring efficient, effective, and usable collections. Sangamesh (2006) while conducting a study on use of information sources in Delhi Public Library by the users revealed that, the users are more inclined to use the print resources. Knievel, et al, (2006) analyzed the holdings, circulations, and interlibrary loan (ILL) borrowing requests of the English-language monograph collection at the University of Colorado at Boulder. Data for each area were mapped to conspectus subject areas, using Library of Congress Classifications, and then compared. The resulting data and subject distributions were analyzed by overall holdings, transactions per item,

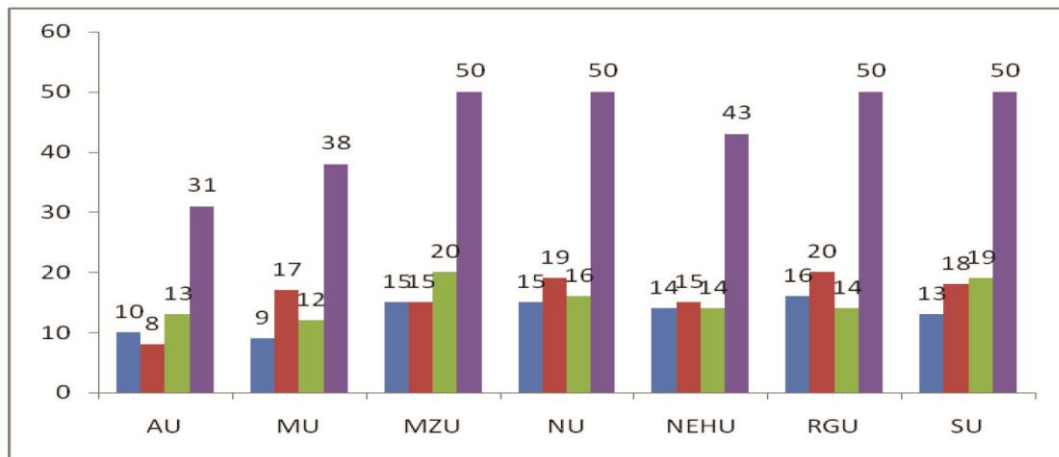
percentage of collection circulated, and a ratio of ILL holdings to requests. The method of analysis used in this study could be fruitfully applied to other research collections to assist with remote storage, preservation, and collection development decisions. Korobil, Tilikidou and Delistavrou, (2006) pointed out that majority of the faculty of Technical Educational Institution, Thessalonika, Greece use less electronic resources than printed medium for accessing their informational needs. The study further indicated that the use of electronic resources is higher in the School of Business Administration and Economics among those who hold a Doctorate Degree. Chopra and Banerjee (2005) in their paper while discussing on the use of public libraries in Punjab inferred that, the library needs to be augmented in terms of services to attract more users. Edward (2005) discussed the challenges of electronic publishing, and puts issues of collection development into perspective. It provides students and practitioners with a broad understanding of the collection development process. Each chapter has been expanded and updated. Agee, (2005) encouraged the librarians to be more informed about the value of collection evaluations. He further stressed upon the user-centered evaluation, physical assessment, and specific subject support. Moreover the author made strategies for evaluating collections, regardless of the kind of library or size of the collection. He discussed that evaluation allows librarians a more thorough knowledge of what already exists, what may be needed, and whether collection development goals are being achieved. Dinkins, (2003) assessed the current collection development practices at Stetson University with respect to the circulation of books purchased in support of selected departmental curricula. Circulation statistics for books selected by five academic departments over a five-year period are compared with those of librarian selections in corresponding subject areas.

### Results

Irrespective of the type of members of the nine central universities in North-East, which ranged from faculty members and research scholars to students, 50 questionnaires were circulate to each university. For a better understanding, in Table 2 followed by Graph 1 the number of each type of members in different universities who have responses to the questionnaires are summarized.

Table 2  
*Summary of the gathered data*

Sl. No.	University	Category of users			Total	Questionnaire circulated	%
		Faculty members	Research Scholars	Students			
1	AU	10	08	13	31	50	62
2	MU	09	17	12	38	50	76
3	MZU	15	15	20	50	50	100
4	NU	15	19	16	50	50	100
5	NEHU	14	15	14	43	50	86
6	RGU	16	20	14	50	50	100
7	SU	13	18	19	50	50	100
Total		92	112	108	312	350	89



**Graph1. Summary of the gathered data**

Analysis of Table 2 reflects that the respond rates from MZU, NU, RGU & SU are 100%, but NEHU, MU and AU's 86%, 76% and 62% respectively. Moreover, out of three categories of users, the Research Scholars respondent rate is the highest i.e, 112, compared to the Students and Faculty members which were 108 and 92 respectively.

### Visit of Library

Visiting the libraries irrespective of the type of users is mandatory to elicit information for various academic assignments. The data gathered from the visiting of libraries of various universities through the questionnaire has been placed in the Table3 which reflects the percentage of the visitors and of all the three groups of users as mentioned earlier. The information was gathered through choosing one of the two options of 'Yes' or 'No'.

Table 3

#### Visit of Library

Sl.No.	University	Yes	%	No	%	Total
1	AU	31	10	00	00	31
2	MU	37	12	01	08	38
3	MZU	47	16	03	23	50
4	NU	50	17	00	00	50
5	NEHU	40	13	03	23	43
6	RGU	44	15	06	46	50
7	SU	50	17	00	00	50
	Total	299 (96%)		13 (4%)		312

Continuous visit to library happens to be one of the major achievements for the library, which shows that, the libraries provide valuable information in addition to the reading materials to the users. The table indicates that, faculty members, research scholars and the students from the libraries under survey responded well and it is interesting to note that, 299 users out of 312 visited the library that constitute about 96 % of the total number of the members while, 13 members which is about 4% did not visit the libraries. This further visualizes that, the libraries are imparting valuable library services both in print and electronic

form which is a commendable step of the libraries. Moreover, the library services are imparted effectively due to the availability of technically qualified librarians and other professionals in the libraries under survey.

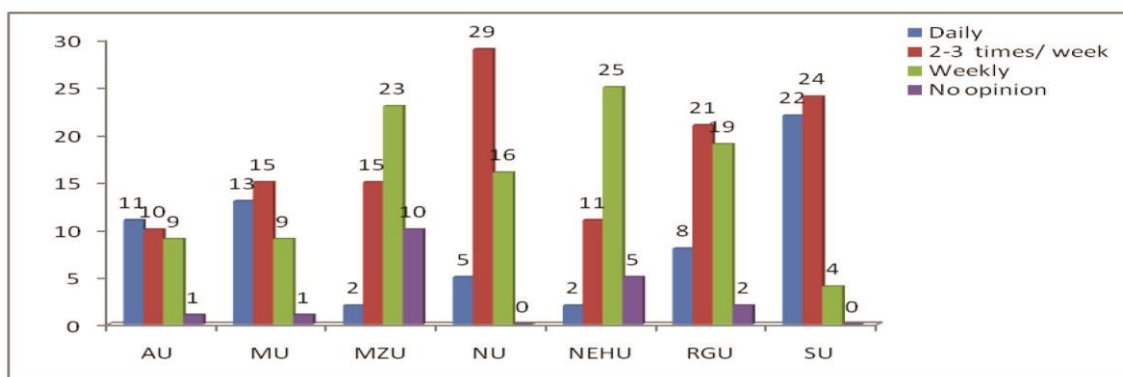
### Frequency of Visit to the Library

Frequency of visiting the library is another segment to assess the library services in using the library resources.. Data relating to this segment of the libraries covered under study is shown in Table 4 followed by Graph 2 for better understanding.

