

Use and Impact of Electronic Resources: A Study on Two Selected Academic Libraries

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Abstract: *The advent of information technology has made a clear and pervasive impact in almost every are of library services. As such, the library environment has undergone a rapid changes leading to new generation of libraries with an emphasis on electronic resources. Moreover, as the popularity of electronic resources increases, the librarians and staff are also concerned about electronic resources, their methods, accessing, evaluation, selection, organization etc. In this paper, an paper attempt has been made to show the existing situation of electronic resources in some academic library in Dhaka city. The study also shows the benefit of using e-resources, problems that are faced by the users when accessing electronic resources and the perceived impact of e-resources on academic library users. Now-a-days electronic resources have changed the overall library systems and services. Where a decade ago most online information seeking still took place in libraries and information centers and was concerned primarily with scholarly and technical bibliographic database, now it is much more prevalent in the workplace and the home, and literally anyone might be seated at the computer.*

Keywords –Use of electronic resources, impact of electronic sources, Academic library, Dhaka University library, North-South University library

Research Area: Humanities and Social Science

Paper Type: Research Paper

1. INTRODUCTION

The invention of computer & internet have brought radical changes in the way information is gathered, stored, organized, accessed, retrieved and consumed. Today the availability of e-resources in a university library is very common but their proper and maximum use is a matter for discussion. Electronic resources have changed the traditional library systems as they can be accessed by any one at anytime from anywhere. As electronic resources provide more current information and there is no restriction to the user to geographical locations they have a great impact on students, teachers and researchers who use the library for their higher study or research work.

Today, the advent of information technology has resulted in reducing the size of libraries. In fact, these smaller modern libraries are rich potential of information. It has been possible due to the digitization of information. The digital and electronic information is based on electronic data, which has gradually replaced paper-based records. As the visual information system in comparison to text based information system is getting more and more popular these days, the traditional libraries are becoming hybrid libraries as they are in the process of doing digitization of their documents and moving towards to become electronic libraries.

2. OBJECTIVE OF THE STUDY

The main objective of the study is to evaluate the use and impact of electronic resources on academic libraries.

The other objectives of the study are to-

- Study the impact of electronic resources on the academic works of users.
- Know the different types of electronic resources available in the selected libraries.
- Study the purpose and frequency of using the electronic resources available in the libraries.
- Identify the impediments faced by the users while accessing and using e-resources.
- Assess the benefits of e-resources over conventional sources of information.

3. SCOPE OF THE STUDY

This study has been conducted on two (1 public and 1 private) randomly selected university libraries around Dhaka city. These are:

- Dhaka University Central Library (DUL)
- North South University(NSU) Library

Table –1: Scope of the Study

Name of the Library	Type	Year of Establishment	Location
Dhaka University Central Library (DUL)	Public	1921	Dhaka
North South University(NSU) Library	Private	1992	Dhaka

4. METHODOLOGY

Methodology used for this study was based on qualitative methods, which include questionnaire surveys on the users (i.e., students, researchers ,teachers and academicians) of the selected university libraries. The questionnaire was close-ended. Data for this research came from both primary and secondary sources. The primary data was collected from the users of the selected libraries through the questionnaire. The secondary sources of data included previous works such as thesis, reports, books, journals and other electronic sources. The goal was to receive qualifying surveys from the users in order to provide a clear concept on use and impact of electronic resources on academic libraries.

For collecting data, a number of total 100 questionnaire was distributed among the users of the selected university libraries (i.e., 50 in each). All questionnaire was collected successfully from the users and a number of total 60 (i.e., 30 from each) questionnaire was randomly selected for the analysis of data.

Table – 2: Category of User

Category of User	Frequency	Percent
Student	15	50.0
Researcher	5	16.7
Teacher	5	16.7
Academician	5	16.7
Total	30	100.0

5. ELECTRONIC RESOURCES AND ACADEMIC LIBRARY

In modern library the electronic resources are becoming more and more important. The printed resources are now being digitized, which has given rise in increases of the availability of books and journals in the electronic format. The electronic books are helpful because of their easy portability and its feature of incorporating more than one book in a single hand held device. The published materials are also available on open access platform. This helps the poorer to get the information required free of cost and bridge the digital divide.

Electronic Resources: Electronic resources are those resources which include documents in electronic or e-format that can be accessed via Internet in digital library environment. E-resources are that electronic product that delivers a collection of data, be it text, image collection, other multimedia products like numerical, graphical mode for commercially available for library and information centre's. these may be delivered in on CD-ROM/DVD, over the internet and so on. (Sinha, 2010).

According to Wikipedia, Electronic Resources means "Information (usually a file) which can be stored in the form of electrical signals, usually on a computer; Information available on the Internet".

According to Library and Information Technology Glossary "Term used to describe all of the information products that a library provides through a computer network... .."

According to AACR2, 2005 Update, an electronic resource is: "Material (data and/or program(s)) encoded for manipulation by a computerized device. This material may require the use of a peripheral directly connected to a computerized device (e.g., CD-ROM drive) or a connection to a computer network (e.g., the Internet)."

According to Gradman glossary, "A publication in digital format which must be stored and read on a computer device. There are two types: Direct access: these are physical objects such as CD-ROMs, diskettes, computer tapes, and computer cards, containing text, images, software, etc..."

Need of E-Resources: E-Resources enable the librarian to provide better service to the user community. The few considerable points are mentioned bellow:

- a. To get access to an information source by the more than one users.
- b. E-Resources can be searched quickly.
- c. These can be found easily by the user.
- d. These resources can be stored in huge amount.
- e. Amount of time spent on the E-Resources use.
- f. Analyses the purpose of using e-resources by respondent
- g. Know different types of e-resources commonly used by respondents
- h. To collect, store, organize information in digital form.

Characteristics of Electronic Resources: Electronic resources are an integral part of the educational system whose primary function is to serve users. Electronic sources are advantageous to the users, as the information can be delivered directly to the users; users can specify his/her information needs and information is obtained speedily. Electronic information also provides a number of advantages compared to print sources including fast and easy access, especially when users are searching retrospectively. The main advantage is for distance users with limited time to access the library since they are now able to access information outside of the library. (Zahariadis and Voliotis, 2003).

The characteristics of electronic resources can be pointed as-

- Electronic resources can be used from anywhere at any time. There is no time or geographical boundary.
- Same database or electronic records can be used by several users at a time.
- Electronic resources do not require physical space.
- They can be easily accessed, organized, revised, rearranged, archived and retrieved.
- Hyperlinks lead the user to the related information.

Impact of Electronic resources on library user:

- Electronic resources bring the library to the user, at work, at home and at anywhere.
- Support full text searching and browsing facility, where finding information is very easy.
- User can get current information as it can be updated continuously.
- Electronic resources are always available and never checked out, miss-shelved, or stolen, because of electronic format.
- Electronic resources may save time and money of the use.

Limitations of Electronic Resources:

- Licensing: E-Resources need the license from the publisher to the library for making use of it.
- IPR: E-Resources can be easily copied and forwarded to the another person so
- librarian should be alert about IPR(Intellectual Property Rights)
- Standards of metadata: There are standards for metadata description like MARC21 but the available e-resources in the market are not standardizing by MARC21.

- Technological obsolescence: The hardware and software obsolescence is one of the major risk of using electronic resources.
- Low budget: Libraries are non-profit organization so they cannot purchase and afford the costly electronic resources.
- Skill manpower: To handle the electronic collection the proper skills are required among the staff but libraries are lacking of skill manpower.
- Lack of infrastructure: Electronic collection is supported by Information and communication Technology components.

Academic Library: An academic library is a library that is attached to a higher education institution which serves two complementary purposes to support the school's curriculum, and to support the research of the university faculty and students.

Academic libraries must determine a focus for collection development since comprehensive collections are not feasible. Librarians do this by identifying the needs of the faculty and student body, as well as the mission and academic programs of the college or university. (From Wikipedia, the free encyclopedia)

An academic library is the library associated with a degree-granting institution of higher education. Academic libraries are identified by the post-secondary institution of which they are a part and provide all of the following:

1. An organized collection of printed or other materials or a combination thereof;
2. A staff trained to provide and interpret such materials as required to meet the informational, cultural, recreational, or educational needs of clientele;
3. An established schedule in which services of the staff are available to clientele; and
4. The physical facilities necessary to support such a collection, staff, and schedule.

6. DATA ANALYSIS AND MAJOR FINDINGS

A questionnaire survey was conducted between the selected two library users to find out data on use and impact of electronic resources on academic library. The questionnaire of this study consists of 25 questions which were prepared based on the objectives of the study.

Data was collected from the selected libraries in December, 2016. A total no. of 60 questionnaires was randomly selected for analysis and interpretation from 100 questionnaires which were distributed and retrieved successfully.

Researcher has been categorized this chapter into two separate part, in accordance with the need. Data collected from each university library has been analyzed within a separate part. Researcher has tried her best to analyze the data with tables and figures so that it can be easily understood.

The parts of this chapter are –

- Part A: Dhaka University Library (DUL)
- Part B: North South University(NSU) Library

All part of the chapter has been discussed below one by one.

7. PART A: DHAKA UNIVERSITY LIBRARY

Dhaka University Library (DUL): The Dhaka University Library is the largest library in the country which started in 1921 with a collection of 18,000 books received from Dhaka College and Law College. The Library now has over six lakh eighty thousand (680,000) books and journals. Moreover, it has around thirty thousand rare manuscripts.

All the activities of the library are performed from three separate buildings viz. administrative building, main library building and extension building and science library building. The present total measurement of the buildings is 150,830 square feet.

Dhaka University Library provides online resources through contribution towards country subscription of online resources and other resources via PERI under the Bangladesh INASP-PERI consortium (BIPC) arrangement since 2007. The Library provides its electronic resource services within the Dhaka University area. These services are open for all faculty members, researchers, teachers, students, officers and staffs of Dhaka University.

