Use of online resources in Delhi Technological University

Chetan Sharma

Assistant Librarian, Guru Gobind Singh Indraprastha University, Delhi

e-mail: drchetansharma@gmail.com

ABSTRACT

The existence of online resources in any academic institution is a matter of pride, for these resources are immortal elements of any academic or special library. Today, researchers are dependent on e-resources for their assignments. E-resources are not only capable of providing fast and easy access to material, but also provide the nascent and appropriate information. The present study is an effort to find out the use of e-resources and its impact on teachers and research scholars at Delhi Technological University.

Keywords: e-Resources; Databases; Engineering; Teachers; Research Scholars

INTRODUCTION

Electronic resources have become established as a commanding instrument for research in the era of information and communication technology (ICT). Today, the endurance of university libraries is not possible without the existence of e-resources. Electronic information sources can be seen as a recent development in information technology and are among powerful tools ever invented in human history. Electronic information sources are becoming more and more important for the academic community (Kumar and Kumar, 2008). Academic libraries are enriching their electronic collections and using digital technology to meet the increasing information requirements of the users. The libraries have to perform the new tasks, such as knowledge refining, spreading information literacy and acting as learning organizations by employing a mix of traditional and latest e-learning tools (Chandra and Patekar, 2007). Among of the more comprehensive knowledge podiums are IEEE, UGC Info-net, Science Direct, Nature Bundle and Emerald. It is golden period for researchers as the required information is on the desktop/laptop of individuals. Besides this, e-resources have a number of significant characters such as minimum storage space, huge information capability, great sharing facility and large prospects for collection extension. It becomes the duty of university librarians to evaluate the various e-resources from time to time, because a major portion of the library budget is spent on subscriptions of e-resources.

PREVIOUS STUDIES

A number of studies on the use of e-resources in academic institutions have been carried out during the past decade. Some of the major studies are discussed here as a review of the literature. The study of Singh et al. (2009) attempted to determine the usage of e-resources of various publishers available under UGC-INFONET by the academic community of Manipur University. Kannappanavar and Swamy (2009) expressed users' dissatisfaction with audiovisual materials, CD-ROM databases, e-books, and e-journals and the total inadequacy of e-resources in agricultural university libraries in South India. Sharma (2009) observed that the availability of e-resources on the GGS Indraprastha University campus was almost sufficient for all the existing disciplines but the infrastructure to use these resources was not adequate and could hinder the ability to meet the requirements of users. Deng (2010) found that the use of electronic resources is common in the universities in Australia. A majority of respondents believed that electronic resources were useful. The awareness and the quality of the information available were important factors affecting the use of electronic resources. Kumar and Kumar (2010) conducted a study on Indian academics, the results of which showed that respondents are aware of e-sources and also the internet. Even though a majority of the academic community uses electronic information sources for their academic-related work, most of them prefer print to electronic information sources. Tahir et. al. (2010) conducted a study on use of electronic information resources at the Punjab University. The results of their study revealed that the availability of electronic resources, such as electronic databases (online and CD-ROM), electronic journals, digital books, internet, and e-mail had a great impact on the information-seeking behavior of the humanists. They faced many problems in retrieving and using electronic facilities, but they perceived that their work had become easier with technology. Bhatt and Rana 2011 in their study on engineering academics of Rajasthan found that more than 65 per cent of professors/readers and lecturers surveyed indicated they enhanced their academic competence with the use of e-resources. The use of e-resources by lecturers was higher than the professors and readers except in the case of e-theses. Sharma et al. (2011) in their study on NDRI and NBAGR found that majority of the respondents were well aware of various e-resources in their respective fields and frequently used them. E-journals were the most preferred e-resource among the respondents as they are able to access desired information easily and confidently. Databases and electronic journals were used by academics for both teaching and research, among many other uses. Academics have indicated satisfaction with their use of electronic resources and have expressed their interest to the continuous use of e-resources because it leads to better research and enhances scholarly communication (Adebayo 2011).