Table 4

#### *Frequency of Visit to the Libraries*

Sl.No.	Frequency	University							Total	%
		AU	MU	MZU	NU	NEHU	RGU	SU		
1	Daily	11	13	02	05	02	08	22	63	20
2	2-3 times/ week	10	15	15	29	11	21	24	125	40
3	Weekly	09	09	23	16	25	19	04	105	34
4	No response	01	01	10	00	05	02	00	19	6
	Total	31	38	50	50	43	50	50	312	100



Graph 2: Visit to the Libraries

Analysis of the Table 4 regarding frequency of visit to the libraries of the universities covered under study reflects that, 125 of users comprising of faculty members, research scholars and the students stand at the apex that form 40% who visited the library 2 to 3 times per week followed by 105 (34%) of users who visited the library once a week and 63 (20%) visit the library every day. 19 of users that constitute 6% of the total members preferred not to give their responses. This shows that regular visit to the library by the users are less due to various academic assignments.

Further, while analyzing the frequency of visiting members of each university it was observed that, the number of users of SU are at the apex i.e, 22; followed by 13 MU visitors and 11 AU visitors who visited the library daily and kept the first, the second and the third positions respectively. Moreover, 29 users of MU followed by 24 members of SU and the 21 RGU users visit the library 2 to 3 times per week. It is interesting to note that, the weekly visitors are more in NEHU i.e, 25; following were 23 MZU users and 19 RGU members.

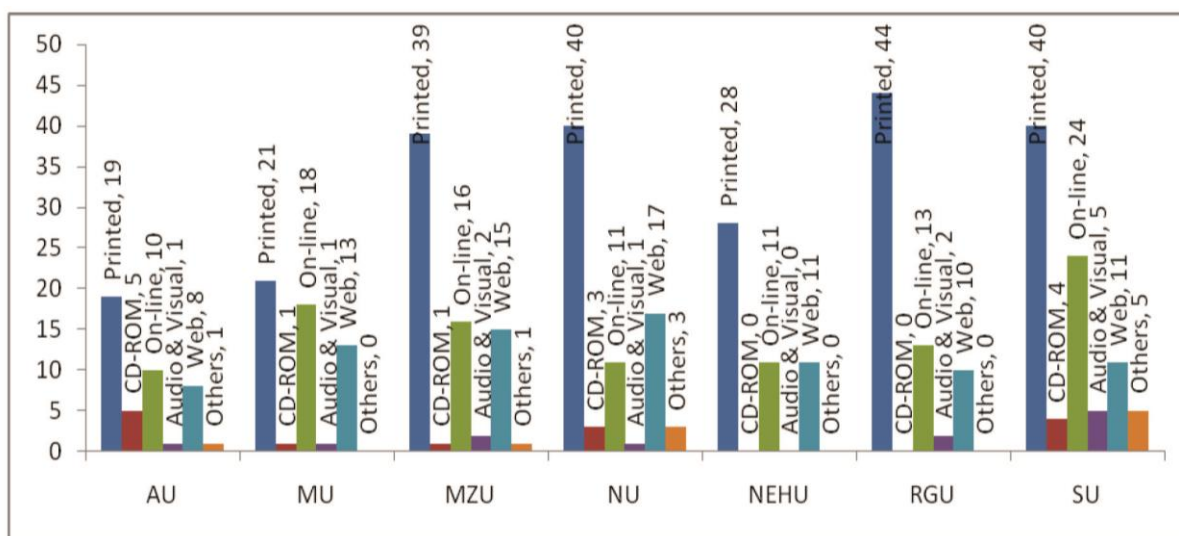
There may be several factors associated with the users who were not in a position to visit the library due to the factors as discussed.

**Preference of Information Sources**

Information gathering and dissemination are of the prime services of libraries. Libraries facilitate the users with their need-based resources. A library as such takes all out measures to provide the need based and useful information to its clientele. An attempt was made to ascertain the use of most preferred resources from among the users of the university libraries under the purview of the study. The data relating to this component was placed in Table 5 and supplemented with Graph 3. It was noted that, the participants were permitted to choose more than one of the given options, as a result 455 options were chosen at last.

Table 5  
*Preference of Information Source*

Sl. No.	Information Source	AU	MU	MZU	NU	NEHU	RGU	SU	Total	%
1	Print	19	21	39	40	28	44	40	231	51
2	CD-ROM	05	01	01	03	00	00	04	14	03
3	On-line	10	18	16	11	11	13	24	103	23
4	Audio & Visual	01	01	02	01	00	02	05	12	03
5	Web	08	13	15	17	11	10	11	85	19
6	Others	01	00	01	03	00	00	05	10	02
	Total	44	54	74	75	50	69	89	455	455



Graph 3. Preference of the Information Sources

Providing the right information sources to the right user at the right time is significant in library services. The choice of information sources, however, differs from user to user due to type of academic pursuit i.e, teaching, learning, research, writing of term paper and etc. Data relating to this facet of the university libraries under the study tabulated above reflected that, the highest number of users i.e, 231(51%) opined that printed resources were the most

preferred source followed by 103 (23%) numbers who favored on-line resources and 85 (19%) users who privileged for web resources. Less number of users, however, put their options for using CD-ROM 14 (3%), Audio & Visual 12 (3%) and etc. as the preferred type of information resources. Further, the users have given more than one options according to their choice for gathering information and thus the number comes to 455 instead of 312 and accordingly, the analysis has been out of a total number of 455 instead of 312. This further signifies that, the users are slowly getting inclined to use the print and electronic information resources which are a healthy sign for both the users and the libraries under study.

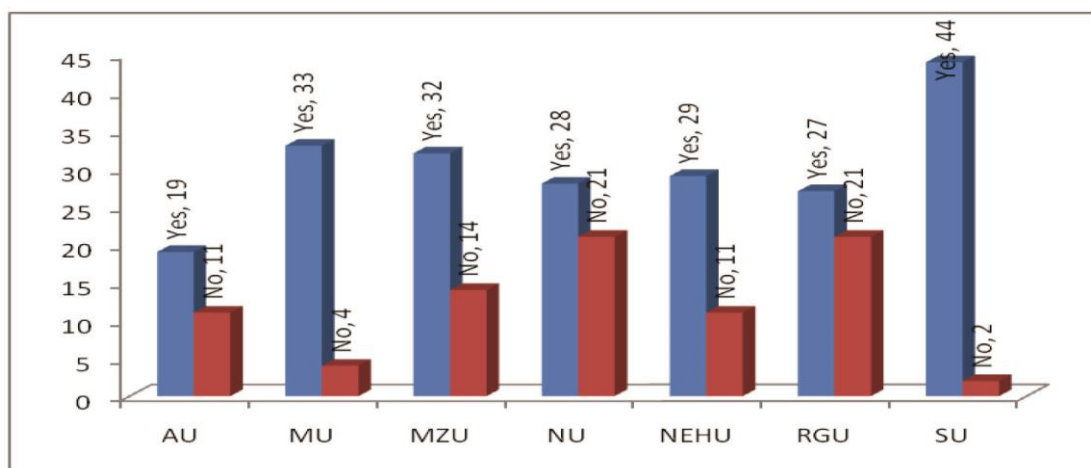
### Use of Electronic Resources

Electronic resources have a pragmatic value for all types of users that can be accessed through multiple modes. Their use has gained momentum in today's electronic environment, as they are more up-to-date, and can be accessed round the clock without any geographical limitations. Through various search techniques, electronic resources provide extensive links to explore additional resources or related contents. Such resources add substantial value to research. There has been a rapid urge of the user community to get more and more information online. Data relating to the use of electronic resources obtained through the questionnaire have been placed in Table 6 followed with Graph 4 for a better visualization of the discussions.

Table 6

#### Use of Electronic Sources

Sl.No	University	Yes	%	No	%	Total
1	AU	19	9	11	13	30
2	MU	33	16	04	5	37
3	MZU	32	15	14	17	46
4	NU	28	13	21	25	49
5	NEHU	29	14	11	13	40
6	RGU	27	13	21	25	48
7	SU	44	21	02	2	46
	Total	212 (72%)	101 or 100	84 (28%)	100	296



Graph 4. Use of Electronic Sources



Analysis of Table 6 reflects that out of 312 , 296 users responded to the questionnaire while, 16 users did not choose any option. Out of the 296 respondents a total number of 212 (72%) are in favour of the electronic resources while, 84 of them (28%) are negative in their approach. Further, 44 (21%) users of SU followed by 33 (16%) of users of MU and 32 (15%) users of MZU stand at the top of the list respectively for giving cognizance to use the electronic resources which is again a healthy sign and also signifies the effort of the respective library who provide the electronic services alongwith other services. Still much initiatives are needed by the other libraries to orient the users for use of the electronic resources.

