Use of Electronic Information Resources in Libraries

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Research Article

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ABSTRACT

The main aim of the University library is to support the University in the area of learning, teaching and research. The library is regarded as the heart of any academic organization. University libraries all over world have their own place of importance in the scheme of higher learning. Libraries are not only repositories of knowledge but also dispensers of such knowledge. There is no doubt that where libraries of universities and institutions of higher learning are ignored or not given due recognition, the country as a whole suffers because the standards of study, teaching and research very heavily depend upon the qualities and quantitative service rendered by the university libraries.

The findings of this paper would be useful in framing effective policies, in respect of electronic information resources, in university libraries, which in turn would help library users, to use libraries facilities in an effective and friendly manner. The study would be useful for making infrastructure for digital library. The findings of this study would also assist libraries in India to develop strategies and policies that could make better use of electronic information resources and its services. Present study conducted on 900 respondents chosen from 4 central universities in Delhi, data analysis done by Linkert scale *via* questionnaire.

INTRODUCTION

Scientific research needs the library as well as its laboratories while for humanistic research the library is both library and the laboratory in one. Both for humanistic and scientific studies, a first class library are essential in a

university. The Radhakrishnan Commission (1948) recognized the value and importance of a well-equipped and organized library system and its role in higher education. It had found many drawbacks and pitfalls in the university libraries and had made many recommendations for the improvement of library facilities. The Ranganathan Committee appointed by the UGC in 1957, made some outstanding recommendations, which included standards for library building, collection development, staff and services and furniture etc. These recommendations were accepted by the UGC and forwarded for the implementation [1-5]. The Kothari Commission also made valuable recommendations for this purpose, but the role of the University Grants Commission deserves special mention, because it has played a vital role by "regularly providing appropriate grants and funds to all universities for development of libraries, to purchase books and journals etc., construction of new library buildings and for library equipment and furniture." (Ojha 1980) Dr. D.S.Kothari, the chairman of university Grants Commission, said, "Libraries play a vital role in the development of institutions of higher learning. The University Grants Commission attaches great importance to the strengthening of library facilities in the universities and colleges and their efficient administration. The commission has also been giving grants to institutions for books and journals construction of library building and appointment of library staff." (India, 1965) one of the most remarkable and identifiable development in the history of higher education and libraries was the foundation of the INFLIBNET IN 1991. Information and Library Network (INFLIBNET) Centre is an autonomous Inter-University of the UGC of India. It is a major National Programme imitated by the UGC in 1991 with its Head Quarters at Gujarat University Campus, Ahmadabad.

Today's users fulfill their information needs by online library resources, and services *via* networks or authentication methods at any time. In order to exploit the current information explosion, familiarity and use of electronic information resources in the libraries are necessary and important for rapid development. Electronic information resources can be used for efficient retrieval and meeting information needs. This is very important for academic libraries since most of them call for more and more research work. In the digital era the commonly available electronic resources such as CD-ROM databases, online databases, online journals, OPACs and Internet, are replacing the print media.

Electronic information resources have many advantages. First, these are more versatile than paper publications. Second, using full text or key word indexing, these provide excellent searching capabilities. Unlike paper publication, these formats allow simultaneous user access. In addition, information can be accessed from remote locations, such as office and home. This technology enhances the collections of management libraries by providing patrons with access to information that is not available in, or is more accessible through, hard copy. Therefore most libraries have embraced this technology. Electronic resources have bridged information gap in Indian universities with their counterparts in developing countries. With Information Communication Technologies, Indian universities now provide global information resources to their students and academic staff in order to enhance their learning, teaching and research [6-9].

The growth, development and sustainability of academic community particularly, the higher education sector of academic world is largely dependent upon the availability and accessibility of information. It is information flow that is needed and is vital for reviving the research agenda of a university and R and D organization. Electronic information resources, which are a newer breed of information resources in comparison to their counterpart print resources, have been contributing a major role to fulfill the information need of the users.

LITERATURE REVIEW

Priyadarshini, Jankiraman and Subramaniam (2015) conducted a survey to find the Awareness in usage of E-resources among users at Agricultural College and Research Institute, Madurai: A Study [9,10]. The findings revealed that majority of users were aware of available e-resources and the electronic resources subscribed by the library were used effectively. The study revealed that 80.6% Postgraduate students and 93.3% Faculty members were making use of freely available e-resources through internet using search engines whereas 70% Ph.D. scholars preferred the use of e-journals. The findings of the study also revealed that digital resources available through CeRA, ebooks, springer link, CABI, Wiley and Black, resources subscribed by the library were widely used by the respondents.

Guruprasad and others (2016) discussed about utilization of electronic resources by research scholars. The study verified how many of the users using electronic resources, in this study distributed 153 questionnaires and collected 128 filled questionnaires. The study found that majority of the library users access electronic journals, electronic books, and electronic databases. It was exposed that the most of users were aware of electronic resources and more predominantly increases virtual resources to carry their research activities.

Ramakrishna and others (2016) examined the status and usage of library resources and services and library use opinion about library working hours, library physical facilities, library information sources and service university library. The study covers collection development, library membership, staff position; working hours, library automation, services offered and availability of online resources are also discussed. The study observed that most library users fully satisfied with library facilities, library working hours, information sources and library information services.