SURVEY DESIGN

This study was limited to the teachers and research scholars of Delhi Technological University, Delhi. A questionnaire survey was conducted to collect the data on the use of e-resources, traditional versus e-resources, the purpose of using e-resources, their preference of e-mail account, the most used databases, the most preferred e-resources, and their favorite search engines. A total of 100 questionnaires were randomly distributed to the users to collect the primary data, out of which 92 questionnaires were found worthy for analysis i.e. 62 teachers and 30 research scholars. The questionnaires were filled by personal visits to users. The collected data was analyzed and is presented in the tabular and graphical form.

BACKGROUND

Delhi Technological University is one of the most premier institutions in the field of engineering and technology. It has 71 years of tradition of excellence in engineering and technology education, research and innovations. The University (initially established under the name of Delhi Polytechnic) came into existence in the year 1941 to cater the needs of Indian industries for trained technical manpower with practical experience and sound theoretical knowledge. The institution was set up at historic Kashmere Gate campus as a follow up of the Wood and Abott Committee Report of 1938. It comprised of a multi disciplinary and multi level institution offering wide ranging programmes in engineering, technology, arts and sculpture, architecture, pharmacy and commerce. The national diploma awarded by the institution was recognized as equivalent to degree level for the purposes of employment. In 1952 the college was affiliated with University of Delhi and started formal degree level programmes. Delhi College of Engineering was the mother institution of a number of national projects including IITD, SPA, College of Arts and even the famous FMS. Till 1962, the college was under the direct control of Ministry of Education, Government of India. In 1963, the administration of the college was handed over to Delhi Administration. For academic purposes, the college was affiliated to University of Delhi since 1952. From July 2009, the DCE has become Delhi Technological University vide Delhi Act 6 of 2009 (www.dce.edu)

DTU is an institution which defines and continues to update methods of engineering and architecture in India. It provides its students with modern educational facilities while retaining traditional values, as well as using its strong industrial contacts to mold young, talented individuals who can compete in the global arena. The aim of DTU is to rank among leading universities globally. Consequently, DTU's mission is to educate individuals to be competitive not only in India, but all over the world. Within an intensely competitive environment, the college has adopted a dynamic, global, high-quality, creative and communicative approach in education, as well as research and development (www.dce.edu).

DISCUSSION

Use of Various e-Resources

It can be seen that the majority of the teachers and research scholars rate the e-journals as their first preference i.e. 88.71% and 93.33% respectively. The second highest preference is given to e-mail by teachers with 88.71%, whereas 73.34% research scholars use e-research reports followed by e-mail users with 70%. 60% research scholars consult e-thesis which is high in comparison to teachers. 64.52% teachers and 56.67% research scholars prefer to use WWW. In case of e-research reports and e-thesis teachers are far behind of research scholars, it is so because researchers review the said material for their research. Monash library users are increasingly dependent on electronic resources, the majority of the respondents preferred databases, e-journals and e-books, (Wilson, 2005).

179

Table 1: The Use of Various e-Resources among Teachers and Research Scholars

Databases	Teachers	Research Scholars
E-Journals	55 (88.71%)	28(93.33%)
E-Data archives	12 (19.35%)	7(23.34%)
E-Manuscripts	18 (29.03%)	6(20%)
E-Maps	7 (11.29%)	3(10%)
E-Books	20 (32.26%)	12(40%)
E-Magazines	10 (16.13%)	15(50%)
E-Thesis	12 (19.35%)	18(60%)
WWW	40 (64.52%)	17(56.67%)
E-Newspaper	25 (40.32%)	12(40%)
E-Mail	55 (88.71%)	21(70%)
E-Research Reports	18 (29.03%)	22(73.34%)
Bibliographic Databases	5 (8.06%)	6(30%)