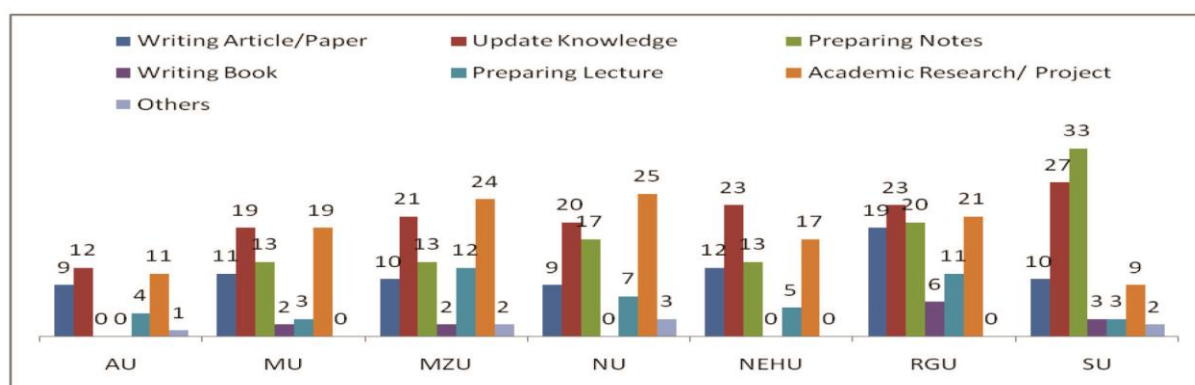
### Purpose of using the e-resources

Data relating to the purpose of using of electronic resources by the users comprising of faculty members, research scholars and the students of various universities covered under study is placed in Table 7 coupled with Graph 5 for a better distinction of the component.

Table7

*Purpose of using of e-resources*

Sl.No.	Purpose	AU	MU	MZU	NU	NEHU	RGU	SU	Total	
1	Writing Article/Paper	09	11	10	09	12	19	10	80	15%
2	Update Knowledge	12	19	21	20	23	23	27	145	28%
3	Preparing Notes	00	13	13	17	13	20	33	109	21%
4	Writing Book	00	02	02	00	00	06	03	13	02%
5	Preparing Lecture	04	03	12	07	05	11	03	45	09%
6	Academic Research/ Project	11	19	24	25	17	21	09	126	24%
7	Others	01	00	02	03	00	00	02	08	08%
	Total	37	67	84	81	70	100	87	526	



Graph 5. Purpose of using of e-resources

The users, irrespective of the type of various universities covered under study use the electronic resources for multiple purposes and hence, the number of responses exceeded to 526. As there are many choices in electronic resources, 145 (28%) respondents preferred to use the e-resources to update their knowledge; 126 (24%) respondents used the electronic resources for carrying out their Research Projects and 109 (21%) preferred preparing the

notes. This is, however, a recognised step for the users of the university libraries and this shows that, the respondents irrespective of the type of information technology for downloading and using electronic resources. In all the cases, the users preferred the library as the platform to perform the multiple academic works.

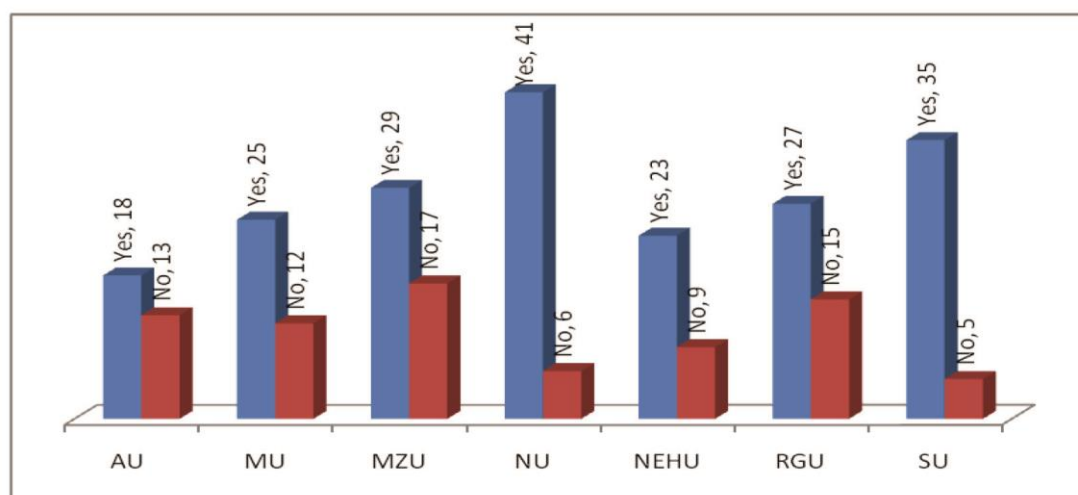
### Use of UGC InfoNet Digital Library Consortium and INDEST Consortium

UGC InfoNet Digital Library Consortium and INDEST Consortium happen. To be the most viable platform to access the electronic resources especially for research and development. Therefore, to ascertain the choice of the e-resources through consortium by the users of the libraries covered under study, data were obtained through the questionnaire and have been shown in Table 8 and supplemented with Graph 6.

Table

*Use of UGC InfoNet Digital Library Consortium and INDEST Consortium*

Sl.No	University	Yes	%	No	%	Total
1	AU	18	9	13	17	31
2	MU	25	13	12	16	37
3	MZU	29	15	17	22	46
4	NU	41	21	06	8	47
5	NEHU	23	12	09	12	32
6	RGU	27	14	15	19	42
7	SU	35	13	05	6	40
	Total	198 (72%)		77 28%		275



Graph 6. Use of UGC InfoNet Digital Library Consortium and INDEST Consortium

While analyzing Table 8 it was found that, out of a total number of 312 respondents, 275 respondents comprising of the faculty members, research scholars and students responded to the question, which comes to 192 (72%) leaving behind a non-respondent rate to the question 77(28%). Moreover out of the 275 respondents, a good chunk of respondents i.e, 198 (72%) in total access both UGC InfoNet Digital Consortium and the INDEST. It was further revealed that out of 198 respondents who were in a positive bent of mind access the

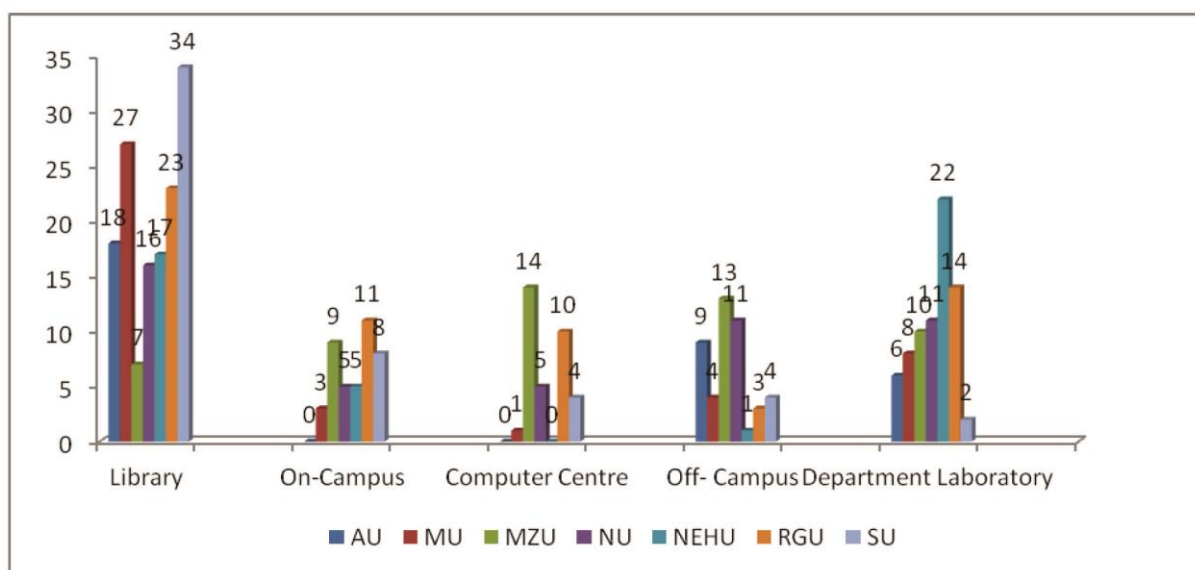
consortium services where, NU constitutes the maximum i.e, 41 (21%) followed by SU i.e, 35 (13%) and MZU 29 (15%) and thus, NU, SU and MZU stand in the ranking order as first, second and third respectively. It is surprising to note that, a good number of respondents viewed negative which may be due to the fact that, either they are not aware of the services or may be able to access to poor connectivity or not adequate services. Therefore, adequate training requires imparting to all types of users by the library to make them aware of such services that are being provided by the libraries under study.