Khaisar (2016) discussed about the use of electronic information sources at University of Mysore by research scholars. In this study used random sampling technique, distribute 180 questionnaires and collected 150 filled questionnaires the response rate was 83%. These days availability of online information resources in a university library is very common. The study revealed that majority of users respond satisfied with university subscribed online resources [11].

Ramakrishna and others (2017) discussed use of electronic information resources by pharmacy students. The study found that most of students used electronic information resources for study and research purpose, 20% for career development, 17 % for improving knowledge, the study observed that most of the users use Google as the search engine for using electronic resources, 42% of users use abstracting journals and 33% of users use MEDLINE Database.

Aravind (2017) discussed the usage of electronic information resources among the students of engineering colleges. In this study 250 questionnaires were distributed. The study observed that majority of the library users report the privacy problem is the prime problem in using electronic resources and they need workshop and classes for the effective use of electronic information resources.

Ramakrishna and others (2018) examined user opinion about effectiveness of library and information services of K L Deemed to be university. The study observed that majority of library users expressed their opinion about effectiveness of library services as very effective and effective; majority 42 percent of users expressed their opinion

on interlibrary loan service respond as ineffective and 34% of library users respond as ineffective. Lastly most of research scholars satisfied on the resources and services of the university library [12].

Gowridevi and others (2018) studied effectiveness and usage of library information resources and services in GITAM University. The investigator distributed questionnaire among 150 research scholars from all departments, 120 of respondents are submit filled questionnaires. The study observed that majority of library users fully satisfied with library and resources and services, 75 percent of users very effective on library and information sources, majority 81 percent of research scholars respond very effective on library and information services.

Raja Suresh Kumar and others (2018) conducted a study on use of N-List electronic information resources by faculty members. The study observed that majority of the faculty and students are aware about N-List e resources .The respondents of both the institutions access the electronic information resources through the college library. The found that majority of the library users of both institutions access N- list electronic information resources once in a week. Faculty using N-List information resources for their teaching and research work as well as for keeping up to date in their specified subject field.

Venkateswarlu and Raja Suresh Kumar (2018) studied use of electronic information resources by faculty and students. In this study a questionnaire was distributed to find out use of electronic information resources and know the whether the students and faculty get satisfied with the services offered by the libraries and the way of acquiring relevant information, and discover the level of satisfaction students obtain when seeking for information and resolve the students opinion, suggestions while they are seeking information at Institutions libraries.

Objectives of the study

The main aims and objectives of the study are:

1. To examine the current status of electronic information resources in university libraries in Delhi and to identify issues and problems faced by post graduate students, researchers and faculty members, in the use of electronic information resources.

2. To determine the effectiveness of electronic information resources in university libraries located in Delhi. Effectiveness in this context would be assessed through students'awareness, usage, users'perception, users'satisfaction, library's performance and perceived needs of electronic information resources.

METHODOLOGY

The study was intended to know the current status and usage of library and information sources and services of selected university libraries (Jawaharlal Nehru University, University of Delhi, Jamia Millia Islamia University and Guru Gobind Singh Indraprastha University) in Delhi. For present study total 900 respondents were taken and data analysis done through questionnaire process [13,14].

Data analysis

Awareness of the Electronic Resources

Table 1. Awareness of research scholars with the e-resources.

University	Awareness of the e-resources		
	Yes	No	Total
IP	100% (200)	-----	100%
JMI	100% (200)	-----	100%
DU	100% (300)	-----	100%
JNU	100% (200)	-----	100%

Respondents were asked to confirm their awareness of the electronic resources whether they are aware of the electronic resources or not. The responses showed that 100% of research scholars are aware of the electronic resources in JMI, DU, JNU and IP Universities (Figures 1 and 2) (Tables 1 and 2).

Figure 1. Awareness of research scholars with e-sources. Note: (■)Yes; (■)No.