Interface of Library Web Site is User Friendly

Figure 1 indicate that majority of the respondents i.e. 83.87% teachers and 100% research scholars indicated that the interface of library website is user friendly. A few of faculty members (16.13%) think that the interface of library website is not user friendly.
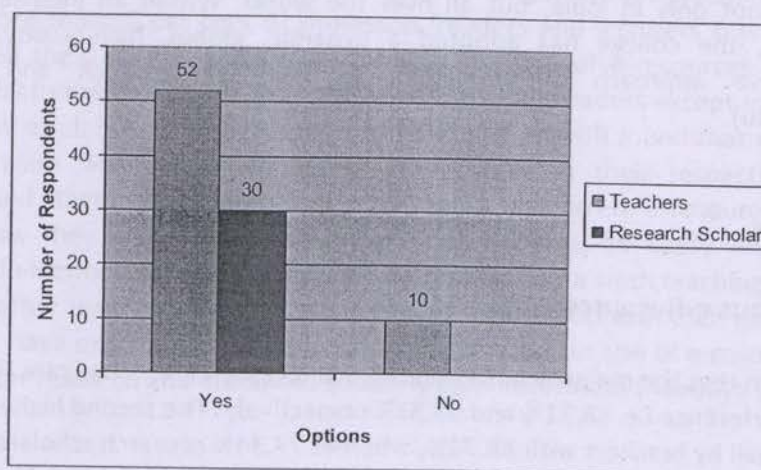

Figure 1: User Interface of Library Web Site

Use Library Web Site as Gateway to Access the Electronic Sources/Databases

Figure 2 indicates that 80.65 % teachers and 80% research scholars use library website as a gateway to access the electronic sources/databases. While few of the respondents i.e. 19.35 % and 20 % teachers and research scholar respectively use library website as gateway to access the electronic sources.
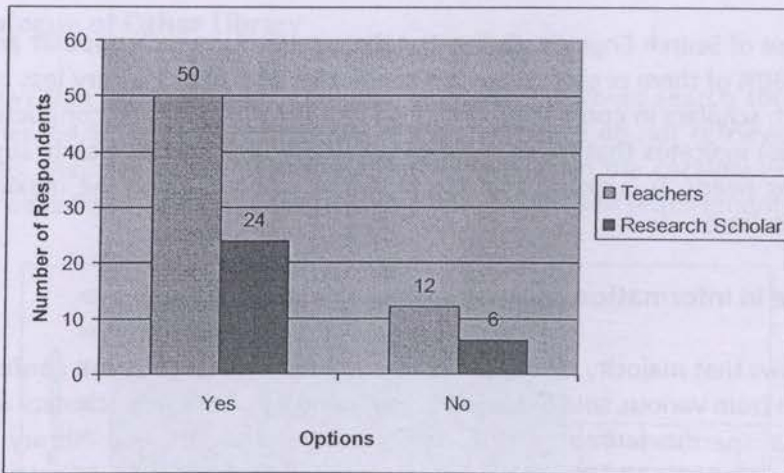
Figure 2: Use Library Web Site as Gateway to Access the Electronic Sources/Databases
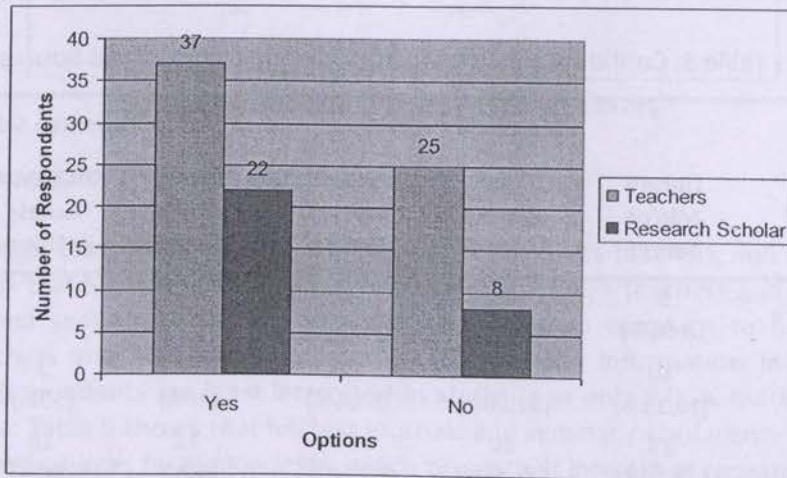
Get Training to Access e-Resources

Figure 3: Training to Access e-Resources

Figure 3 shows that 59.68% teacher and 73.33% research scholars get the training regarding the access of e-resources. 40.32% teachers and 26.67% research scholar did not get any training to access e-resources. It is observed that the majority of the respondents are capable to retrieve the desired information by web or online resources.