**Place of Access of UGC-InfoNet and INDEST Consortium**

Place of access happens to be one of the dominating factors which reflects not only the services of the library but also the skills embodied among the library staff. Data relating to the same is placed below in Table 9 supplemented with Graph 7 for a better vision of the component.

Table 9  
Place of access UGC-InfoNet and INDEST Consortium

Sl.No.	Place	AU	MU	MZU	NU	NEHU	RGU	SU	Total
1	Library	18	27	07	16	17	23	34	142
		13%	19%	5%	11%	12%	16%	24%	42%
2	On-Campus	00	03	09	05	05	11	08	41
		00	7%	22%	12%	12%	27%	20%	12%
3	Computer Centre	00	01	14	05	00	10	04	34
		00	3%	41%	15%	00	29%	12%	10%
4	Off- Campus	09	04	13	11	01	03	04	45
		20%	9%	29%	24%	2%	7%	9%	13%
5	Department Laboratory	06	08	10	11	22	14	02	73
		8%	11%	14%	15%	30%	19%	3%	22%
Total		33	43	53	48	45	61	52	335



Graph 7. Place of Access of UGC-InfoNet and INDEST Consortium

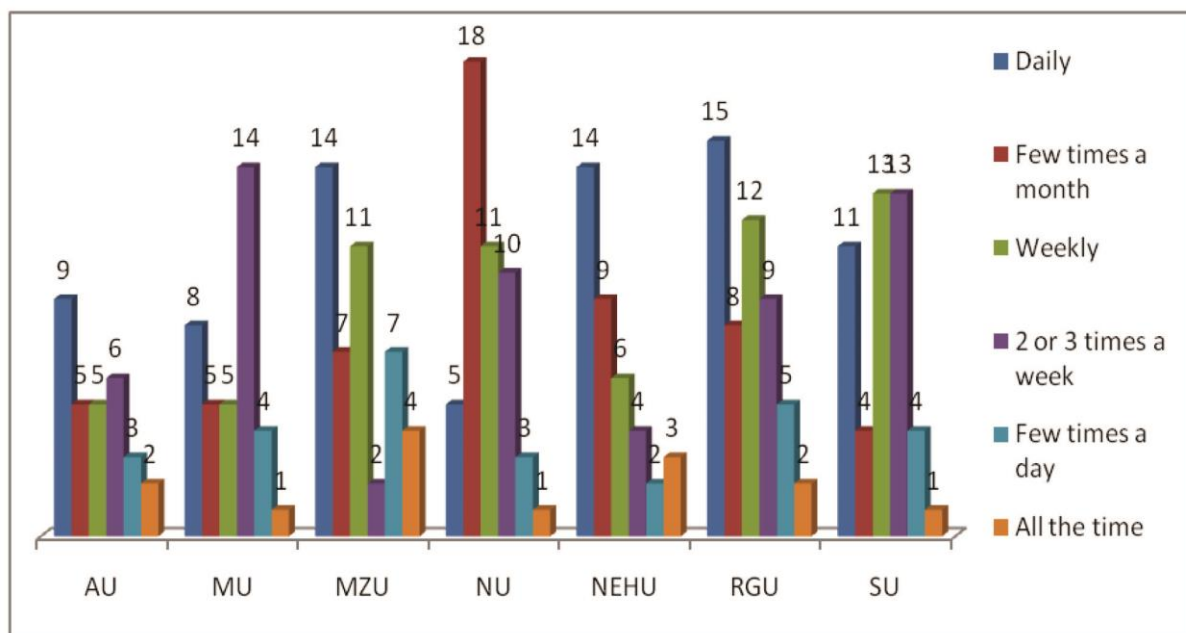
Analysis of the components mentioned above in Table 9 reflects that, maximum number of users prefer library as the right platform to access the UGC-InfoNet and INDEST Consortium reason being that, the library subscribes to various electronic journals through consortium and it facilitates the service to the users which is a commendable step. The users through are 312 in total have given the option for more than choice one and thus, it comes to 335 and accordingly analysis has been drawn. Out of 335 users, 142 users have given library as the option. Further, out of 142 users, 34 users of SU constituting 24% followed by 27 users (19%) of MU and 23 users (16%) of RGU prefer library as the access centre. This reveals that the library provides adequate internet facilities to the users to access the consortium based electronic resources. Moreover, the users prefer other modes of access of the electronic resources from consortium. Out of the five different components, the library happens to be most preferred centre for UGC-InfoNet and INDEST Consortium followed by the Department Library and Off Campus respectively. It could be visualized from the above table that, the users prefer the Department Library as the second highest access centre where out of 335 users, 73 users in total prefer the Department Library to access the electronic resources. Further, out of 73 users, 22 users (30%) of NEHU followed by 14 users (19%) of RGU and 11 users (15%) of NU preferred the Department Library as the access centre for consortium based electronic resources. This determines the fact that connectivity to all the academic departments is provided by the library for the widest benefit of the consortium service. The users equally put emphasis to access the consortium-based resources through Off Campus mode and this is possible due to the wi-fi connectivity. The above table further reveals that, out of 45 users, 13 users (29%) of MZU followed by 11 users (24%) of NU and 9 users (20%) of AU favoured the Off-campus mode to access the consortium based resources. This is however, is a commendable step and efforts require to be made by the library to facilitate with wi-fi connectivity throughout the campus along with round the clock facility for consortium-based services.

### **Frequency of Use of e-resources**

This is another important segment of the questionnaires and data relating to the the frequency of the use of e-resources provided by the users is discussed below in Table10 followed with the Graph-8 for a better understanding. The component is segregated into six broad headings.

Table 10  
Frequency of use of e-resources

Sl.No.	Purpose	AU	MU	MZU	NU	NEHU	RGU	SU	Total
1	Daily	09 12%	08 11%	14 18%	05 7%	14 18%	15 20%	11 14%	76 26%
2	Few times a month	05 9%	05 9%	07 13%	18 32%	09 16%	08 14%	04 7%	56 19%
3	Weekly	05 8%	05 8%	11 17%	11 17%	06 10%	12 19%	13 21%	63 21%
4	2 or 3 times a week	06 20%	14 24%	02 3%	10 17%	04 7%	09 16%	13 22%	58 20%
5	Few times a day	03 11%	04 14%	07 25%	03 11%	02 7%	05 18%	04 14%	28 9%
6.	All the time	02 14%	01 7%	04 29%	01 7%	03 21%	01 7%	01 7%	14 5%
	Total	30	37	45	48	38	50	46	295



Graph 8. Frequency of use of e-resources

Frequency determination of the use of e-resources equally is an important component to ascertain the usability ratio and accordingly data relating to this facet has been compiled in the above table. As it is clear, out of 312 respondents, 295 preferred to opine their views on the question which comes to 95% and 5% in total preferred no to answer the question. However, analysis presented in Table 10 reflects that, 76 number of users constituting 26% out of 295 who are the regular visitor to the libraries under study followed by 63 number of users and 58 number of users visit the library weekly and 2 or 3 times a week and thus, it constitute 21% and 20% respectively. Further, out of 50 respondents of RGU, 15 users (20%) who visit the library in a regular basis followed by MZU and NEHU where 14 users (18%) each visit the library. 11 users of SU constitute 14% who visit library daily. Thus, in the ranking order of

daily visitors to the libraries under study, RGU stands at the first followed by MZU and NEHU in second and SU in third. Still efforts need to be initiated by the faculty members to assign the students with library oriented academic work so that the students regularly visit the library and get access to e-resources. Further, the libraries also need to provide them new services which may attract the users to visit the library in a regular basis.