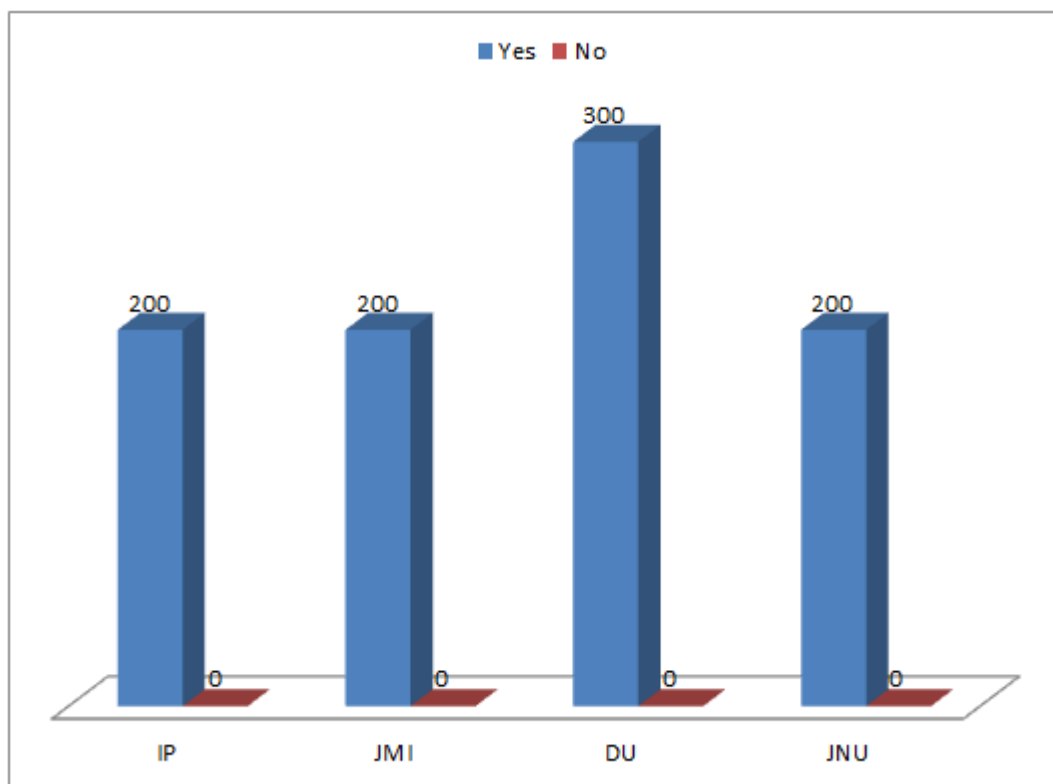Table 2. Awareness of research scholars with the e-resources in central universities in Delhi.

University	Awareness of the e-resources		
	Yes	No	Total
Central universities in Delhi	100% (900)	----	100%

Respondents in central universities in Delhi were asked to explain their awareness of the electronic resources; as to whether they are aware of the electronic resources or not? The responses showed that 100% research scholars were aware of the electronic resources in central universities of Delhi.

Figure 2. Research Scholars' awareness of e-resources in Delhi. Note: (■)Yes; (■)No.
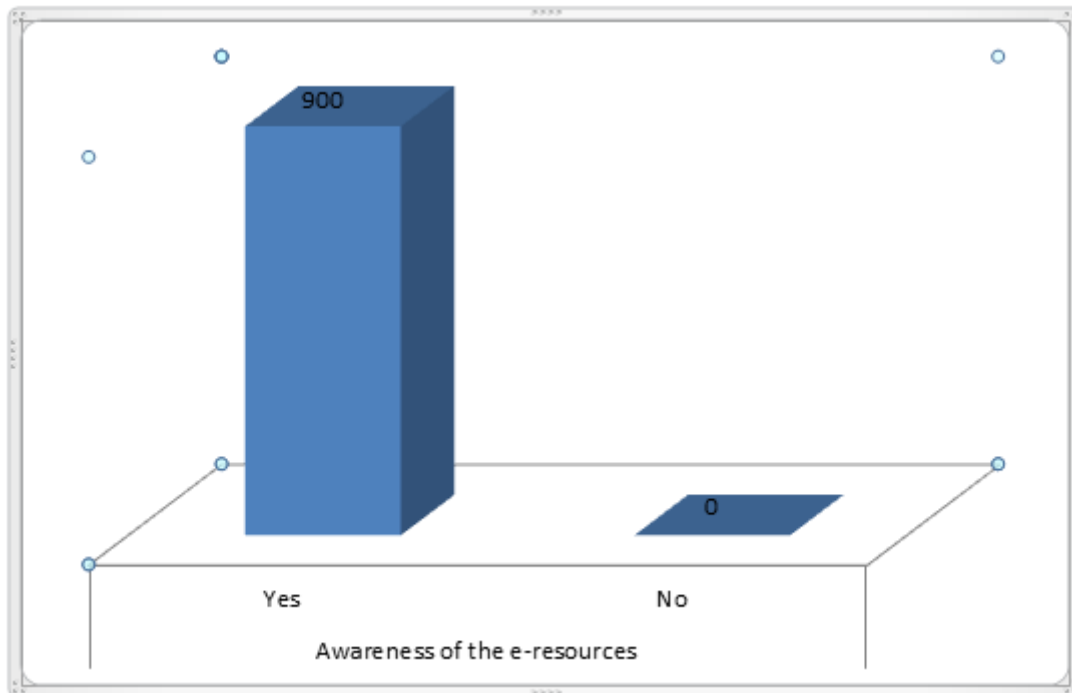

Table 3. Frequency of use of library by the research scholars.

University	Frequency of use of library			Total
	Daily	Weekly	Monthly	
IP	59.33% (119)	16% (32)	24.67% (49)	200
JMI	68% (136)	15.33%(31)	16.67% (33)	200
DU	57.67% (173)	36% (108)	6.33% (19)	300
JNU	61.50% (123)	29% (58)	9.5% (19)	200

The investigator asked the respondents to give details about their visits to library; how often do they avail the services of the library, daily, weekly or monthly? Research scholars from DU i.e. 36% followed by research scholars of JNU (29%) comprises the largest numbers to utilize and visit library on weekly basis (Figure 3) (Table 3). University of Delhi has lowest number of research scholars among all central universities surveyed who use library on monthly basis.