SOURCES THAT PROVIDE MOST REQUIRED INFORMATION

Table 2: Source of Information

E-Resource	Teachers	Research Scholar
E-Books	7(11.29%)	-
E-Journals	30(48.39%)	18(60%)
Online Databases	-	9(30%)
Search Engines	25(40.32%)	3(10%)

Table 2 shows that e-journals and search engines are on the top among the e-resources used by respondents in Delhi Technological University. 48.39% teachers and 60% research scholars prefer to use E-Journals where as 40.32% teachers and 10% research scholars

make the use of Search Engines. Online-Databases are also much popular among research scholars as 30% of them prefer to use the same. Use of E-Books is very less by the teachers and research scholars in compare to other on line resources. Study conducted by Rani and Zainab (2006) indicates that users seem to use the e- journals to mainly support research and teaching needs. It is noted that the research scholars make the maximum use of e-Journals/databases.

Confidence in Information Seeking from Various Sources

Table 3 shows that majority of the teachers and research scholars are confident in seeking information from various sources. 66.67%, 60% and 40% research scholars are confident in retrieving a specific journal article, open access archives and library mirror server respectively. 59.68%, 37.10% and 32.26% teachers are confident in retrieving a specific journal article, open access archives and library mirror server respectively. 26.67% research scholars and 11.29 % teachers never try to access of Library Mirror Server. 32.26% teachers and 10% research scholars are somewhat confident in retrieving open access archives. 20% of the research scholars are also somewhat confident in accessing a specific journal article.

Table 3: Confidence in Information Seeking from Various Sources

Seeking Information	Teachers			Research Scholar		
	Library Mirror Server	Open Access Archives	A Specific Journal Article	Library Mirror Server	Open Access Archives	A Specific Journal Article
Not Confident	5 (8.06%)	5 (8.06%)	2 (3.23%)	-	-	3 (10%)
Somewhat Confident	10 (16.13%)	20 (32.26%)	5 (8.06%)	3 (10%)	3 (10%)	6 (20%)
Confident	23 (37.10%)	20 (32.26%)	37 (59.68%)	12 (40%)	18 (60%)	20 (66.67%)
Extremely Confident	5 (8.06%)	2 (3.23%)	5 (8.06%)	-	-	-
Never do this	7 (11.29%)	5 (8.06%)	-	8 (26.67%)	2 (6.67%)	-

Use of e-Resources Fulfils the Purpose of Current Teaching

62.90% teachers and 30% research scholars feel moderate in fulfilling their purpose of teaching by using e-resources, where as 27.42% teachers respond it minimal. 50% research scholars feel the extensive use of e-resources in teaching where as 30% responds it moderate. The results of table- 4 reveal that e-resources have a great impact on the teaching.

Table 4: Use of e-Resources to Fulfil the Purpose of Current Teaching

Opinion	Teachers	Research Scholar
Minimal	17(27.42%)	3(10%)
Moderate	39(62.90%)	9(30%)
Extensive	4(6.45%)	15(50%)
Don't use	2(3.23%)	3(10%)