### Users' cognizance for e-resources

This is also equally an important constituent to determine the use of e-resources by the users of the libraries under study which are having adequate infrastructures to handle e-resources. The scholar mentioned this facet in the questionnaire and data relating to the same has been put forth below in Table 11.

Table 11

*Awareness approach of e-resources*

Sl.No.	Purpose	AU	MU	MZU	NU	NEHU	RGU	SU	Total
1.	Through Membership	01 3%	02 5%	06 12%	04 8%	09 21%	11 22%	07 14%	40 13%
2.	Through Information Bouchure of library	04 13%	01 3%	02 4%	05 10%	01 2%	08 16%	06 12%	27 9%
3.	Through Collagues	09 29%	19 50%	13 26%	16 32%	19 44%	13 26%	10 20%	99 32%
4	Through library website	13 42%	10 26%	17 34%	10 20%	09 21%	07 14%	12 24%	78 25%
5.	Through library staff	02 6%	06 16%	07 14%	09 18%	03 7%	10 20%	14 28%	51 16%
6.	Other sources	02 6%	00	05 10%	06 12%	02 5%	01 2%	01 2%	17 5%
	Total	31	38	50	50	43	50	50	312

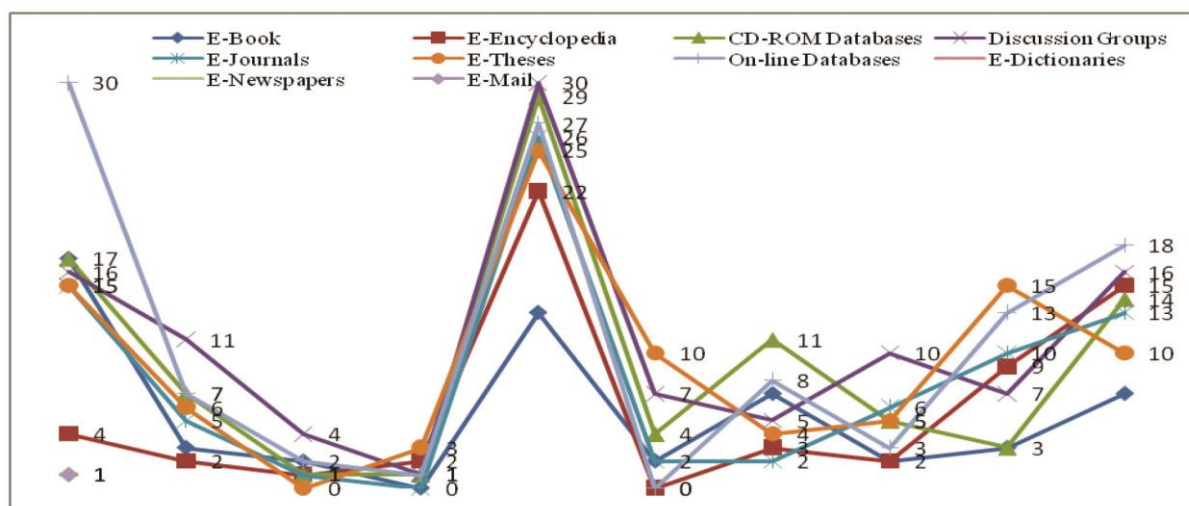
While analyzing the above Table 11 it was found that, out of the total 312 respondents, 99 users (that formulate 32%) viewed that, they were aware of the e-resources through their colleagues that seem that they have a proper communication among each other. This is followed by 78 users (25%) who viewed that they get information of e-resources through their library websites which is again positive step of the library and 51 users (16%) opined that the library staffs are the link who were aware of the e-resources. Further, while analyzing the university, it was found that out of 100% respondents from MZU, NU, RGU and SU, 19 users (44%) of NEHU are aware of the e-resources from their colleagues which however, differs with MZU where 17 users (34%) get the information through the library website. This is a step for both the library and the users as well as those who are aware of the e-resources.

### Type and Use of e-resources

The type of electronic resources for the present study have been broadly grouped under ten divisions as discussed in the Table 12 which also include the data relating to the study. The table has been supplemented with Graph 9 for better understanding.

Table 12  
Type and Use of e-resources

Sl.No.	Description	AU	MU	MZU	NU	NEHU	RGU	SU	Total	
1.	E – Book	17	4	17	16	15	15	30	114	19%
2.	E –Encyclopedia	03	02	07	11	05	06	07	41	7%
3.	CD ROM Databases	02	01	01	04	01	00	02	11	2%
4.	Discussion Groups	00	02	01	01	00	03	01	8	1%
5.	E- Journals	13	22	29	30	26	25	27	172	29%
6.	E- Theses	02	00	04	07	02	10	00	25	4%
7.	Online Databases	07	03	11	05	02	04	08	40	7%
8.	E- Dictionaries	02	02	05	10	06	05	03	33	6%
9.	E- Newspapers	03	09	03	07	10	15	13	60	10%
10.	E-mail	07	15	14	16	13	10	18	93	16%
	Total	56	60	92	107	80	93	109	597	
	Mean	5.6	6	9.2	10.7	8	9.3	10.9	59.7	
	Standard Deviation	5.50151	7.2111	8.82924	8.35397	8.16497	7.42443	10.85715	52.03428	



Graph 9. Type and Use of e-resources

Analysis of Table12 regarding the type and use of e-resources visualized that, the users of the libraries covered under study have chosen multiple options of the use of e-resources as the answer and, it comes to 597 instead of 312 in total. Therefore, analysis has been done out of 597 instead of 312. Analysis shows that, e-journals happen to be the most preferred resources compared to other types of e-resources. 172 options by the users of various universities have been given which constitute 29% in total for e-journals followed by 114 options (19%) for e-books and 93 options (16%) for e-mail and thus, ranked first, second and third respectively. This is primarily due to availability of e-journals through consortia, which are extended to the users comprising faculty members, research scholars and students of the universities under study. Further, the users are being facilitated with e-resources through networking which are reaching to the faculty members to their desktops. However, other uses get a free hand to

download e-resources from both the computer centre and the libraries of the respective universities. This is a positive and constructive step of the libraries under study. However, the users also get information about the e-resources and use the same through other options as already described. This reflects the consciousness of the users to use the consortia based e-resources. It could further deduced that, the mean value of SU comes to 10.9 while, for NU, it is 10.7 and RGU 9.3. Correspondingly, the standard deviation of SU, NU, and RGU are 10.85715, 8.35397 and 7.42443 respectively.