Figure 3. Frequency of use of library. Note: (■)Frequency of use of library daily; (■)Frequency of use of library weekly; (■)Frequency of use of library monthly.
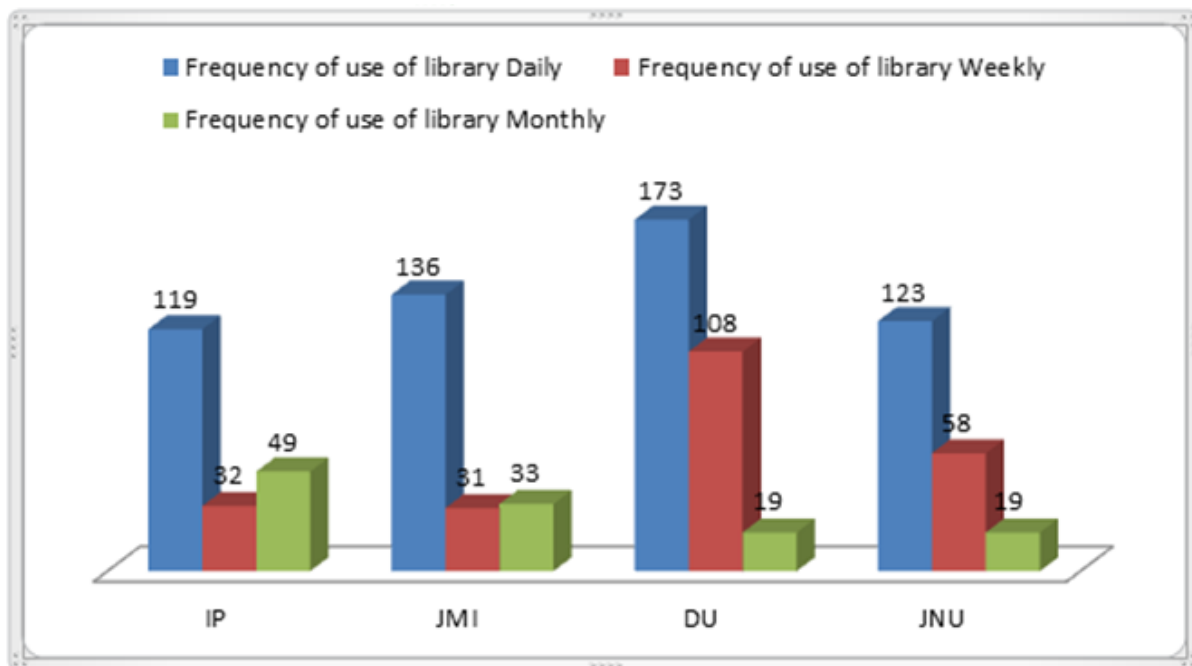
Table 4. Frequency of use of library by research scholars in central universities in Delhi.

Universities	Frequency of use of library			
	Daily	Weekly	Monthly	Total
Central universities in Delhi	61.23% (551)	29.08% -262	9.69% (87)	100% (900)

Respondents were asked to give details about their frequency of library use. Table shows that the central universities in Delhi i.e. 61.23%. 29.08% of users in central universities in Delhi use library weekly (Figure 4) (Table 4).

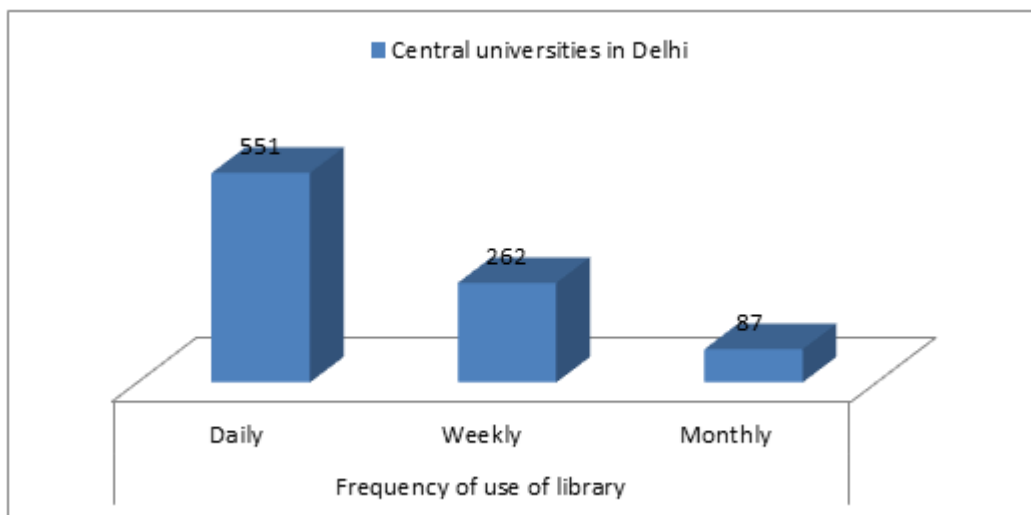**Figure 4.** Frequency of use of library by research scholars in Delhi. Note: (■)Central universities in Delhi.

Table 5. Present library use of research scholars.