A-1: Access to Computer and Internet:

The users were asked about access to computer and internet. The findings show that 40.4 percent users acknowledge access to computer and internet at home, 19.1 percent users access computer and internet at office, 14.9 percent users access at library and 25.5 percent access at hall. See table A-1 Below:

Table A-1: Access to Computer and Internet

Access to Computer and Internet	Responses	
	N	Percent
Where do you access a computer and internet? At_home	19	40.4%
At_office	9	19.1%
At_library	7	14.9%
At_hall	12	25.5%
Total	47	100.0%

To make clearer, the above data are shown in the following figure A-1:

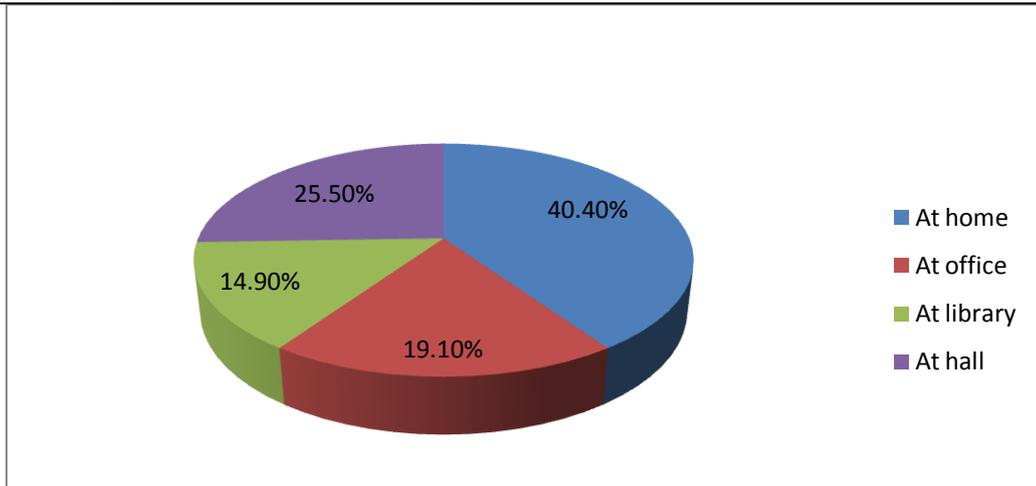


Figure A-1: Access to Computer and Internet

A-2: Types of Electronic Resources:

In this context, the users were asked about what types of e-resources do they usually use. Analyzing the respondents reply it is found that the majority of the users which is 37.1 percent prefer to use e-journal, the second highest number of users that is 25.7 percent use e-books, 24.3 percent use online-catalogue and the lowest 12.9 percent users use online-database. See table A-2:

Table A-2: Types of electronic resources use

Types of electronic resources use			Category_of_user				Total
			Student	Researcher	Teacher	Academician	
Which type of e-resources do you usually use?	E_journal	Count	14	5	5	2	26
		Percent	20.0%	7.1%	7.1%	2.9%	37.1%
	E_book	Count	6	5	4	3	18
		Percent	8.6%	7.1%	5.7%	4.3%	25.7%
	Online_databases	Count	1	5	2	1	9
		Percent	1.4%	7.1%	2.9%	1.4%	12.9%

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Online_catalogue	Count	7	3	3	4	17
	Percent	10.0%	4.3%	4.3%	5.7%	24.3%
Total	Count	28	18	14	10	70
	Percent	40.0%	25.7%	20.0%	14.3%	100.0%

The above data are represented by the following chart in the figure A-2

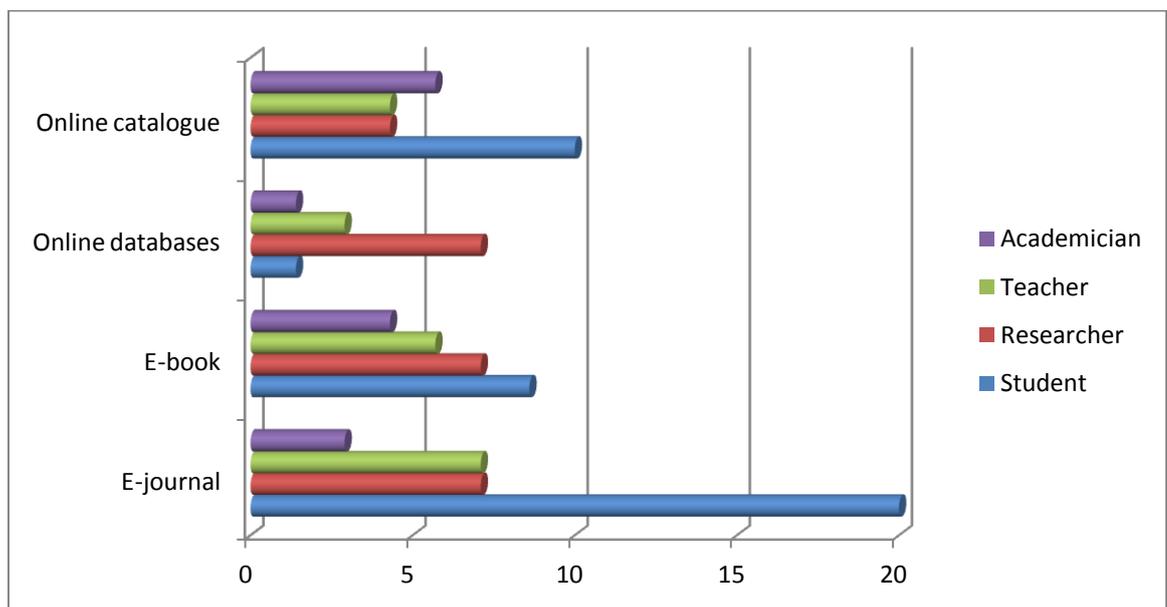


Figure A-2: Types of Electronic Resources

A-3: Frequency of Using Electronic Resources:

From the response of the questionnaires it is found that the maximum number of users [53.3 percent] access to electronic resources in most days. 26.7 percent of users access electronic resources once a week, 13.3 percent get access to electronic resources twice a week and 6.7 percent users access electronic resources every fortnight. See the table A-3.

Table A-3: Frequency of Using Electronic Resources

Frequency of Using Electronic Resources	Category_of_user				Total
	Student	Researcher	Teacher	Academician	

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How often do you use e-resources?	Most_days	Count	4	4	3	5	16
		% of Total	13.3%	13.3%	10.0%	16.7%	53.3%
	Once_a_week	Count	7	0	1	0	8
		% of Total	23.3%	.0%	3.3%	.0%	26.7%
	Twice_a_week	Count	2	1	1	0	4
		% of Total	6.7%	3.3%	3.3%	.0%	13.3%
	Every_fortnight	Count	2	0	0	0	2
		% of Total	6.7%	.0%	.0%	.0%	6.7%
Total	Count	15	5	5	5	30	
	% of Total	50.0%	16.7%	16.7%	16.7%	100.0%	

Figure A-3 show the frequency of using electronic resources below

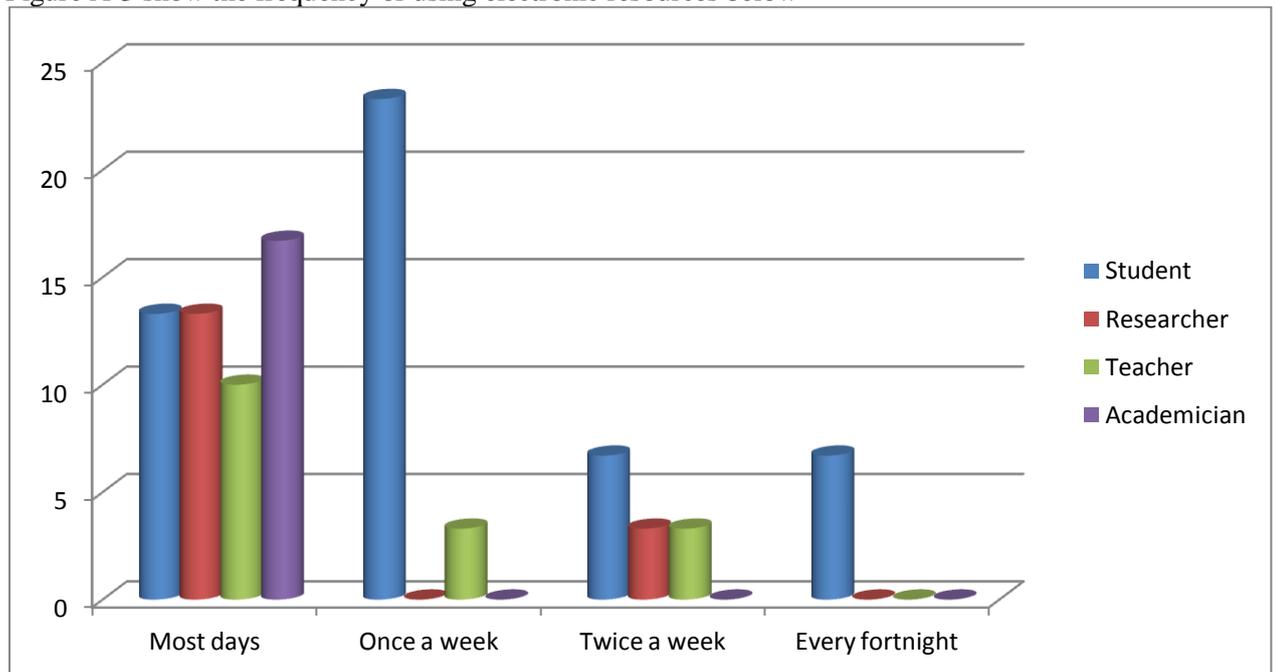


Figure A-3: Frequency of Using Electronic Resources

A-4: Purpose of Using Electronic Resources:

The users of Dhaka University Library use electronic resources for many purposes. According to the findings, 34.4 percent users use electronic resources for learning, 26.6 percent users use electronic resources for current information, 25.0 percent users use e-resources for research and 14.1 percent users use electronic resources for teaching. See table A-4:

Table A-4: Purpose of Using Electronic Resources

Purpose of Using Electronic Resources			Category_of_user				Total
			Student	Researcher	Teacher	Academician	
For what purpose do you use e-resources?	Research	Count	5	5	5	1	16
		% of Total	7.8%	7.8%	7.8%	1.6%	25.0%
	Teaching	Count	0	3	5	1	9
		% of Total	.0%	4.7%	7.8%	1.6%	14.1%
	Learning	Count	13	4	2	3	22
		% of Total	20.3%	6.2%	3.1%	4.7%	34.4%
	Current_information	Count	8	3	2	4	17
		% of Total	12.5%	4.7%	3.1%	6.2%	26.6%
Total	Count	26	15	14	9	64	
	% of Total	40.6%	23.4%	21.9%	14.1%	100.0%	

The above data are shown in the following pie chart in figure A-4:

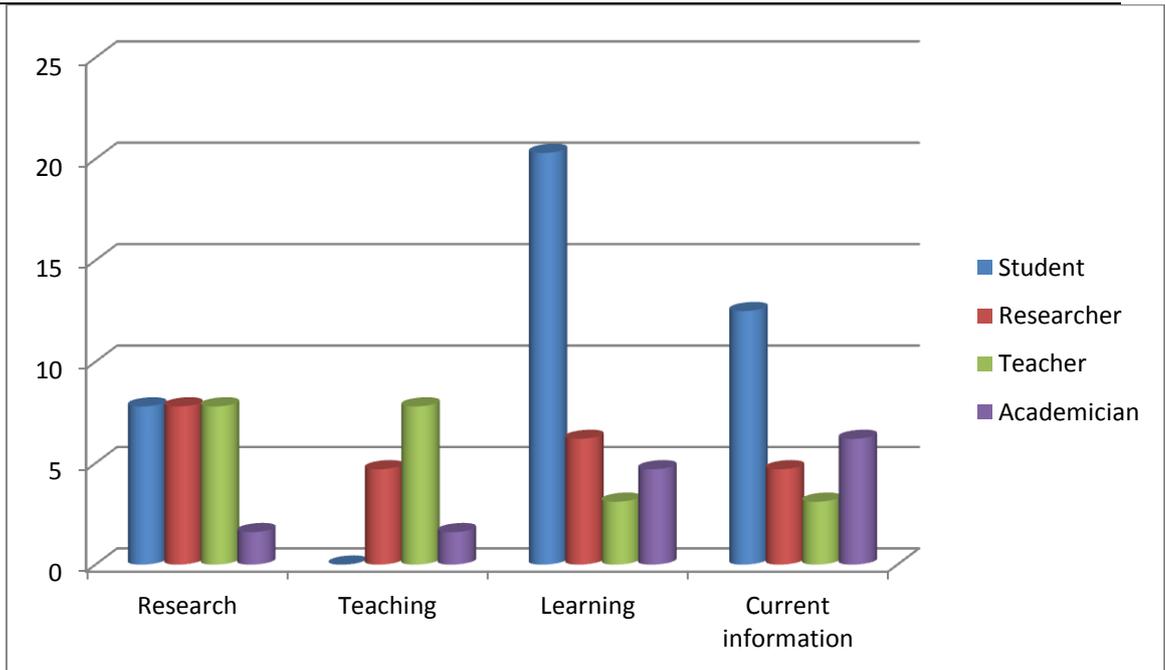


Figure A-4: Purpose of Using Electronic Resources

A-5: Benefits of Using Electronic Resources:

The findings indicate that 32.8 percent users get benefits of using e-resources for its quick retrievability, 31.1 percent users of e-resources are benefitted by e-resources for current information, 24.6 percent get benefits from using e-resources for free availability and 11.5 percent users get benefits of using electronic resources for link to other resources. See the table A-5:

Table A-5: Benefits of Using Electronic Resources

Benefits of Using Electronic Resources			Category_of_user				Total
			Student	Researcher	Teacher	Academician	
Which is the most important benefit of Using E-resources?	Quick_retrievability	Count	9	4	4	3	20
		% of Total	14.8%	6.6%	6.6%	4.9%	32.8%
	Current_information	Count	9	3	4	3	19
		% of Total	14.8%	4.9%	6.6%	4.9%	31.1%
	Free_availability	Count	11	1	1	2	15
		% of Total	18.0%	1.6%	1.6%	3.3%	24.6%

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Link_to_other_Resources	Count	3	2	1	1	7
	% of Total	4.9%	3.3%	1.6%	1.6%	11.5%
Total	Count	32	10	10	9	61
	% of Total	52.5%	16.4%	16.4%	14.8%	100.0%

The benefits of using electronic resources are shown below by the following figure A-5

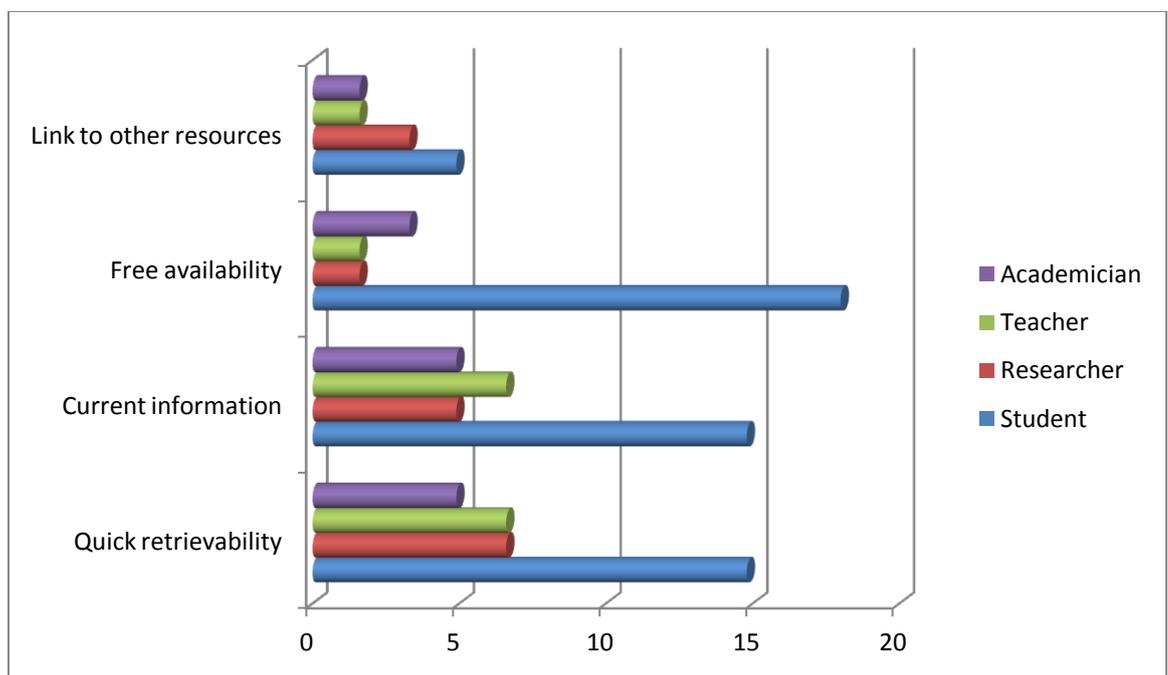


Figure A-5: Benefits of Using Electronic Resources

A-6: Levels of Benefits of Using Electronic Resources:

Analyzing the respondents reply, it is found that 30.0 percent users get benefits from electronic resources as excellent, 56.7 percent users get benefits from using e-resources as good and 30.0 percent users have opined their benefit level as average. See table A-6

Table A-6: Levels of Benefits of Using Electronic Resources

Levels of Benefits of Using Electronic Resources			Category_of_user				Total
			Student	Researcher	Teacher	Academician	
How much benefit have you got from using e-resources?	Excellent	Count	1	3	3	2	9
		% of Total	3.3%	10.0%	10.0%	6.7%	30.0%
	Good	Count	11	2	2	2	17
		% of Total	36.7%	6.7%	6.7%	6.7%	56.7%
	Average	Count	3	0	0	1	4
		% of Total	10.0%	.0%	.0%	3.3%	13.3%
Total		Count	15	5	5	5	30
		% of Total	50.0%	16.7%	16.7%	16.7%	100.0%

A-7: Problems of Using Electronic Resources:

Based on the response to the questionnaires, here found some problems that are faced by the Dhaka University library users in using e-resources. It finds, 8.2 percent users acknowledge information overloaded, 23.0 percent users indicate limited access to back issues, 24.6 percent users face difficulty in finding relevant information, another 24.6 percent acknowledge limited number of title available and 19.7 percent indicates slow download speed. See table A-7.

Table A-7 Problems of Using Electronic Resources

Problems of Using Electronic Resources			Category_of_user				Total
			Student	Researcher	Teacher	Academician	
What types of problem do you usually face When using e-resources?	Information_overloaded	Count	2	1	1	1	5
		% of Total	3.3%	1.6%	1.6%	1.6%	8.2%
	Limited_access_to_	Count	9	3	1	1	14

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back_issues	% of Total	14.8%	4.9%	1.6%	1.6%	23.0%
Difficulty_in_finding_relevant_information	Count	10	1	3	1	15
Limited_number_of_title_available	% of Total	16.4%	1.6%	4.9%	1.6%	24.6%
Slow_download_speed	Count	8	3	3	1	15
Information_overloaded	% of Total	13.1%	4.9%	4.9%	1.6%	24.6%
Limited_access_to_back_issues	Count	5	2	2	3	12
Information_overloaded	% of Total	8.2%	3.3%	3.3%	4.9%	19.7%
Total	Count	34	10	10	7	61
	% of Total	55.7%	16.4%	16.4%	11.5%	100.0%

The problems of using e resources are shown in pie chart in the following figure A-7