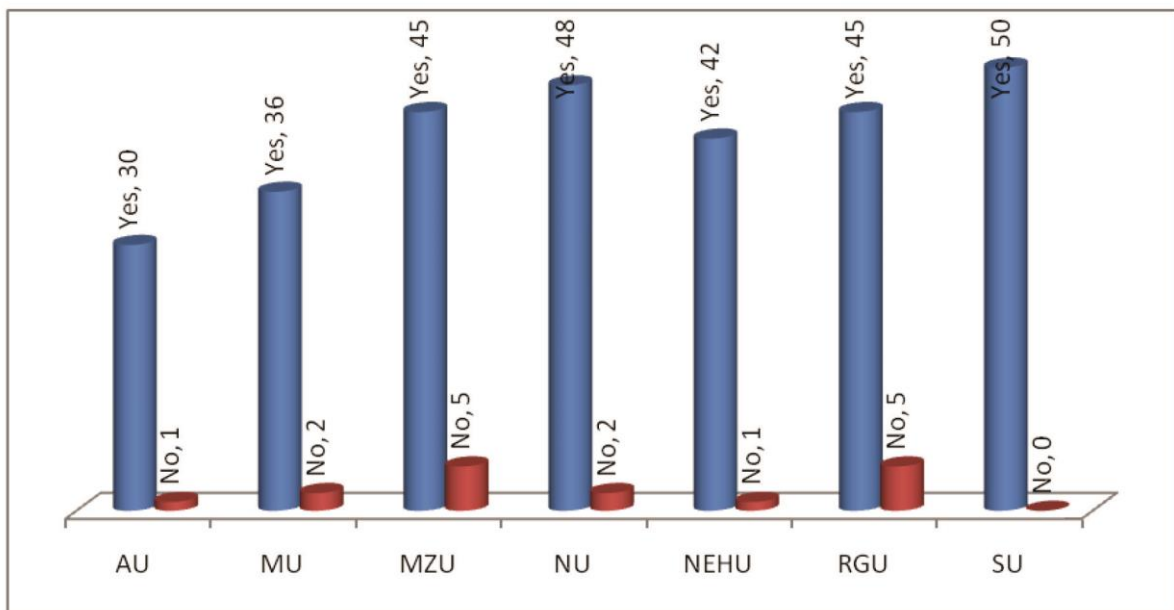
### Internet Access

Internet access has become one of the mandatory parameters for the users and the data relating to the internet access being provided to the users by different university libraries have been placed in Table13 where, the users were asked to view their option. The table also has been supplemented with Graph 10 for better understanding of the facet.

Table 13

#### Internet Access

Sl.No	University	Yes	%	No	%	Total
1	AU	30	10	01	6	31
2	MU	36	12	02	13	38
3	MZU	45	15	05	31	50
4	NU	48	16	02	13	50
5	NEHU	42	14	01	6	43
6	RGU	45	15	05	31	50
7	SU	50	17	0	0	50
	Total	296 (95%)	99.99 or 100	16 (5%)	100	312



Graph 10. Internet Access

Analysis of Table 13 reflects that out of 312 users, 296 (95%) respondents have given a



positive view while 16 respondents (5%) opined negative. However, from among the respondents, SU is at the top of the list in internet access by the respondents followed by NU and MZU & RGU. To make it more better it can be deduced that out of 296 respondents, 50 respondents (17%) of SU viewed positive followed by 48 respondents (16%) of NU and 45 respondents (15%) each in MZU and RGU and thus, SU stands at the top followed by NU in second and MZU and RGU in third position respectively. This highlights the commendable steps among the users best familiar with internet access. Further, the library also takes adequate steps to facilitate the users with internet access.

### Span of Internet Use

Experience counts much and more the use of technology more the perfection. Therefore, the scholar tried to ascertain the span of internet use and mentioned the question in the questionnaire. Data relating to the facet was obtained by the scholar that has been placed below in Table14.

Table 14  
*Span of Internet Use*

Sl.No.	Span	AU	MU	MZU	NU	NEHU	RGU	SU	Total	
1	< 1 year	1	3	7	2	3	5	2	23	7%
1.	>1- <4 years	11	19	16	27	15	23	25	136	44%
2.	>4 -<7 years	7	11	8	10	11	8	7	62	20%
3.	>7	12	5	19	11	14	14	16	91	29%
	Total	31	38	50	50	43	50	50	312	
	Mean	7.75	9.5	12.5	10	10.75	12.5	12.5	78	
	Standard Deviation	4.99166	7.18795	5.91608	6.16441	5.43906	7.93725	10.14889	47.65851	

Analysis of Table14 reflects that out of 312 respondents, a major chunk of respondents i.e, 136 (44%) use the internet and have an expericne of more than one year but less than 4 years followed by 91 users (29%) having an span of internet use more than 7 years and 62 users (20%) opined that they are having an experience from more than 4 years but less than 7 years respectively. This further reflects that, MZU happens to be the primere university where 19 users are having an experience of internet use for more than 7 years followed by 16 users of SU and 14 each from NEHU and RGU respectively. This shows the efficiency and acquaintence of the users to the internet use along with the time span. The users in such circumstances carryout their work individually with proper guidance and this is more useful to the users while accessing e-resources. It could be deduced from the analysis that, the mean value of the span of internet use is parallel in MZU, RGU and SU which comes to 12.5 followed by 10.75 in NEHU and 10 in NU. Though the mean value of MZU, RGU and SU are the same, the standard deviation differs as, the standard deviation for SU is 10.14889 followed by 7.93725 in RGU and 7.18795 in MU.

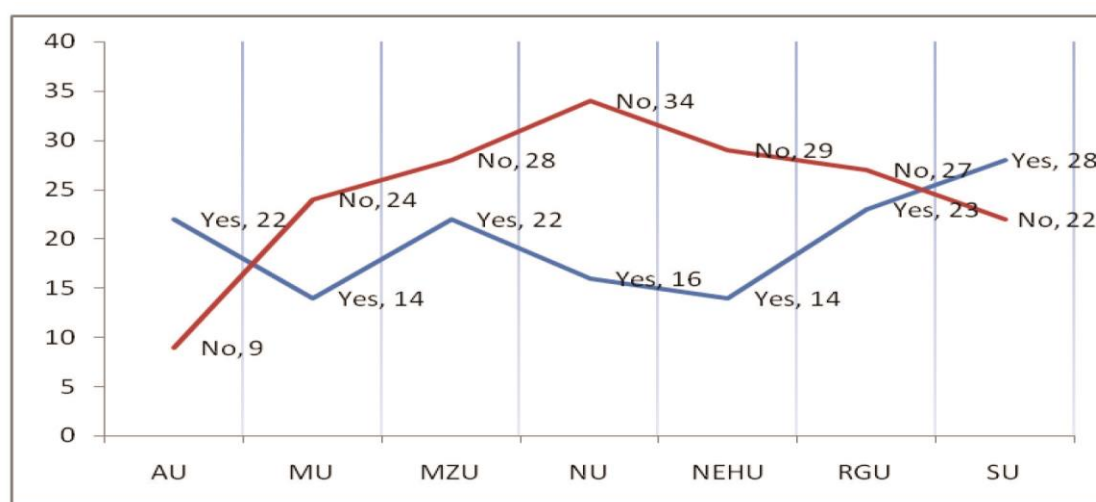
### Satisfaction/ Dissatisfaction of Library Services

Rapid proliferation of information, overgrowth of information resources and multifarious needs of users posed critical challenges for timely information to the users by the library. Measuring satisfaction and dissatisfaction among the users is critical to adjudicate. The scholar therefore, placed the question before the users with two choices of yes and no. Data relating to the component is mentioned below in Table 15 followed with Graph 11.

Table 15

#### Satisfaction/ Dissatisfaction of Library Services

Sl.No	University	Yes	%	No	%	Total
1	AU	22	11	9	8	31
2	MU	24	12	14	12	38
3	MZU	35	18	15	13	50
4	NU	34	17	16	14	50
5	NEHU	29	15	14	12	43
6	RGU	27	14	23	20	50
7	SU	28	14	22	19	50
	Total	199 (64%)	101 or 100	113 (36%)	98	312



**Graph 11. Satisfaction/ Dissatisfaction of Library Services**

Analysis of the Table 15 shows that out of 312 respondents 199 respondents (64%) of various universities covered under the study expressed their satisfaction over the services which constitutes while, 113 (36%) respondents viewed negatively. Further, while going for a university wise calculation to know the rate of satisfaction of various universities out of a total number of 199 who responded, 35 numbers (18%) of MZU followed by 29 (15%) from NEHU and 28 nos. (14%) each for SU and RGU respectively expressed their satisfaction on library services and thus, the university libraries of MZU, NEHU and both SU and RGU constitutes first, second and third order in ranking respectively. This shows that, even if a good chunk of users viewed satisfaction of the library services, still efforts are required to be made by the librarians and other library professionals to attract the users for using the library.