University	Present library use			
	Increased	Decreased	About the same	Total
IP	55.33% (111)	29.33% (59)	15.34% (30)	100% -200
JMI	58% (116)	25.33% (51)	16.67% (33)	100% -200
DU	56% (168)	26% (78)	18% (54)	100% -300
JNU	61% (122)	31% (62)	08% (16)	100% -200

The researcher asked the respondents if their present library usage increased, decreased or is about the same in last 1-3 years. 61% of JNU respondents said that their present library use had increased. It has been noticed that there is overall increase in the usage of library by the respondents across all the universities surveyed (Figure 5) (Table 5).

Figure 5. Present Library use of research scholars. Note: (■)Increased; (■)Decreased; (■)About the same.
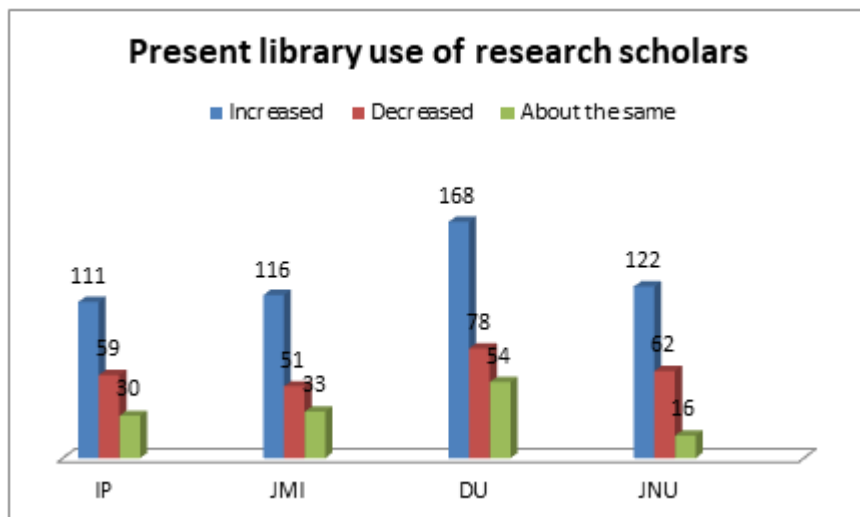
Table 6. Present library use of research scholars in central universities in Delhi.

Universities	Present library use			
	Increased	Decreased	About the same	Total
Central universities in Delhi	58% (522)	27.38% (246)	14.62% (132)	100% (900)

Overall, 58% of respondents from central universities in Delhi responded that their library usage had increased. The increased in availing the services of library was found in the central universities in Delhi which can be clearly seen in the graph (Figure 6) (Table 6).

Figure 6. Present library use of research scholars in Delhi. Note: (■)Central universities in Delhi.

Table 7. Familiarity of research scholars with the search engines and print sources.

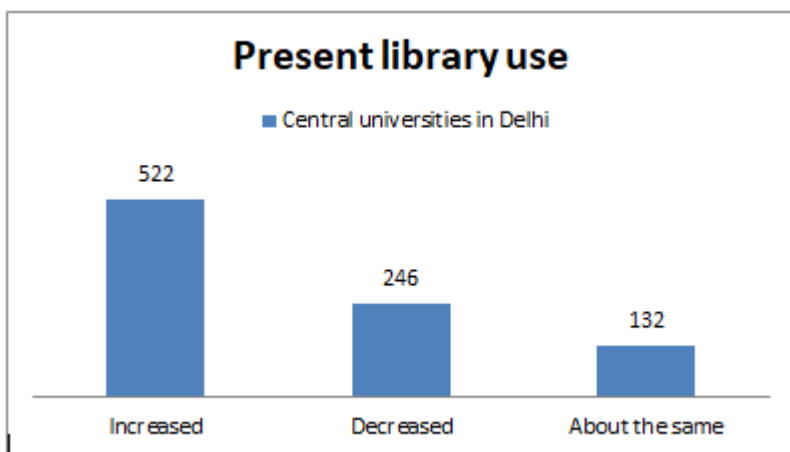| Familiarity	Universities	Familiarity	
		Search Engines	Print Sources
Familiarity	IP	68.66% (103)	72.67% (109)
	JMI	72% (108)	79.33% (119)
	DU	82.67% (248)	100% (300)
	JNU	84% (168)	91% (182)
Very familiar	IP	12% (18)	21.33% (32)
	JMI	13.33% (20)	17.33% (26)
	DU	10% (30)	----
	JNU	10% (20)	09% (18)
Somewhat familiar	IP	14.67% (22)	06% (09)
	JMI	13.33% (20)	03.33% (05)
	DU	05.33% (16)	----
	JNU	06% (12)	----
Not very familiar	IP	04.67% (07)	----
	JMI	01.33% (02)	----
	DU	01.33% (04)	----
	JNU	----	----

Respondents are extremely familiar with Search Engines and Print Sources.

RESULTS AND DISCUSSION

In the survey conducted investigator asked the respondents to rate their familiarity with two information sources i.e. search engines and print sources. In JNU 4.67% respondents were not very familiar with the search engines. More than 68% of the respondents, from each university, surveyed were extremely familiar with search engines. Highest familiarity with search engines and print sources has been noted from DU as 88% of respondents are extremely familiar with search engine and 100% with print sources (Figure 7) (Table 7). Lowest percentage of extremely familiar respondents with search engines and print sources is from JMI.

Table 8. Familiarity of research scholars with the Search Engines and Print Sources in central universities in Delhi.