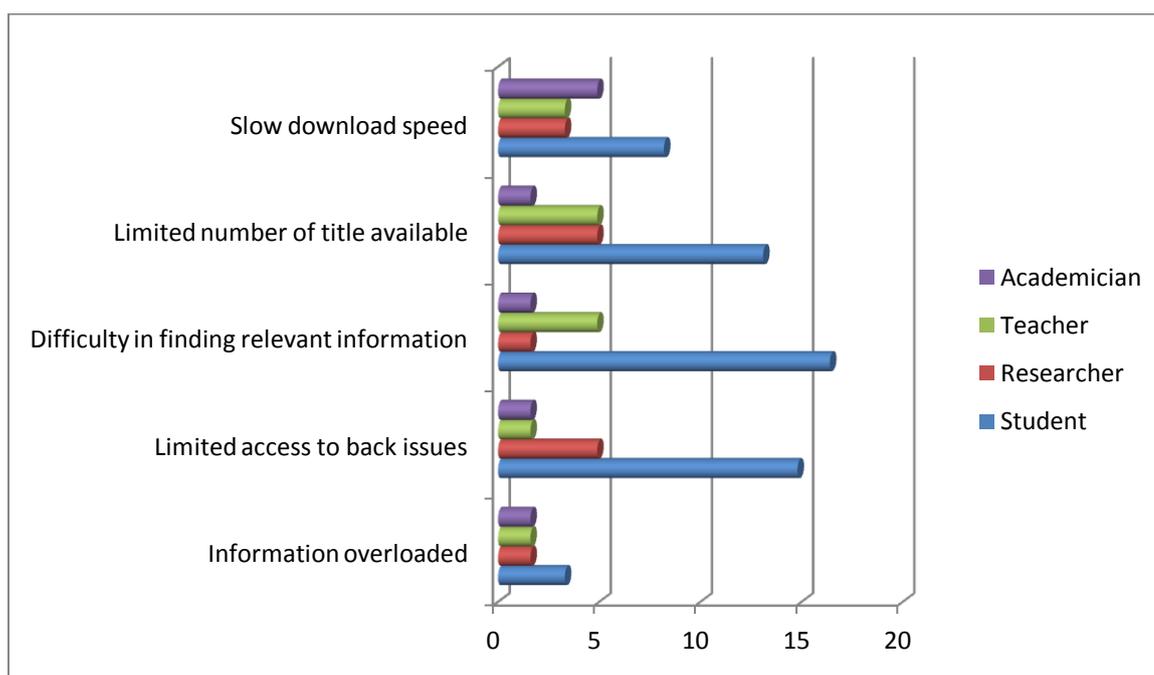


Figure A-7: Problems of Using Electronic Resources

A-8: Training required for using e-resources:

From the findings, it is shown that 18.9 percent users need presentation of different resources in regard to the use of electronic resources, 28.3 percent users acknowledge they need information retrieval training, 18.9 percent users need information about content and 34.0 percent users need IT training in connection with the use of electronic resources. See the table A-8

Table A-8: Training required for using e-resources

			Category_of_user				Total
			Student	Researcher	Teacher	Academician	
What type of training is necessary for using e-resources?	Presentation_of_	Count	3	4	1	2	10
	different_resources	% of Total	5.7%	7.5%	1.9%	3.8%	18.9%
	Information_retrieval_	Count	7	0	5	3	15
	Training	% of Total	13.2%	.0%	9.4%	5.7%	28.3%
	Information_about_	Count	1	3	4	2	10
	Content	% of Total	1.9%	5.7%	7.5%	3.8%	18.9%
	IT_training	Count	12	1	0	5	18
		% of Total	22.6%	1.9%	.0%	9.4%	34.0%
	Total	Count	23	8	10	12	53
		% of Total	43.4%	15.1%	18.9%	22.6%	100.0%

The above data are shown below by the following figure A-8:

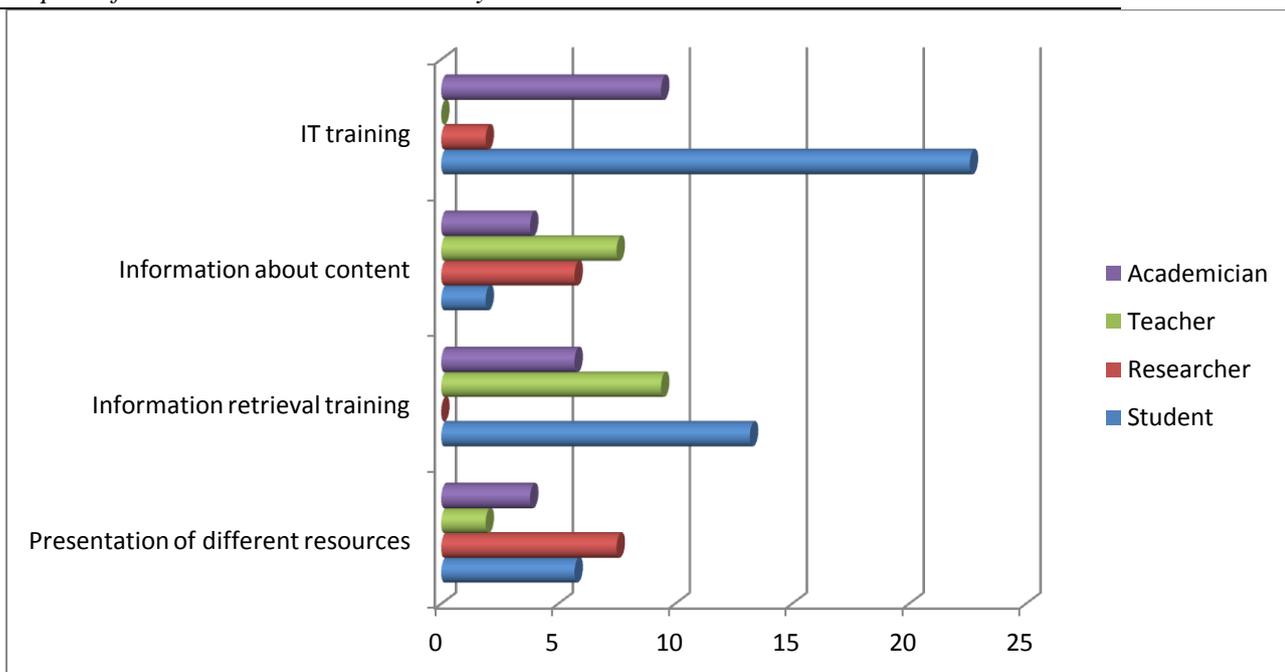


Figure A-8: Training required for using e-resources

A-9: Impact of Using Electronic Resources

From the analysis of these questionnaires it has been found that 36.4 percent users think using e-resources can save time and money, 34.8 percent users use e-resources to get current information, 16.7 percent users consider that using e-resources reduce distance, 12.1 percent respondents use e-resources to get range of information. The table A-9 explained the above mentioned data below:

Table A-9: Impact of Using Electronic Resources

Impact of Using Electronic Resources			Category_of_user				Total
			Student	Researcher	Teacher	Academician	
By using e-resources you can:	Save_time_and_Money	Count	13	3	5	3	24
		% of Total	19.7%	4.5%	7.6%	4.5%	36.4%
	Get_range_of_Information	Count	4	2	0	2	8
		% of Total	6.1%	3.0%	.0%	3.0%	12.1%
	Get_current_Information	Count	13	3	3	4	23
		% of Total	19.7%	4.5%	4.5%	6.1%	34.8%

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Reduce_distance	Count	6	1	1	3	11
	% of Total	9.1%	1.5%	1.5%	4.5%	16.7%
Total	Count	36	9	9	12	66
	% of Total	54.5%	13.6%	13.6%	18.2%	100.0%

Figure A-9: showing the impact of using electronic resources

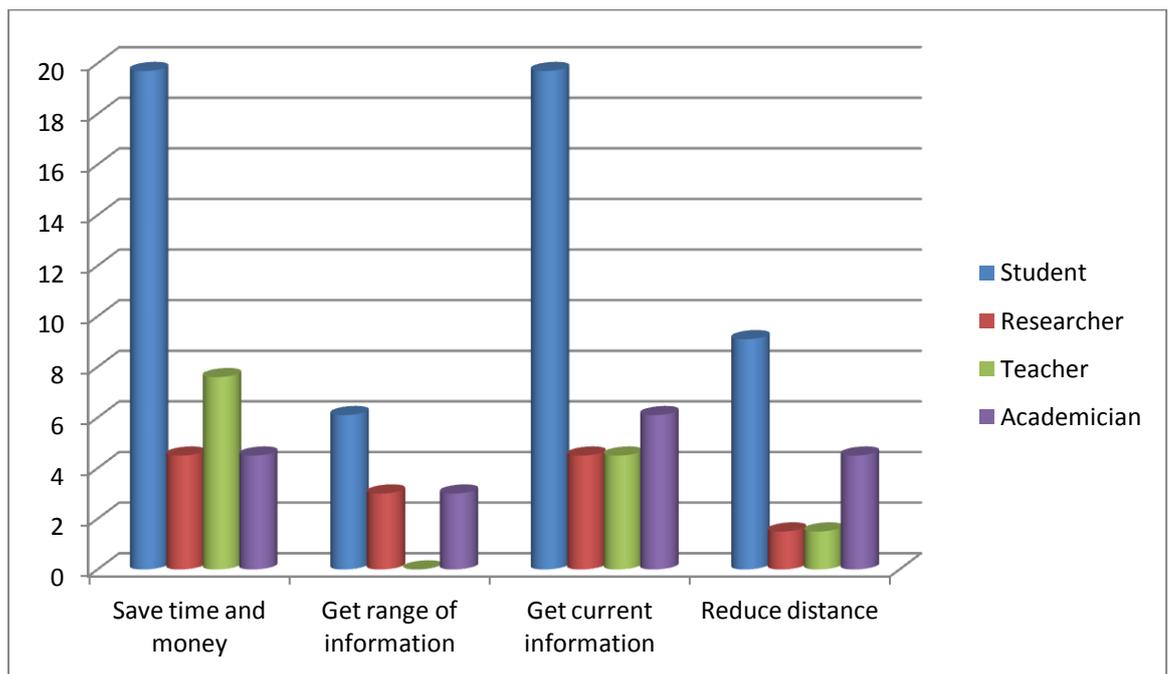


Figure A-9: Impact of Using Electronic Resources

A-10: Level of Success

Analyzing the respondents reply, it has been found that 66.7 percent users have given their level of success for using electronic resources as average, 23.3 percent users indicate their success level as high, 3.3 percent users termed their level of success as very high, 3.3 percent users explained their success level for using e-resources as low and another 3.3 percent users use their level as very low. The above mentioned data are shown in table A-10:

Table A-10: Level of Success

Level of Success	Category_of_user				Total
	Student	Researcher	Teacher	Academician	

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Please indicate your level of success in academic/research work, if you use university electronic resources:	Very_high	Count	0	0	1	0	1
		% of Total	.0%	.0%	3.3%	.0%	3.3%
	High	Count	3	2	0	2	7
		% of Total	10.0%	6.7%	.0%	6.7%	23.3%
	Average	Count	10	3	4	3	20
		% of Total	33.3%	10.0%	13.3%	10.0%	66.7%
	Low	Count	1	0	0	0	1
		% of Total	3.3%	.0%	.0%	.0%	3.3%
	Very_low	Count	1	0	0	0	1
		% of Total	3.3%	.0%	.0%	.0%	3.3%
	Total	Count	15	5	5	5	30
		% of Total	50.0%	16.7%	16.7%	16.7%	100.0%

A-11: Satisfaction Level:

From the response in the questionnaires, it is found that 3.3 percent users marked their satisfaction level as very high, 60.0 percent users replied that they are satisfied with the electronic resources provided, 33.3 percent users are somewhat satisfied with the above factors, 3.3 percent users are dissatisfied with the electronic resources that the library provides. See table A-11:

Table A-11: Satisfaction Level

Satisfaction Level			Category_of_user				Total
			Student	Researcher	Teacher	Academician	
To what extent are you satisfied with the electronic resources that your library provides?	Very_satisfied	Count	1	0	0	0	1
		% of Total	3.3%	.0%	.0%	.0%	3.3%
	Satisfied	Count	6	4	4	4	18
		% of Total	20.0%	13.3%	13.3%	13.3%	60.0%

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Somewhat_ Satisfied	Count	7	1	1	1	10
	% of Total	23.3%	3.3%	3.3%	3.3%	33.3%
Dissatisfied	Count	1	0	0	0	1
	% of Total	3.3%	.0%	.0%	.0%	3.3%
Total	Count	15	5	5	5	30
	% of Total	50.0%	16.7%	16.7%	16.7%	100.0%

A-12: Ease of Use:

From the findings it shows that 3.3 percent users replied that using library e-resources is hard, 33.3 percent users regard using e –resources is easy, 60.0 percent users think that using library e-resources is comfortable. However, 3.3 percent respondents reveals that using e-resources is unnecessary. See table A-12

Table A-12: Ease of Use of e-resources

Ease of Use of e-resources			Category_of_user				Total
			Student	Researcher	Teacher	Academician	
Using library e-resources are:	Hard	Count	1	0	0	0	1
		% of Total	3.3%	.0%	.0%	.0%	3.3%
	Easy	Count	4	3	3	0	10
		% of Total	13.3%	10.0%	10.0%	.0%	33.3%
	Comfortable	Count	9	2	2	5	18
		% of Total	30.0%	6.7%	6.7%	16.7%	60.0%
	Unnecessary	Count	1	0	0	0	1
		% of Total	3.3%	.0%	.0%	.0%	3.3%
Total	Count	15	5	5	5	30	
	% of Total	50.0%	16.7%	16.7%	16.7%	100.0%	

8. PART B: NORTH SOUTH UNIVERSITY LIBRARY

North South University (NSU) Library: North South University (NSU) Library grew over the years since 1992 and now has become one of the best university libraries in the country. This is the first fully automated university library in the country using Bi-lingual Library Management Software, developed by NSU Library. This is the only university library in Bangladesh where the Library of Congress Classification System is being used to organize and arrange books, reports, journals and other resources.

A total of around 49,500 books, reports and bound journals, over 40,000 online e-books, 36,000 online journals, 1,890 CD ROM books and databases, 226 DVDs and videos, 159 audio-cassettes, etc. In addition to these collections, the library subscribes print issues of 46 foreign and 19 local journals, 18 foreign and 22 local magazines, two foreign dailies and almost all leading national dailies of Bangladesh.

It has also started subscription to e-resource databases, namely, EconLit, AHEAD and Global Development Finance in 1998. Now, the library has access to over 36,000 titles of full-text online research journals in various disciplines from 52 agencies and publishers.

All registered members of NSU library get access to online journals and e-books databases from inside and outside campus through Internet. Recently the library has introduced Knimbus (federated search) facility to search all subscribed online resources and books from a single platform.

The library arranges orientation program every semester for the new students to demonstrate how to use the university library systems and services effectively.

B-1: Access to Computer and Internet

The users were asked about access to computer and internet. The findings show that 58.3 percent users acknowledge access to computer and internet at home, 25.0 percent users access computer and internet at office and 16.7 percent users access at library. See table B -1 below:

Table B -1: Access to Computer and Internet

Access to Computer and Internet			Category_of_user				Total
			Student	Researcher	Teacher	Academician	
Where do you access computer and internet?	At_home	Count	15	5	4	4	28
		% of Total	31.2%	10.4%	8.3%	8.3%	58.3%
	At_office	Count	0	3	5	4	12
		% of Total	.0%	6.2%	10.4%	8.3%	25.0%

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At_library	Count	0	4	3	1	8
	% of Total	.0%	8.3%	6.2%	2.1%	16.7%
Total	Count	15	12	12	9	48
	% of Total	31.2%	25.0%	25.0%	18.8%	100.0%

B -2: Types of Electronic Resources Use:

In this context, the users were asked about what types of e-resources do they usually use. Analyzing the respondents reply it is found that the majority of the users which is 31.2 percent prefer to use e-journal, the second highest number of users that is 29.7 percent use online databases, 26.6 percent use e-book and the lowest 12.5 percent users use online catalogue. See table B -2:

Table B -2: Types of Electronic Resources Use

Types of Electronic Resources Use		Category_of_user				Total
		Student	Researcher	Teacher	Academician	
Which type of e-resources do you usually use?	E_journal Count	6	5	5	4	20
	% of Total	9.4%	7.8%	7.8%	6.2%	31.2%
E_book	Count	6	4	5	2	17
	% of Total	9.4%	6.2%	7.8%	3.1%	26.6%
Online_ Databases	Count	10	4	2	3	19
	% of Total	15.6%	6.2%	3.1%	4.7%	29.7%
Online_ Catalogue	Count	2	2	2	2	8
	% of Total	3.1%	3.1%	3.1%	3.1%	12.5%
Total	Count	24	15	14	11	64
	% of Total	37.5%	23.4%	21.9%	17.2%	100.0%

Types of Electronic Resources Use		Category_of_user				Total
		Student	Researcher	Teacher	Academician	
Which type of e-resources do you usually use?	E_journal Count	6	5	5	4	20
	% of Total	9.4%	7.8%	7.8%	6.2%	31.2%
E_book	Count	6	4	5	2	17
	% of Total	9.4%	6.2%	7.8%	3.1%	26.6%
Online_ Databases	Count	10	4	2	3	19
	% of Total	15.6%	6.2%	3.1%	4.7%	29.7%
Online_ Catalogue	Count	2	2	2	2	8
	% of Total	3.1%	3.1%	3.1%	3.1%	12.5%
Total	Count	24	15	14	11	64
	% of Total	37.5%	23.4%	21.9%	17.2%	100.0%

The above data are represented by the following chart in the figure B-2

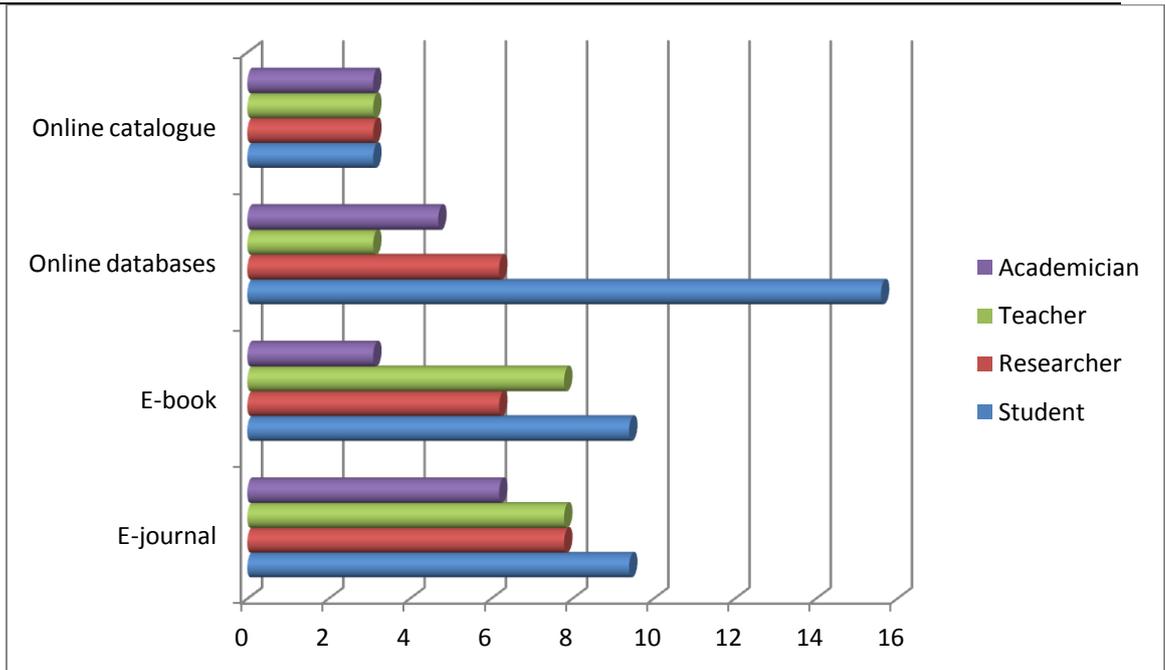


Figure B-2: Types of Electronic Resources use

B-3 Frequency of Using Electronic Resources:

From the response of the questionnaires it is found that the maximum number of users [63.3 percent] access to electronic resources in most days. 20.0 percent of users access electronic resources once a week, 13.3 percent get access to electronic resources twice a week and 3.3 percent users access electronic resources every fortnight. See the tableB-3.