Search Catalogue of Other Library

Figure 4 shows that 70% research scholars and 35.48% teachers search the catalogue of others libraries. 64.52% teachers and 30% research scholars do not retrieve catalogue of other libraries. Majority of the Teachers is not interested in the catalogues of the other libraries, it means Delhi College of Engineering library fulfill their requirements.
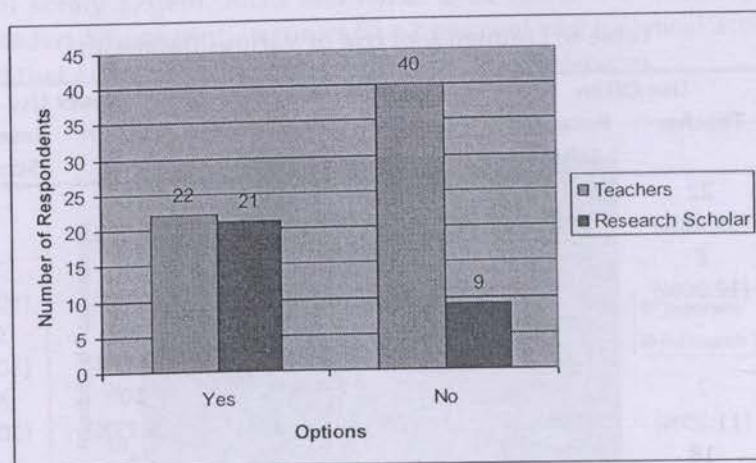

Figure 4: Search Catalogue of Other Library

Type of Information Prove Worthy

Table 5 indicate that majorly of the respondents i.e. 67.74% teachers and 80% research scholars think that full text journals are proven worthy, 35.48% teachers and 40% research scholars found seminar/conference news more worthy in compare to other sources. 20.96% teachers and 40% research scholars found useful information in bibliographic databases. Respondents are least interested in statistics as only 8.06% teachers prefer to use the same. Table 5 shows that full text journals and seminar / conference news are the most preferred sources by respondents, which prove their interest of research. Being able to retrieve full-text articles to the desktop is highly valued and expected, rather than exceptional (Beard, *et al.* 2007).

Table 5: Type of Information Prove Worthy

Type of information	Teachers	Research Scholar
Bibliographic Databases	13(20.96%)	12(40%)
Full-text Journals	42(67.74%)	24(80%)
Seminar/ Conference News	22(35.48%)	12(40%)
Statistics	5(8.06%)	--
Other Resources (Pls. Specify)	--	--

Frequency of Use of Various Databases

Table-6 shows that majority of the respondents prefer to use Springer Link, IEEE and Science Direct databases. 51.61% teachers often use Springer Link followed by IEEE with 35.48% responses. 70% research scholars often use IEEE and Science Direct followed by Springer Link with 60% research scholars. 40% research scholars use Wikipedia often

183

whereas 20% use it sometimes. 37.10% teachers use Wikipedia sometimes whereas 24.19% use it often. Science Direct is used often by 29.03% teachers where as 19.35% use it sometimes. UGC info-net is the prominent databases for Indian scenario but its use is not up to the mark. In the similar study Dadzie (2005) found that scholarly databases i.e. Emerald, Academic Search Premier and Blackwell-Synergy are used by 18, 14 and 12 per cent respondents respectively.

Table 6: Frequency of Use of Various Databases

Database	Use Often		Use Sometimes		Never Use		Unfamiliar With	
	Teacher	Research Scholar	Teacher	Research Scholar	Teacher	Research Scholar	Teacher	Research Scholar
IEEE	22 (35.48%)	21 (70%)	22 (35.48%)	9 (30%)	10 (16.13%)	-	3 (4.84%)	
Nature	8 (12.90%)	-	7 (11.29%)	12 (40%)	20 (32.26%)	3 (10%)	5 (8.06%)	
Emerald	-	3 (10%)	5 (8.06%)	3 (10%)	17 (27.42%)	9 (30%)	15 (24.19%)	(1
Web of science	7 (11.29%)	6 (20%)	15 (24.19%)	9 (30%)	10 (16.13%)	9 (30%)	8 (12.90%)	
Science Direct	18 (29.03%)	21 (70%)	12 (19.35%)	5 (16.67%)	8 (12.90%)	-	5 (8.06%)	
ACM	5 (8.06%)	3 (10%)	5 (8.06%)	-	5 (8.06%)	-	10(16.13 %)	
Wikipedia	15 (24.19%)	12 (40%)	23 (37.10%)	6 (20%)	12 (19.35%)	6 (20%)	2 (3.23%)	
Springer link	32 (51.61%)	18 (60%)	15 (24.19%)	12 (40%)	3 (4.8%)	-	3 (4.84%)	
UGC Info-Net	15 (24.19%)	-	16 (25.81%)	9 (30%)	10 (16.13%)	6 (20%)	10 (16.13%)	(2