Familiarity	Central Universities in	Familiarity	
		Search Engines	Print Sources
Extremely familiar	Delhi	80.62% (726)	92.46% (832)
Very familiar	Delhi	10.8% (97)	6.77% (61)
Somewhat familiar	Delhi	7.38% (66)	0.77% (7)
Not very familiar	Delhi	1.2% (10)	----

Overall (88.91%) respondents in Central Universities in Delhi (CUD) were extremely familiar with search engines. However, in case of familiarity with print sources, 92.46% respondents from CUD were familiar (Table 8).

Figure 7. Familiarity of research scholars with the search engines and print sources. Note: (■)Familiarity with search engines; (■)Familiarity with print sources.
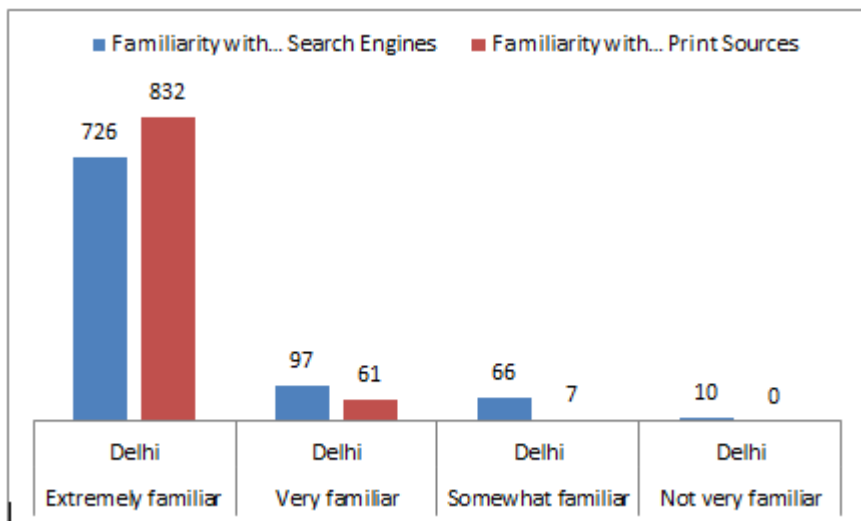
Table 9. Awareness and usage of electronic resources.

E-resources	Universities		E- resources	Universities	
Search engine	IP	100% (200)	E-magazines/ E-journals	IP	90% (180)
	JMI	100% (200)		JMI	94.67% (190)
	DU	100% (300)		DU	98% (294)
	JNU	100% (200)		JNU	96% (192)
Online Reference Sources	IP	100% (200)	E-database	IP	68% (138)
	JMI	100% (200)		JMI	70% (140)
	DU	100% (300)		DU	86.67% (261)
	JNU	100% (200)		JNU	81% (162)
E-theses	IP	88% (172)	E-encyclopedia	IP	12% (24)
	JMI	90% (180)		JMI	54% (108)
	DU	95% (285)		DU	70% (210)
	JNU	93% (186)		JNU	68% (136)
E-newspaper	IP	70.67% (153)	E-books	IP	43.33% (87)
	JMI	90% (180)		JMI	90.67% (181)
	DU	92% (276)		DU	93% (279)
	JNU	88% (176)		JNU	85% (170)
Online bookstore	IP	25.33% (51)	Audio books	IP	----
	JMI	30% (60)		JMI	62% (124)
	DU	51.33% (154)		DU	70% (140)
	JNU	45% (90)		JNU	65% (195)
E-Images					
	IP	----	Library websites	IP	89.33% (179)
	JMI	34.67% (69)		JMI	94.67% (189)
	DU	74.67% (224)		DU	96% (288)
	JNU	62% (124)		JNU	93% (186)
Subject Gateways	IP	----			
	JMI	61.33% (123)			
	DU	75% (225)			
	JNU	58% (116)			

Research and Reviews: Journal of Social Sciences

(Multiple choices were allowed so the total of percentages exceeds 100%)

Respondents were asked to indicate their level of awareness and usage of e-resources given below: 1. Search engines 2. Library Web sites 3. Online bookstores 4. E-newspaper 5. E-journals 6. E-encyclopedia 7. Electronic books (digital) 8 E-databases 9. Subject gateways 10. Online reference sources 11 E-theses 12. E-images 13. Audio books.

Respondents reported much awareness and familiarity with and usage of these e-resources (Table 9). Highest used e-resources among all the e-resources surveyed were online reference sources and search engines. Highest use of e-theses was reported from DU and JNU at 95% and 93% respectively. In case of JMI, 90% of respondents said that they used e-theses. E-newspaper is much used and popular in JMI and DU than JNU (Table 10). 98% respondents in DU are aware and using e-journals. It is evident from the data that University of Delhi is at the top in awareness and usage of electronic resources surveyed.

Table 10. Awareness and usage of electronic resources by the research scholars in central universities in Delhi.