### Satisfaction level of Use of e-Resources

E-resources play a pragmatic role in providing the most update, instant and useful information to the users for academic assignments especially when the user retrieves from the most authentic and reliable websites and various consortiums. Data relating to the satisfaction level spread over four components on the use of e-resources obtained through the questionnaire from various university libraries under study has been placed in Table 16.

Table 16

#### *Satisfaction/ Dissatisfaction of Use of e-Resources*

Sl. No.	Level of satisfaction	AU	MU	MZU	NU	NEHU	RGU	SU	Total
1.	Excellent	03 10%	02 7%	07 24%	03 10%	05 17%	05 17%	04 14%	29 9%
2.	Moderate	04 4%	23 21%	20 18%	16 15%	15 14%	20 18%	12 11%	110 35%
3.	Good	16 13%	07 6%	18 15%	16 13%	17 14%	19 16%	29 24%	122 39%
4.	No comment	08 16%	06 12%	05 10%	15 29%	06 12%	06 12%	05 10%	51 16%
	Total	31	38	50	50	43	50	50	312

Table 16 indicated out that, out of 312 respondents 122 respondents constituting 39% of various university libraries under study expressed 'good' while, 110 respondents (35%) viewed the e-resources service as moderate and 29 (9%) respondents opted as excellent. It is surprising to know that, 51 respondents (16%) did not feel to put their comment. It may be viewed from the analysis that, e-resources service is still in infant stage and necessary steps require to be promoted by the library for the use of e-resources. Other causes may also be associated with such a view from the respondents such as bandwidth problem, access problem, function of networking etc. which may be sorted out by the respective library to facilitate the users to use the e-resources. However, in general the users feel satisfied and they have ranked the library services as good. Initiatives and majors need to be promoted by the libraries to be ranked as excellent.

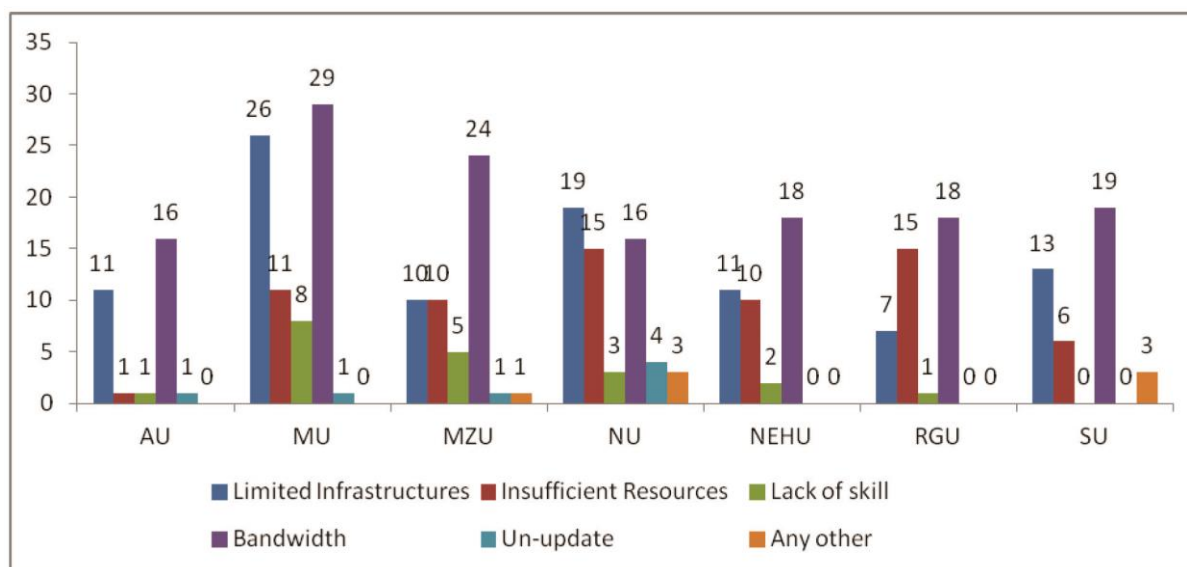
### Types of Problems in Accessing e-Resources

As pointed out in the above table, there may be multiple problems while accessing the e-resources in the libraries. Primarily six problems have been identified and data relating to this component of the users of the university libraries covered under the study has been placed in Table-17 for analysis supported with Graph 12.

Table 17

*Types of Problem in accessing e-Resources*

Sl.No	Types of Problem	AU	MU	MZU	NU	NEHU	RGU	SU	Total
1.	Limited Infrastructures	11	26	10	19	11	07	13	97 (28%)
2.	Insufficient Resources	01	11	10	15	10	15	06	68 (19%)
3.	Lack of skill	01	08	05	03	02	01	00	20 (6%)
4.	Bandwidth	16	29	24	16	18	18	19	149(42%)
5.	Un-update	01	01	01	04	00	00	00	10 (3%)
6.	Any other	00	00	01	03	00	00	03	08 (2%)
	Total	30	76	51	60	41	53	41	352



Graph 12. Types of Problem in Accessing e-Resources

It is a genuine phenomena that almost in all the university libraries, the academicians including students and research scholar encounter various problems while accessing e-resources and therefore, radical measures need to be pursued to resolve the issue. Analysis of the above table shows that, out of the total 312 respondents of various university libraries covered under study, major respondents i.e, 149 (42%) viewed the bandwidth as the problem followed by 97 (28%) respondents who talked about the limited infrastructures and 68 (19%) number respondents opined insufficient resources. Bandwidth problems happens to be one of the genuine problems due to the strategic locations of the various states in North-East.

### Findings

The following findings were inferred on analysis of the tables as discussed above.

- Table 2 after due analysis reflected that, MZU, NU, RGU & SU have responded 100% followed by the responses from NEHU (86%), MU (76%) and AU (62%) respectively. Further, out of three category of users i.e, Faculty members, Research Scholars and the Students, the Research Scholars have responded more i.e, 112 compared to the Students and Faculty members which constitute 108 and 92 respectively. Thus, the total respondents irrespective of the types of users come to 312 out of 350 that constitute 89% leaving behind

the non-respondents 38 in total, which comes to 11%.

- While analyzing the visit of library placed under Table 3 it could be deduced that, 299 users in total visit the library that constitute 96 % in total while, a meager number of users do not visit the libraries and it is only 13 numbers in total that constitute 4%. Further, it is interesting to note that out of 7 libraries covered under study, NU and SU comprise the highest number of respondents i.e, 50 (17%) each followed by the respondent rate of 47 (16%) and RGU 44 (15%) respectively. However, overall there is a positive sign among the users who visit the library for various purposes leaving behind few who do not visit the library.

- Frequency of visit to the library as a component of the questionnaire was analyzed in Table4 which reflected that, 125 users comprising of faculty members, research scholars and the students stand at the apex that form 40% who visit the library 2 to 3 times per week followed by the weekly visitor of 105 users (34%) and regular (daily) visitor of 63 (20%) number. This is an encouraging step of the users and infect, the users whether the faculty members, research scholars and the students might have been engaged in other academic assignments and due to want of time they may not be in a position to visit the library regularly. Further, university wise analysis depicted that, the number of users of SU are at the apex i.e, 22 followed by 13 number of MU visitors and 11 number of AU visitors who visit the library daily and thus, keep first, second and third position respectively. Moreover, the users of MU are 29 followed by 24 for SU and 21 for RGU where the users visit the library 2/3 times per week. It is interesting to note that, the weekly visitors are more in NEHU i.e, 25 followed by 23 in MZU and 19 in RGU. There may be several factors associated with the users who are not in a position to visit the library

- While analyzing the Table 5 it was revealed that, the highest number of users i.e, 231(51%) opined for print resources as the most preferred source followed by 103 (23%) numbers who favored for on-line resources and 85 (19%) respondents privileged for web resources. A few users, however, put their options for using CD-ROM 14 (3%), Audio & Visual 12 (3%) etc. as the preferred type of information resources. Further, the users have given more than one options according to their choice for gathering information and thus the number comes to 455 instead of 312 and accordingly, the analysis has been out of a total number of 455 instead of 312. This further signifies that, the users are slowly getting inclined to use the print and electronic information resources that are a healthy sign for both the users and the libraries under study.