Table B-3: Frequency of Using Electronic Resources

Frequency of Using Electronic Resources			Category_of_user				Total
			Student	Researcher	Teacher	Academician	
How often do you use e-resources?	Most_days	Count	9	3	3	4	19
		% of Total	30.0%	10.0%	10.0%	13.3%	63.3%
	Once_a_week	Count	4	2	0	0	6
		% of Total	13.3%	6.7%	.0%	.0%	20.0%
	Twicw_a_week	Count	1	0	2	1	4
		% of Total	3.3%	.0%	6.7%	3.3%	13.3%

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Every_fortnight	Count	1	0	0	0	1
	% of Total	3.3%	.0%	.0%	.0%	3.3%
Total	Count	15	5	5	5	30
	% of Total	50.0%	16.7%	16.7%	16.7%	100.0%

Figure B-3 show the frequency of using electronic resources below

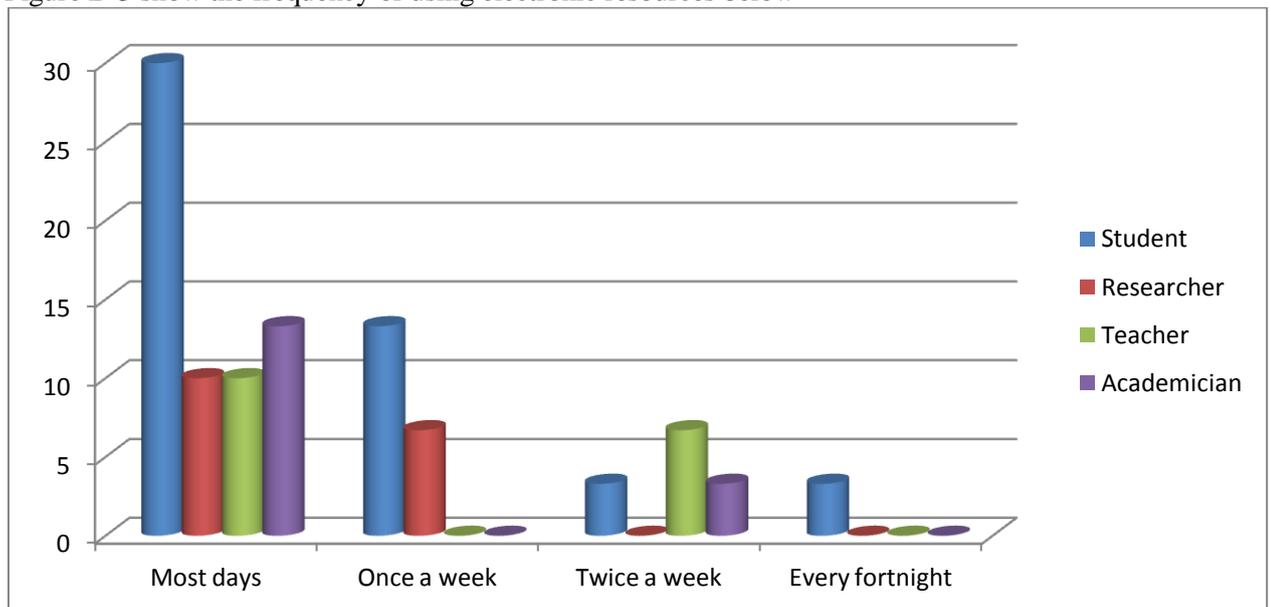


Figure B-3: Frequency of Using Electronic Resources

B-4: Purpose of Using Electronic Resources:

The users of BSMMU Library use electronic resources for many purposes. According to the findings, 33.3 percent users use electronic resources for research, 25.9 percent users use electronic resources for learning, 24.1 percent users use e-resources for current information and 16.7 percent users use electronic resources for teaching. See table B-4.

Table B-4: Purpose of Using Electronic Resources

For what purpose do you	Category_of_user	Total			
			Student	Researcher	Teacher
Research	Count	18			
		7	5	4	2

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use e-resources?	% of Total	13.0%	9.3%	7.4%	3.7%	33.3%
Teaching	Count	1	2	4	2	9
	% of Total	1.9%	3.7%	7.4%	3.7%	16.7%
Learning	Count	5	3	3	3	14
	% of Total	9.3%	5.6%	5.6%	5.6%	25.9%
Current_ information	Count	2	3	4	4	13
	% of Total	3.7%	5.6%	7.4%	7.4%	24.1%
Total	Count	15	13	15	11	54
	% of Total	27.8%	24.1%	27.8%	20.4%	100.0%

The above data are shown in the following pie chart in figure B-4:

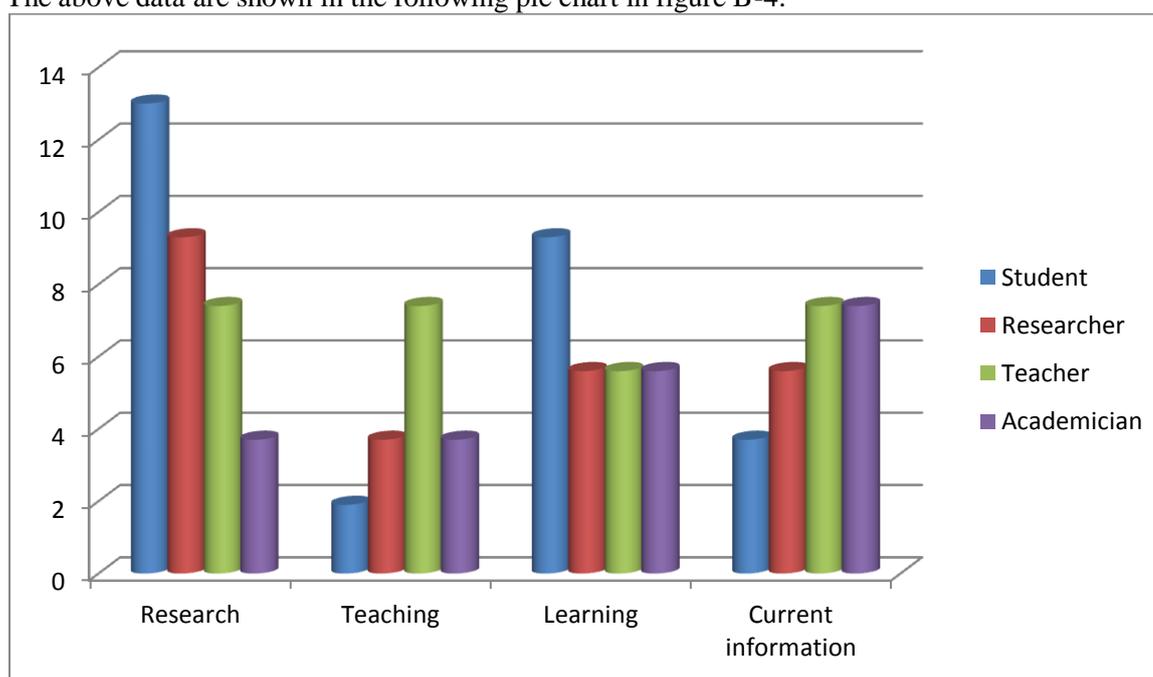


Figure B-4: Purpose of Using Electronic Resources

B-5: Benefits of Using Electronic Resources:

The findings indicate that 38.3 percent users get benefits of using e-resources for it's quick irretreivability, 25.5 percent users of e-resources are benefitted by e-resources for current information, 17.0 percent get benefits from using e-resources for free availability and 19.1 percent users get benefits of using electronic resources for link to other resources. See the table B-5:

Table B-5: Benefits of Using Electronic Resources

Benefits of Using Electronic Resources			Category_of_user				Total
			Student	Researcher	Teacher	Academician	
Which is the most important benefit of using e-resources, do you think?	Quick_retrievability	Count	8	4	4	2	18
		% of Total	17.0%	8.5%	8.5%	4.3%	38.3%
	Current_information	Count	1	4	3	4	12
		% of Total	2.1%	8.5%	6.4%	8.5%	25.5%
	Free_availability	Count	3	2	2	1	8
		% of Total	6.4%	4.3%	4.3%	2.1%	17.0%
	Link_to_other_Resources	Count	3	3	3	0	9
		% of Total	6.4%	6.4%	6.4%	.0%	19.1%
	Total	Count	15	13	12	7	47
		% of Total	31.9%	27.7%	25.5%	14.9%	100.0%

The benefits of using electronic resources are shown below by the following figure B-5.

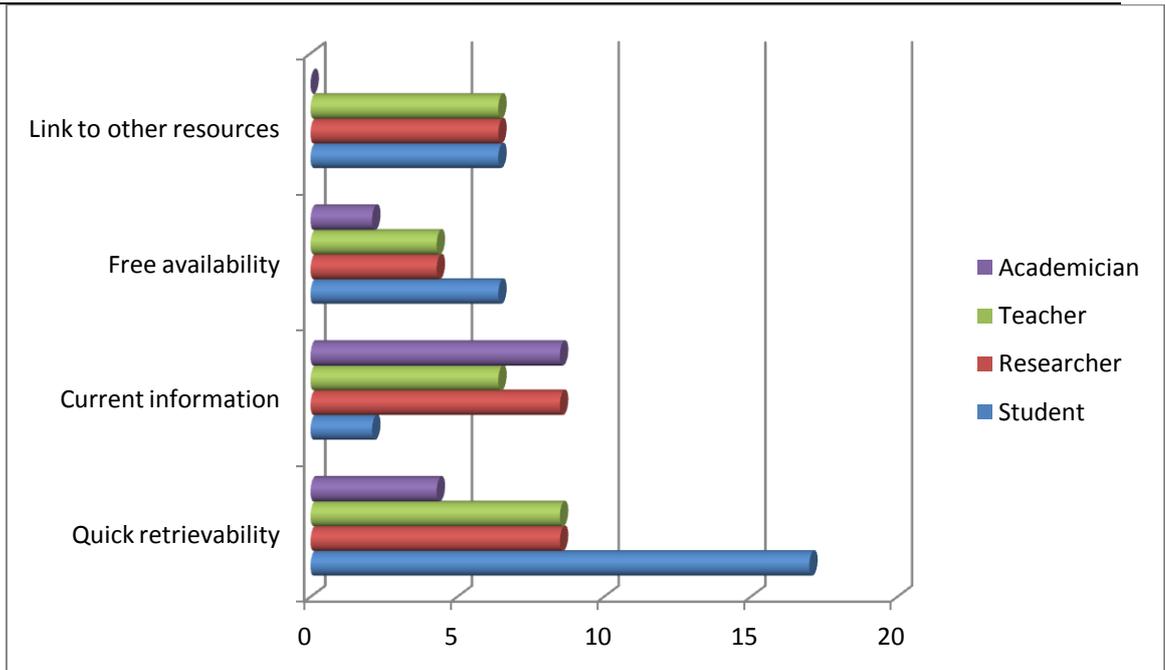


Figure B-5: Benefits of Using Electronic Resources

B-6: Levels of Benefits of Using Electronic Resources:

Analyzing the respondents reply, it is found that 53.1 percent users get benefits from electronic resources as excellent, 28.1 percent users get benefits from using e-resources as good, 15.6 percent users have opined their benefit level as average and only 3.1 percent user get poor benefit. See table B-6

Table B-6: Levels of Benefits of Using Electronic Resources

Levels of Benefits of Using Electronic Resources			Category_of_user				Total
			Student	Researcher	Teacher	Academician	
How much benefit have you got from e-resources?	Excellent	Count	9	3	3	2	17
		% of Total	28.1%	9.4%	9.4%	6.2%	53.1%
	Good	Count	4	2	1	2	9
		% of Total	12.5%	6.2%	3.1%	6.2%	28.1%
	Average	Count	3	0	1	1	5
		% of Total	9.4%	0%	3.1%	3.1%	15.6%

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	% of Total	9.4%	.0%	3.1%	3.1%	15.6%
Poor	Count	1	0	0	0	1
	% of Total	3.1%	.0%	.0%	.0%	3.1%
Total	Count	17	5	5	5	32
	% of Total	53.1%	15.6%	15.6%	15.6%	100.0%

B-7: Problems of Using Electronic Resources:

Based on the response to the questionnaires, researcher found some problems that are faced by the users of NSU Library in using e-resources. It finds, 30.3 percent users acknowledge information overloaded, 27.3 percent users indicate limited access to back issues, 27.3 percent users face difficulty in finding relevant information, another 9.1 percent acknowledge limited number of title available and 6.1 percent indicates slow download speed. See table B-7.

Table B-7: Problems of Using Electronic Resources

Problems of Using Electronic Resources			Category_of_user				Total
			Student	Researcher	Teacher	Academician	
what types of problem do you usually face when using E-resources?	Information_overloaded	Count	3	2	2	3	10
		% of Total	9.1%	6.1%	6.1%	9.1%	30.3%
Limited_access_to_back_issues	Count	6	2	0	1	9	
	% of Total	18.2%	6.1%	.0%	3.0%	27.3%	
Difficulty_in_finding_relevant_information	Count	5	1	3	0	9	
	% of Total	15.2%	3.0%	9.1%	.0%	27.3%	
Limited_number_of_title_available	Count	1	1	0	1	3	
	% of Total	3.0%	3.0%	.0%	3.0%	9.1%	
Slow_download_speed	Count	2	0	0	0	2	

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	% of Total	6.1%	.0%	.0%	.0%	6.1%
Total	Count	17	6	5	5	33
	% of Total	51.5%	18.2%	15.2%	15.2%	100.0%

The problems of using e-resources are shown in bar chart in the following figure B-7:

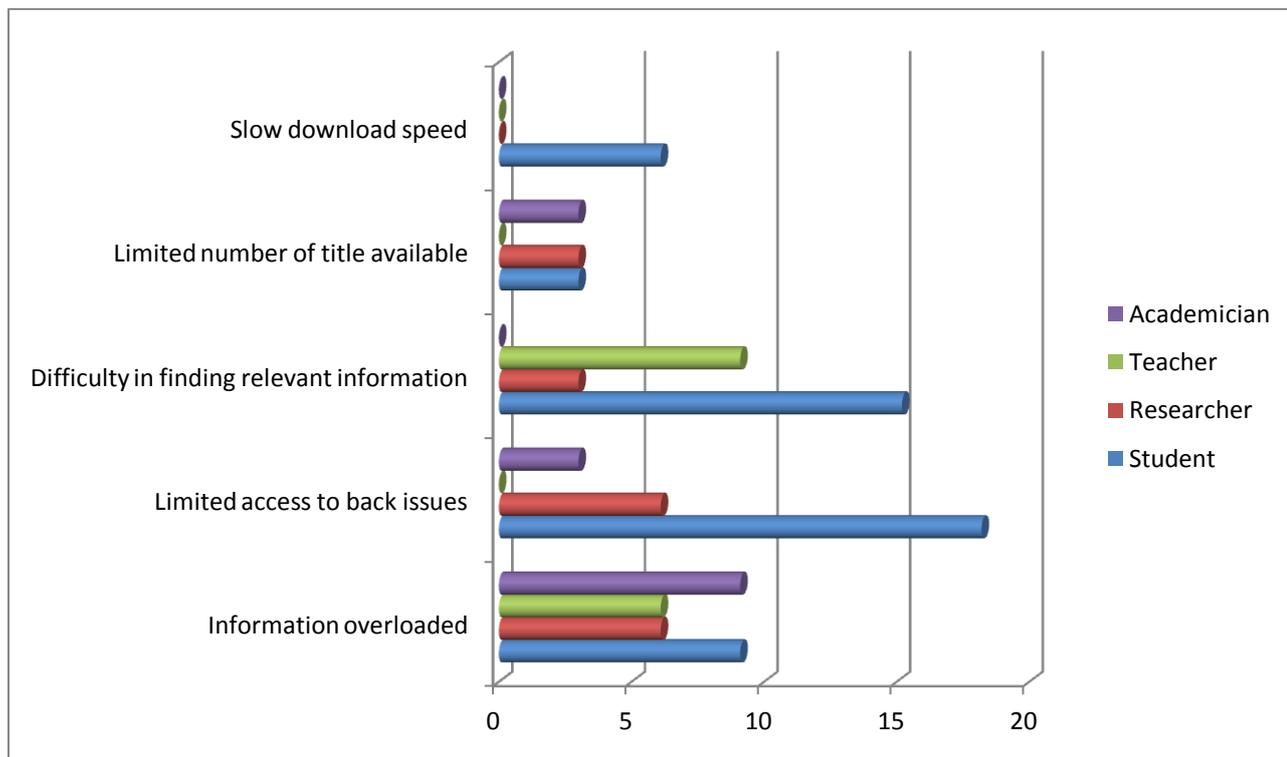


Figure B-7: Problems of Using Electronic Resources

B-8: Training required for using e-resources:

From the findings, it is shown that 33.3 percent users need presentation of different resources in regard to the use of electronic resources, 8.9 percent users acknowledge they need information retrieval training, 35.6 percent users need information about content and 22.2 percent users need IT training in connection with the use of electronic resources. See the table B-8

Table B-8: Training required for using e-resources

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Training required for using e-resources			Category_of_user				Total
			Student	Researcher	Teacher	Academician	
Whatat type of training is necessary for using e-resources?	Presentation_of_different_resources	Count	6	4	3	2	15
		% of Total	13.3%	8.9%	6.7%	4.4%	33.3%
	Information_retrieval_training	Count	2	1	1	0	4
		% of Total	4.4%	2.2%	2.2%	.0%	8.9%
	Information_about_content	Count	5	3	4	4	16
		% of Total	11.1%	6.7%	8.9%	8.9%	35.6%
	IT_training	Count	7	1	1	1	10
		% of Total	15.6%	2.2%	2.2%	2.2%	22.2%
Total	Count	20	9	9	7	45	
	% of Total	44.4%	20.0%	20.0%	15.6%	100.0%	

The above data are shown below by the following figure B-8:

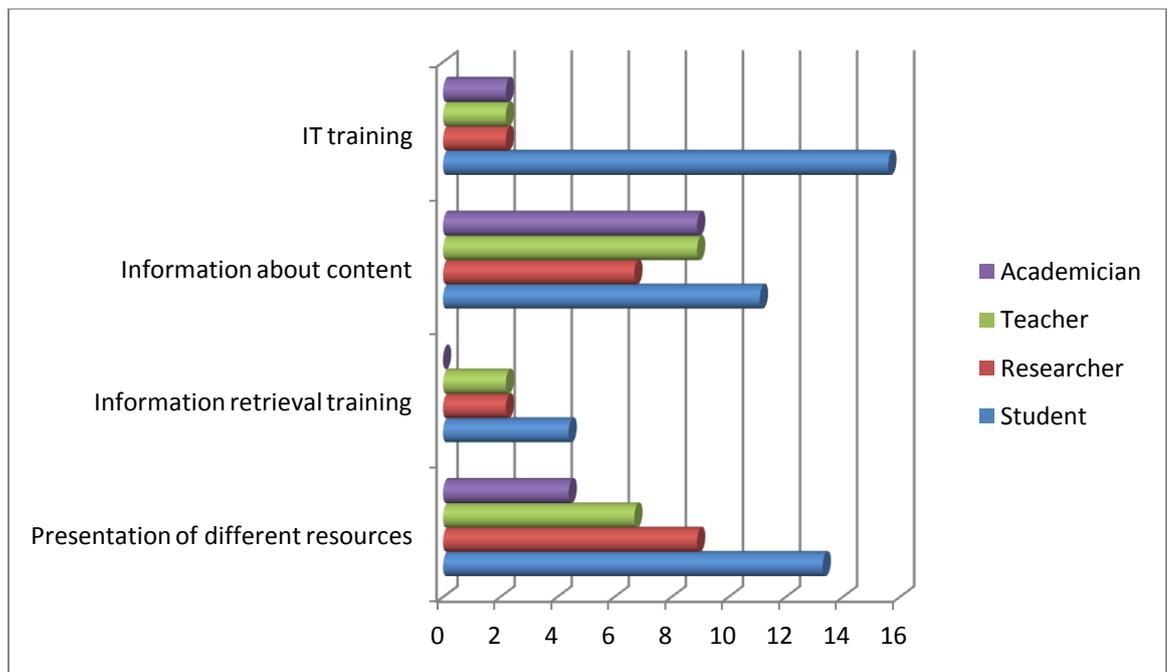


Figure B-8: Training required for using e-resources

B-9: Impact of Using Electronic Resources

From the analysis of these questionnaires it has been found that 30.8 percent users think using e-resources can save time and money, 32.7 percent users use e-resources to get range of information, 30.8 percent respondents use e-resources to get current information and 5.8 percent users consider that using e-resources reduce distance. The table B-9 explained the above mentioned data below:

Table B-9: Impact of Using Electronic Resources

Impact of Using Electronic Resources			Category_of_user				Total
			Student	Researcher	Teacher	Academician	
By using e-resources you can:	Save_time_and_money	Count	8	2	2	4	16
		% of Total	15.4%	3.8%	3.8%	7.7%	30.8%
	Get_range_of_information	Count	6	4	5	2	17
		% of Total	11.5%	7.7%	9.6%	3.8%	32.7%
	Get_current_information	Count	4	5	3	4	16
		% of Total	7.7%	9.6%	5.8%	7.7%	30.8%
	Reduce_distance	Count	0	1	1	1	3
		% of Total	.0%	1.9%	1.9%	1.9%	5.8%
Total		Count	18	12	11	11	52
		% of Total	34.6%	23.1%	21.2%	21.2%	100.0%

Figure B-9: showing the impact of using electronic resources

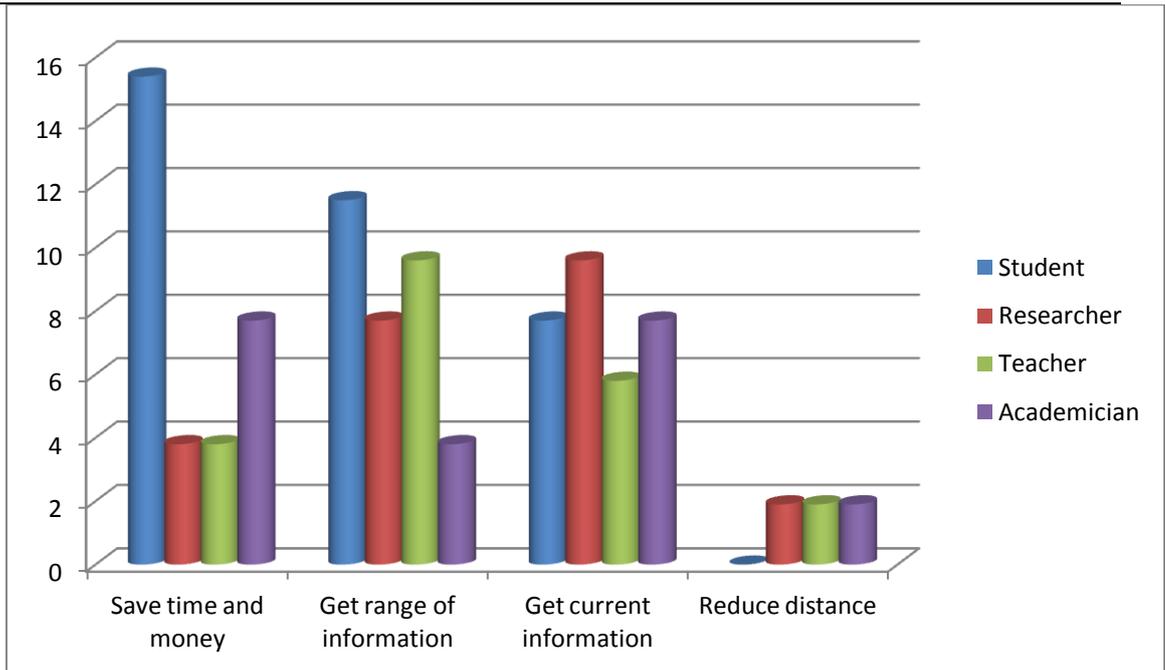


Figure B-9: Impact of Using Electronic Resources

B-10: Level of Success

Analyzing the respondents reply, it has been found that majority of the users [50.0 percent] have given their level of success for using electronic resources as very high, 10.0 percent users indicate their success level as high, 30.0 percent users termed their level of success as average, 3.3 percent users explained their success level for using e-resources as low and 6.7 percent users use their level as very low. The above mentioned data are shown in table B-10:

Table B-10: Level of Success

Level of Success			Category_of_user				Total
			Student	Researcher	Teacher	Academician	
Please indicate your level of success in research or academic work, if you use university electronic resources:	Very_high	Count	6	3	3	3	15
		% of Total	20.0%	10.0%	10.0%	10.0%	50.0%
	High	Count	0	1	1	1	3
		% of Total	.0%	3.3%	3.3%	3.3%	10.0%
	Average	Count	6	1	1	1	9
		% of Total	20.0%	3.3%	3.3%	3.3%	30.0%

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	% of Total	20.0%	3.3%	3.3%	3.3%	30.0%
Low	Count	1	0	0	0	1
	% of Total	3.3%	.0%	.0%	.0%	3.3%
Very_low	Count	2	0	0	0	2
	% of Total	6.7%	.0%	.0%	.0%	6.7%
Total	Count	15	5	5	5	30
	% of Total	50.0%	16.7%	16.7%	16.7%	100.0%

B-11: Satisfaction Level:

From the response in the questionnaires, it is found that 43.3 percent users marked their satisfaction level as very satisfied, 40.0 percent users replied that they are satisfied with the electronic resources provided, 6.7 percent users are somewhat satisfied with the above factors, 10.0 percent users are dissatisfied with the electronic resources that the library provides. See table B-11:

Table B-11: Satisfaction Level

Satisfaction Level			Category_of_user				Total
			Student	Researcher	Teacher	Academician	
To what extent are you satisfied with electronic resources that your library provides?	Very_satisfied	Count	5	3	2	3	13
		% of Total	16.7%	10.0%	6.7%	10.0%	43.3%
	Satisfied	Count	5	2	3	2	12
		% of Total	16.7%	6.7%	10.0%	6.7%	40.0%
	Somewhat_Satisfied	Count	2	0	0	0	2
		% of Total	6.7%	.0%	.0%	.0%	6.7%
	Dissatisfied	Count	3	0	0	0	3
		% of Total	10.0%	.0%	.0%	.0%	10.0%
	Total	Count	15	5	5	5	30
		% of Total	50.0%	16.7%	16.7%	16.7%	100.0%

Satisfaction Level			Category_of_user				Total
			Student	Researcher	Teacher	Academician	
To what extent are you satisfied with electronic resources that your library provides?	Very_satisfied	Count	5	3	2	3	13
		% of Total	16.7%	10.0%	6.7%	10.0%	43.3%
	Satisfied	Count	5	2	3	2	12
		% of Total	16.7%	6.7%	10.0%	6.7%	40.0%
	Somewhat_Satisfied	Count	2	0	0	0	2
		% of Total	6.7%	.0%	.0%	.0%	6.7%
	Dissatisfied	Count	3	0	0	0	3
		% of Total	10.0%	.0%	.0%	.0%	10.0%
	Total	Count	15	5	5	5	30
		% of Total	50.0%	16.7%	16.7%	16.7%	100.0%

B-12: Ease of Use:

From the findings it shows that 10.0 percent users replied that using library e-resources is hard, 26.7 percent users regard using e –resources is easy, 60.0 percent users think that using library e-resources is comfortable. However, 3.3 percent respondents reveals that using e-resources is unnecessary. See table B-12.

Table B-12: Ease of Use of E-resources

Ease of Use of E-resources			Category_of_user				Total
			Student	Researcher	Teacher	Academician	
Using library e resources are: Hard	Count	2	0	1	0	3	
	% of Total	6.7%	.0%	3.3%	.0%	10.0%	
Easy	Count	4	2	2	0	8	

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	% of Total	13.3%	6.7%	6.7%	.0%	26.7%
Comfortable	Count	8	3	2	5	18
	% of Total	26.7%	10.0%	6.7%	16.7%	60.0%
Unnecessary	Count	1	0	0	0	1
	% of Total	3.3%	.0%	.0%	.0%	3.3%
Total	Count	15	5	5	5	30
	% of Total	50.0%	16.7%	16.7%	16.7%	100.0%

8. MAJOR FINDING

On the basis of the above analysis and observations, it seems that the entire selected library provides electronic resources for their user and all the respondents [Student, Researcher, Teacher and Academician] are familiar with it. The major findings of this study are given below:

- Maximum users of all the university libraries are preferred to use e-journal than any other electronic resources.
- Majority of the users use e-resources in most days which is a good sign.
- Most of the users use electronic resources for learning and research purpose.
- The users are highly benefited by using e-resources because they get current information and the data can be retrieved quickly.
- Most of the users get it difficult to find relevant information, which is a major problem of using e-resources.
- Though some libraries provide orientation program, maximum users required to get presentation of different resources and IT training.
- Majority of the users consider that e-resources save their time and money and they get up-to-date information which is a great impact of using e-resources.
- A large number of users indicate that they have a high level of success in research/academic work for using e-resources.
- Most of the users feel comfortable to use e-resources.

9. CONCLUSION

The importance of electronic resources in academic library is increasing day by day. Now a days the electronic resources has changed the traditional library system and they have a great advantages over print collections. As the academic libraries are mainly used by the students, teachers and researcher, electronic resources have a great impact to their academic and research work. However, electronic resources have both merits and demerits. Although it will be difficult to overcome every barrier in a short time, some recommendation has been made to provide much better services particularly in the usage of electronic resources to the user by the selected libraries.

10. RECOMMENDATIONS

- The infrastructure facilities for accessing e-resources by the user should be developed.
- The libraries should subscribe more e-resources to provide better service to their users.
- The budget of the libraries should be increased for subscribing more e-resources.
- Before subscription, a survey on users should be done at regular interval to receive information and suggestions from the faculty member and students, which need to subscribe or not.
- All the libraries should organize some training program for their users.
- Skilled library staff should be appointed for better service.
- Bandwidth of internet connection should be increased to minimize download time.
- Library websites should be monitored continuously.

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