E-resources	Universities		E- resources	Universities	
Search engine	Delhi	100% (900)	E-magazines/ E-journals	Delhi	96.61% (869)
Online Reference Sources	Delhi	100% (900)	E-database	Delhi	81.07% (730)
E-theses	Delhi	93.69% (843)	E-encyclopedia	Delhi	65.69% (591)
E-newspaper	Delhi	90.76% (817)	E-books	Delhi	90% (810)
Online bookstore	Delhi	44.46% (400)	Audio books	Delhi	66.61% (599)
E-Images	Delhi	61.53% (554)	Library websites	Delhi	94.76% (853)
Subject Gateways	Delhi	66.61% (599)			

(Multiple choices were allowed so the total of percentages exceeds 100%)

Overall table shows that 100% of respondents were aware and used search engines in CUD. However, there was significant difference in the number of respondents in CUD who were aware and use online book store. 90% respondents in central universities in Delhi were aware and used e-books.

Table 11. Medium of accessibility to e-resources by research scholars.

Medium of accessibility	IP	JMI	DU	JNU
CDs	15.33%	18%	6.67%	7.50%
DVDs	16.67%	20.67%	15%	12.50%
Internet	68%	61.33%	78.33%	80%
Total	100%	100%	100%	100%

Use of internet is high as a medium of accessibility to e-resources.

Respondents were asked to state the medium they use to access e-resources. JMI reported less use of internet in comparison to other universities surveyed. More than 20% JNU respondents use DVDs as a medium. Use of DVDs as a medium in DU and JNU is 15 % and 12.5% respectively (Table 11).

Table 12. Medium of accessibility to e-resources by research scholars in central universities in Delhi.

Medium of accessibility	Central Universities in Delhi
CDs	9.54%
DVDs	15.54%
Internet	74.92%
Total	100%

Responses of the respondents show that use of internet as a medium to access e-resources was 74.92% in central universities in Delhi. Use of DVDs in central universities in Delhi was (15.54%). Use of CDs as a medium to access e-resources was more in central universities in Delhi (Table 12).

Table 13. Extent of use of electronic resources and print materials by research scholars.

Extent of use of e-resources and print materials	IP	JMI	DU	JNU
E-resources only	12%	22%	11%	30%
Use E-resources most of the time	42%	14%	44%	21%
Use E-resources and print material equally	22%	34%	38%	25%
Use printed material most of the time	24%	30%	7%	24%
Total	100%	100%	100%	100%

Use of print resources most of the time is only 7% in DU which is quite low in comparison to other universities surveyed. Only 8% respondents in IP use electronic and print resources equally, which is very less in comparison to other universities surveyed. DU had highest use of electronic and print resources equally i.e. 38%, followed by JMI and JNU with 34% and 25% respectively (Table 13). Highest use of electronic resources most of the time was in DU i.e. 44% of the respondents used electronic resources most of times in DU.

Table 14. Extent of use of electronic resources and print materials by research scholars in central universities in Delhi.

Extent of use of e-resources and print materials	Central Universities in Delhi
E-resources only	19.38%
Use E-resources most of the time	30%
Use E-resources and print material equally	33.08%
Use printed material most of the time	17.54%
Total	100%

Investigator asked the respondents as to what extent they used e-resources and print materials. Use of electronic resources most of the time is about same as the use of print materials 33.08% respondents in central universities in Delhi use electronic resources and print materials equally and 30% of the total respondents use e-resources most of the time in central universities in Delhi (Table 14).

Table 15. Purpose for which research scholars use E-resources.

Purpose for which you use E-resources	IP	JMI	DU	JNU
For study and research	68% (102)	78% (117)	74.67% (224)	73.51% (147)
For improving knowledge	18% (27)	14.67% (22)	15.67% (47)	18.5% (37)
Career development	----	----	----	----
For finding quick information	14% (21)	7.33% (11)	9.66% (29)	8% (16)
Total	100%	100%	100%	100%

Table shows that the main purpose of using e-resources by the research scholars of all the six universities surveyed is study and research (Table 15). It shows that JMI has highest number of respondents who use e-resources for study and research i.e.78 per cent respondents among all the four universities followed by DU and IP with about equal number of respondents. Out of the total, 19 per cent respondents in IP used e-resources for improving their knowledge followed by JNU.

Table 16. Purpose for which research scholars use E-resources in central universities in Delhi.

Purpose for which you use E- resources	Central Universities in Delhi
For study and research	75.08% (488)
For improving knowledge	16.30% (106)
Career development	----
For finding quick information	08.62% (56)
Total	100%

It is evident from the above table that in central universities in Delhi 75.08% respondents used electronic resources for study and research (Table 16). Nevertheless, it becomes clear from the data that majority of Delhi used electronic resources for the purpose of study and research. More than 16% respondents in central universities in Delhi used electronic resources for the purpose of improving their knowledge.

Table 17. Publishers' E-journal/databases used by research scholars.

Publishers' E- journal/databases	IP	JMI	DU	JNU
MEDLINE/Pub Med	34.66%	38.66%	38%	----
Springer and Welmer	----	----	----	----
Project news	----	----	32%	38%
J-gate	----	28%	42%	34%
Science direct	----	78.66%	88%	82.50%
Taylor and Francis	----	----	12.66%	22.50%
JSTOR	30%	34.66%	49.66%	46.50%
UGC Infonet	66.66%	88%	86%	86.50%

(Multiple choices were allowed so the total percentages exceeds 100%)

Investigator asked the respondents to make clear which publishers' database or e-journal they use. It was observed that UGC Infonet had highest usage among all the other databases and e-journals in all the universities surveyed (Table 17). IP and JMI were the biggest users of UGC Infonet with 88% of respondents each, followed by JNU and DU at 86.5% and 86%. Taylor and Francis have lowest usage among all the other databases. Springer and Welmer in JMI, DU and JNU in Delhi were not used at all.