- Electronic Resources in the present environment need to add value in teaching, learning and research. Analysis of the data relating to this component placed in Table-6 unveiled that, out of 312 , 296 users responded to the questionnaire 212 users (72%) are in favour of the electronic resources while, 84 of users about 28% are negative in their approach. Further, 44 (21%) users of SU followed by 33 (16%) of users of MU and 32 (15%) users of MZU stand at the priority list respectively for giving cognizance to use the electronic resources which is again a healthy sign and also signifies the effort of the respective library which provide the electronic services alongwith other services.

- Purpose of using the electronic resources equally is significant and analysis is drawn from total respondents of 526 instead of 312 because the users preferred multiple choices.

Table-7 after analysis revealed that, out of 526 as a choice of electronic resources 145 (28%) number of respondents preferred to use the e-resources to update their knowledge followed by 126 (24%) number of respondents who use the electronic resources for carrying out their Academic Research Projects and 109 (21%) respondents preferred to prepare the notes. This is, however, a recognised step for the users of the university libraries and this shows that, the respondents irrespective of the types of information technology used for downloading and using of electronic resources. In all the cases, the users prefer the library as the platform to perform the multiple academic works.

- Consortium based e-resources especially the UGC InfoNet Digital Library and INDEST in the academic libraries covered under study are recognised as the most indispensable platform to access the e-resources. This is revealed from the analysis of Table 8 that, out of the 275 respondents, 198 (72%) respondents in total access both UGC InfoNet Digital Library Consortium and the INDEST. It was further revealed that out of 198 respondents who are in a positive bent of mind to access the consortium services, NU constitutes the maximum i.e, 41 (21%) followed by SU i.e, 35 (13%) and MZU 29 (15%) respectively. It is surprising to note that, a good number of respondents viewed negative which may be due to the fact that, either they are not aware of the services or may be able to access to poor connectivity or not adequate services. Therefore, adequate training requires imparting to all types of users by the library to make them aware of such services that are being provided by the libraries under study.

- Place of access the UGC InfoNet and INDEST Consortium are crucial to determine feasibility of the users. Analysis of Table 9 revealed that, maximum number of users prefer library as the right platform to access the UGC-InfoNet and INDEST Consortium because, the library subscribes to various electronic journals through consortium and the library facilitates the service to the users which is a commendable step. Moreover, the users prefer other modes of access to the electronic resources from consortium. The study further revealed that, the users prefer the Department Library as the second highest access centre to access the electronic resources. The users' further choose to access the consortium-based resources through Off Campus mode and this is possible due to the wireless frequency (wi-fi) connectivity. This, however, is a justified claim and efforts need to be initiated by the library to facilitate the consortium based e-resources access through wi-fi connectivity throughout the campus round the clock.

- Ascertaining about the frequency of the use of e-resources is another important segment of library use. It was deduced from Table 10 that, out of 312 respondents, 295 preferred to opine their views and thus, 76 (26%) number of users out of 295 are the regular visitor to the libraries under study followed by 63 (21%) number of users and 58 (20%) number of users who visit the library weekly and 2 or 3 times a week. Thus, in the ranking order of daily visitors to the libraries under study, RGU stands at the first followed by MZU and NEHU in the second and SU in the third positions. Still efforts need to be initiated by the faculty members to assign the students with library oriented academic work so that the students regularly visit the library to access the e-resources.

- Users' cognizance about the e-resources depends upon proper communication between the users and the library. It could be inferred from the analysis of Table 11 that, 99

respondents (32%) are alerted about e-resources through their colleagues and it seems that they have a proper communication among each other. This is followed by 78 users (25%) who viewed that they get information of e-resources through their library websites which is again positive step of the library and 51 users (16%) opined that the library staffs are aware of the e-resources. Further, while analyzing the university wisely, it was found that out of 100% respondents from MZU, NU, RGU and SU, 19 users (44%) of NEHU are aware of the e-resources from their colleagues which however, differs from MZU where 17 users (34%) get the information through the library website. This is a welcome step for both the library and the users as well, who are aware of the e-resources. Still much effort requires to be initiated by the library to orient the users about the e-resources to enhance the access rate.

- Analysis to the types of most frequently and preferred source of e-resources placed under Table 12 revealed that, e-journals happen to be the most picked out resources compared to other types of e-resources. Total number 172 options by the users of various universities have constitute 29% in total for e-journals followed by 114 options (19%) for e-books and 93 options (16%) for e-mail. This is primarily due to availability of e-journals through consortia, which are extended to the users comprising faculty members, research scholars and students of the universities under study. Further, the users are also being facilitated with e-resources through networking which are reaching to the faculty members to their desktops. However, other users get a free hand to download e-resources from both the computer centre and the libraries of the respective universities. This is a positive and constructive step of the libraries under study.

- Analysis to the component 'Internet Access' placed under Table13 divulged that out of 312 respondents, 296 (95%) respondents have given a positive view and out of that, 50 respondents (17%) of SU viewed positive followed by 48 respondents (16%) of NU and 45 respondents (15%) each in MZU and RGU respectively. This highlights the commendable steps among the users who are best known to have internet access. Further, the library also takes adequate steps to facilitate the users with internet access.

- The more we understand about technolog, the more we can use it. This fact was analysed under the caption 'Span of Internet Use' placed in Table 14 which disclosed that out of 312 respondents, a major chunk of respondents i.e, 136 (44%) use internet having an expericne of more than one year but less than 4 years followed by 91 users (29%) having an span of internet use more than 7 years and 62 users (20%) opined that they are having an experience from more than 4 years but less than 7 years respectively. This further reflected that, MZU happens to be the primere university among other universities where 19 users are having an experience of internet use for more than 7 years followed by 16 users of SU and 14 each from NEHU and RGU respectively. This shows the efficiency and acquaintence of the users to the internet use along with the time span. The users in such a circumstances carryout their work individually with proper guidance and this is more useful to the users while accessing e-resources.

- Determining the satisfaction and dissatisfaction among the users is critical to adjudicate. However, analysis of the Table16 revealed that, out of 312 respondents 122 resopondents constituting 39% of various university libraries under study expressed 'good' while, 110 respondents (35%) viewed the e-resources service as moderate and 29 (9%)

respondents opted as excellent. It may be inferred that, e-resources service is still infant stage and necessary steps are required to be promoted by the library for the use of e-resources. Other causes, however, may be associated with opinions from the respondents such as bandwidth problem, access problem, function of networking etc. Initiatives and majors need to be promoted by the libraries to be ranked as excellent.

- Problems act as shadow in all spheres and this is more pertinent in the use of electronic resources that is discussed in Table-17 which revealed that, a good chunk of users i.e, 149 (42%) encounter bandwidth problems which is not a healthy sign for the use of library resources followed by 97 (28%) users who opined limited infrastructures as the problem and 68 (19%) users viewed insufficient resources as the problems.

### Conclusion

Libraries in true sense of the term add potential resources to support teaching, learning and research. Application of information and communication technology in library services not only added positive dimensions in accelerating the use of the library resources but also contributed immensely to collection developments more particularly in electronic form. Such changes in library services became challenging tasks for the library professionals to meet the users' demand as, resources being the nucleus of users prerequisite for teaching and learning. The National Knowledge Commission (NKC) in 2007; equally focused much upon the libraries as a centre of learning and dissemination of information in ICT horizon. Further, the situation also warranted the establishment of a digital library not only to provide adequate e-resources through both on-line and off-line services, but also to maintain sustainable quality development. Time being the one of the major factors for the users to access the information coupled with the interdisciplinary research, the traditional libraries revamped their collections to meet the challenging demands of the users and adapted to a new scenario in the library services.

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