Traditional vs e-Resources

Table 7 shows that 88.70% teacher feel that in comparison to traditional resources, e-resource are time saving and 83.87% teachers are capable to use e- resources easily. 80% research scholars opined that e-resources are time saving, easy to use and more informative in compare to traditional resources. 51.61% teachers also think that e-resources are more informative. 60% research scholars and 56.45% teachers opined that e-resources are more useful in compare to traditional resources. Responses shows that e-responses are more preferred in compare to print/traditional resources in all respect. 59 percent of respondents opined that e-resources offered easier access to information within a few minutes a similar number noted that e-sources provided access to a wide range of information (Kumar and Kumar, 2010).

Table 7 : Traditional vs e-Resources

Opinion	Teachers	Research scholars
Time saving	55(88.70%)	24(80%)
Easy to use	52(83.87%)	24(80%)
More informative	32(51.61%)	24(80%)
Less expensive	17(27.41%)	12(40%)
More useful	35(56.45%)	18(60%)

Do e-Resources Underrate the Importance of Traditional Resources

Figure 5 indicates that 88.71% teachers and 70% research scholars think that e-resource can underrate the importance of traditional resource of information. 30% research scholars and 11.29% teachers feel that e-resource do not underrate the importance of traditional resource of information. Results show that e-resources are the big threat for the traditional library system. Bhatt and Rana, 2011 found that maximum respondents (professors/readers 54 per cent, lecturers 52.12 per cent and technical assistants 27.5 per cent) believed that e-resources are not substitute of library services.
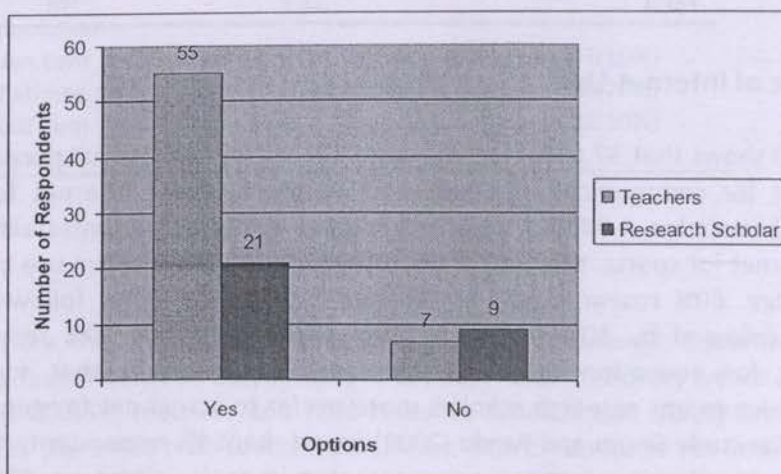

Figure 5: e-Resources Underrate the Importance of Traditional Resources

e-mail Account Preferred

Table 8 indicate that massive majority of respondents i.e. 83.87% teachers and 100% research scholars use free e-mail service like gmail, yahoomail etc. only 16.13% teacher use university e-mail service. The teachers feel that the institute e-mail facility should be provided to each faculty members.

Table 8: e-mail Account Preferred

e-Mail Service	Teachers	Research Scholar
Provided by university e-mail service	10(16.13%)	-
Free e-mail service e.g. gmail, yahoo, rediff	52(83.87%)	30(100%)
Total	62	30

Frequency of Internet Use

In order to frequency of Internet use, the respondents were asked to indicate anyone of six categories. It has been found that 51.61% teacher and 80% research scholars use Internet on daily basis whereas 48.39% teachers and 20% research scholars use Internet 2-3 times in a week. None of the respondents has reported using Internet once a week, once a fortnight, once a month or rarely. In the similar study Parameshwar and Patil, 2009 found that about one-third respondents use Internet 2-3 times in a week and nearly another third use it daily. 45.24% and 25.39% respondents use Internet often and very often respectively (Kumar and Singh, 2009).