Table 18. Publishers' E-journal/databases used by research scholars in central universities in Delhi.

Publishers' E-journal/databases	Central universities in Delhi
MEDLINE/Pub Med	26.46%
Springer and Welmer	----
Project news	26.46%
J-gate	36.30%
Science direct	84.15%
Taylor and Francis	12.76%
JSTOR	45.53%
UGC Infonet	86.61%

(Multiple choices were allowed so the total percentages exceeds 100%)

Findings showed that there was no use of Project News and Taylor and Francis and Springer and Welmer in central universities in Delhi. Use of UGC Infonet was very high with 86.61% of respondents in central universities in Delhi followed by Science Direct at 84.15% respondents. Science Direct was used by 84.15% respondents in Delhi (Table 18).

FINDINGS

100% users (respondents) in central universities in in Delhi are merely aware of electronic resources and not with the types of electronic resources. However, there is a remarkable difference in the awareness and use of various types of electronic resources by the users in central universities in Delhi. So there is significant difference between users in central universities in Delhi in context of awareness and use of different types of e-resources apart from the awareness merely with the term electronic resources [15,16].

69.64% users (respondents) in central universities in Delhi only 61.23% respondents visit library daily. There is significant difference between the numbers of users who visit library daily in central universities in Delhi.

Present library use of respondents in central universities in Delhi has been increased, as 58% respondents in central universities in Delhi indicated as such.

Central universities in Delhi 80.62% users were extremely familiar with search engines. In central universities of Delhi 92.46 per cent respondents were extremely familiar with print sources [17].

100% users (respondents) in central universities in Delhi were aware and used search engines and online reference sources. 82.91% users in central universities were aware and used e-theses and 93.69% users in central universities in Delhi were aware and used e-theses. 90.76% users in central universities in Delhi were aware and used e-newspapers. 96.61% users in central universities in Delhi were aware and used e-journals. 65.69% users in central universities in Delhi were aware and used e-encyclopedia. So, there is significant difference between the number of respondents in central universities in Delhi who were aware and used electronic resources.

Internet is efficiently used as a medium to access electronic resources by the respondents in central universities in Delhi.

Use of electronic resources, most of the time, was high in central universities in Delhi, 30 percent users in central universities in Delhi used electronic resources most of the time.

There were 33.08 percent users in central universities in Delhi who use electronic resources and print materials equally.

Use of electronic resources by the research scholars in central universities is in Delhi. 75.08 per cent respondents in central universities in Delhi. No one in central universities in Delhi used e-resources for the purpose of career development.

Users in central universities in Delhi utilized the services of UGC Infonet. 86.61% users in central universities in Delhi used UGC Infonet. Use of Science direct was high in central universities in Delhi.

Majority of research scholars i.e. 50% in central universities in Delhi, face problem while accessing electronic resources.

Research scholars who faced problem while accessing e-resources in central universities in Delhi said they faced problem due to various factors. 40.26 per cent respondents of those who faced problem accessing e-resources said the problem faced by them was due to the too much information retrieved followed by limited access to computer terminals [18].

In central universities in Delhi around 64 per cent of those 50 per cent research scholars, who faced problem while accessing e-resources said that the problem aroused due to too much information retrieved while searching e-resources followed by limited access to computer terminals.

68.18% users (respondents) in central universities in Delhi were extremely familiar with e-encyclopedia. 80.15% users (respondents) in central universities in Delhi were extremely familiar online reference sources. 79.07% users (respondents) in central universities in Delhi were extremely familiar with online databases [19].

55.38% users (respondents) in central universities in Delhi used e-books to initiate their search for information. 76.46% users (respondents) used online databases to begin their search for information in central universities in Delhi.

CONCLUSION

E-resources need some kind of energy (e.g. electricity) and compatible hardware to be maintained and used. E-resources can only be accessible when required hardware and energy is there. Those with the short sightedness cannot read e-resources and it is difficult for them to identify e-resources. Nevertheless, print resources have their own importance. Despite technological advancements the paramountcy of print resources has not decreased. In the academic world, even today, the most preferred and reliable source is still print sources of information due to its controlled vocabulary and zero possibilities of changes. However, this does not mean that e-resources are all together false or fake. The information which reaches to its seeker is almost protected and the chances of manipulation are less. The hosting sites of e-resources are protected and it is not easy to hack since it is secured by many codes and passwords. Variation in the accessibility, use and awareness over e-resources has been witnessed among the users in different university libraries. Therefore it is required to know, how many users in different universities are actually aware of e-resources. Those who are aware of and use e- resources are found satisfied. In the present study an effort has been made to know the awareness and use of e-resources by the users of central universities in Delhi. The study exposed that e-resources have a great impact on the research scholars in central universities in Delhi. The future of the university libraries depends upon the good collection of e-resources. So, it is necessary for the university libraries that it must update their collections (both print and electronic) on regular basis. It should have expert and experienced library professionals to give better services to the researcher with the changing information world.

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