Table 9: Frequency of Internet Use

Frequency	Teachers	Research Scholar
Daily	32(51.61%)	24(80%)
Once a week	--	--
2-3 times in a week	30(48.39%)	6(20%)
Once a fortnight	--	--
Once a month	--	--
Rarely	--	--
Total	62	30

Purpose of Internet Use

Table 10 shows that 37.09% teachers use Internet for educational purpose whereas 27.41 % use it for communication/e-mail. 11.29% teachers use Internet for the purpose of general knowledge, 4.84% for news and 3.22% use Internet for entertainment. No teachers use Internet for sports. Majority of the (66.66%) research scholars use Internet for general knowledge. 60% research scholars browse Internet for news followed 40% for sports further followed by 30% for communication/e-mail. Only 10% research scholars use Internet for education and entertainment. Result shows that for preparations of competitive exams research scholars more prefer to access net for general knowledge. In the similar study Swain and Panda (2009) found that 54% respondents focus their Internet search primarily on accessing open access e-journals, where as 45% respondents on accessing online databases. Nearly half of respondents use the Internet for research, an almost equal number for education and about one-third for communication with colleagues and editors of scholarly journals, only 15% use it for entertainment (Parameshwar and Patil, 2009)

Table 10: Purpose of Internet Use

Purpose	Teachers	Research Scholar
Educational	23(37.09%)	3(10%)
Entertainment	2(3.22%)	3(10%)
News	3(4.84%)	18(60%)
Communication/e-mail	17(27.41%)	9(30%)
Sports	--	12(40%)
General Knowledge	7(11.29%)	20(66.66%)
Any other (please specify)	--	--

Search Engine Used

Table 11 shows that Google is the most dominated search engine as 100% research scholars and 96.77% teachers prefer to use it. 40% research scholars and 27.41% teachers use yahoo search engine as a search tool. 20% research scholars and 8.06% teachers prefer *Indiatimes*. 10% research scholars believe in rediff.com and scirus.com for searching information. 3.22 percent teacher use MSN.com, 3.22 percent use other search engine and 1.61 percent use excite.com. Google has established its leadership, as no other search engine subsists against Google.com. 74.30% of students always use Google (Alpan, 2011).

Table 11: Search Engine Used

Search Engine	Teachers	Research Scholar
Google.com	60(96.77%)	30(100%)
Yahoo.com	17(27.41%)	12(40%)
MSN.com	02(3.22%)	--
Lycos.com	--	--
Sanook.com	--	--
Alta vista.com	--	--
Excite.com	01(1.61%)	--
Hunsa.com	--	--
Kapook.com	--	--
Scirus.com	--	03(10%)
Indiatimes.com	05(8.06%)	06(20%)
Rediff.com	--	03(10%)
Any other	02(3.22%)	--

CONCLUSION

Online resources are the most favorite collection of the respondents. E-journals are the first choice of the respondents as they remain involve in research. Library website of DTU is user friendly and 80.65% teachers and 80% research scholars use library website as a gateway to access the electronic sources/databases. Mirror server is not much familiar among the respondents. Springer Link, IEEE and Science Direct are the most dominated databases as majority prefer to use these databases. E-resources have fully overpowered the traditional resources as 82.60% respondents think that e-resource can underrate the importance of traditional resource of information. More than 85% respondents feel that e-resources are time saving in comparison to traditional resources and 82.60% respondents are capable to use e- resources easily. Free e-mail services like gmail, yahoomail etc. are the most familiar while university based e-mail service is very less in use. Internet is being used very heavily and majority use it for general knowledge and news. Google is the most dominated search engine as almost 98% respondents prefer to use it.

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