

USE OF E- JOURNALS BY THE FACULTY: A CASE STUDY BASED ON UNIVERSITY OF KERALA

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ABSTRACT

The article critically examines the use of e-journals among faculty members of University of Kerala. The population is made up of 120 faculty members from the difficult departments of University of Kerala. Questionnaire method is adopted for data collection, 104 filled questionnaires are received back. Among them about 92 faculty members were aware about e-journals. The SPSS software package was used for analysing the data. Majority of the faculty members use e-journals for their research needs and career information. They preferred UGC-INFONET consortia, J-gate, JSTOR, and ICSSR consortia. To increase the use of e-journals, certain practical methods are suggested.

KEYWORDS: Consortia, e- journals, online journals, University of Kerala

1. INTRODUCTION

The electronic delivery of journals has resulted in the elimination of paper, the ease in handling complex data, tables, moving pictures, sound images and video clips. Because of the multidimensional features of e-journals, they are becoming the choice of academic and public library users. E-Journals are becoming very important information source for the faculty members to carry out meaningful research in almost all disciplines. The resource is widely used by research and development workers, other users of the libraries to carry out day today qualitative research, education and knowledge. In recent years there has been an increase in the number of e-journals available to libraries for their users to access. More titles are becoming available via publishers and subscription agents. With the application of Information Technology, particularly Internet, there has been a shift in comparative growth from traditional print journals to e-journals. E-journals are in the eye of the particular storm that has hit scholarly communication with the growth of the Internet and means not only to know their features and characteristics, but also the economics and political environment in which they reside and all the participants in the scholarly information chain from author to reader (Satyanarayana 18).

E-journals offer many opportunities to today's users that were not available to their predecessors. Because of the multidimensional features of e-journals, they are becoming the choice of academic as well as public library users. E-journals can be accessed round the clock across geographical barriers, which make e-journals omnipresent. The e-journals get published or reach the subscribers much before their counterparts. Another important feature of e-journals is that more than one person can access them at a time. Moreover, articles can be downloaded and printed simultaneously by more than one reader, depending on access rights and permission. Electronic journals offset the missing issue problems. If a particular volume of print version of the journal is not complete, library staff can download and print all the articles available online or can save it in digital form till the hard copy is supplied by the publisher. Electronic journals also include multimedia and graphics and text search is much easier and less cumbersome. Electronic journals are better for the environment, by reducing the space; dust and the air pollution. The hypertext available in the electronic journal will directly link to the areas of greatest interest and results in creative reading. Electronic publication provides online submission of manuscripts and we can also keep track of the submitted manuscripts with the reference number. This reduces the time of publication of manuscripts. The content of the electronic journal can be reproduced, forwarded, modified, and leading to possible problems with copyright protection and preserving authenticity (Mounissamy 91).

2. REVIEW OF LITERATURE

Thanuskodi, S., and S. Ravi (2011) reviewed the utilisation of digital resources by faculty and research scholars of Manonmaniam Sundaranar University, Tirunelveli. Nearly 67.14 per cent of the faculty is familiar with the use of digital resources, and majority of the members are using digital resources for research purpose, learning the required skills for the usage of digital resources through self-study.

Tyagi, Sunil (2011) measured the use of electronic journals and databases and have surveyed users; few studies have involved IIT Roorkee. The EIS is better for accessing current Comprehensive information. User's perception of e-resources as a replacement for print in meeting their information needs is 100% to a very high extent e-resources have become a substitute for printed materials.

Gupta, Dinesh K (2011) analysed the use of electronic journals from the INFONET consortium by faculty and research scholars of physics and chemistry at Kurukshetra University. The respondents are more attracted towards e-journals than print journals, they depend more on open-source materials than those available via INFONET, the need for training in using e-resources and retrieving information from them from time-to-time. The use of e-resources, particularly e-journals, is increasing in the developing countries.

Mukherjee, Bhaskar, and Prashant Kumar (2010) attempted to identify the user's requirement of online journals in general and to know the use of online journals that are available through UGC-Infonet e-journals consortium among the Faculty of Arts, Banaras Hindu University, Varanasi. There is a demand for more e-journal titles although a substantial number of users (61.90 percent) are satisfied with the existing model of UGC Infonet Consortium. The comprehensive training on availability and usability would be of great help to the users.

Nicholas, David, et al (2010) presented the results of the second phase of a Research Information

Network study, which sought to establish the impact of e-journals on the scholarly behaviour of researchers in the UK. High levels of gateway service use point to the re-intermediating of the broken chain between publisher and reader.

Satpathy, Sunil Kumar, and Biswanath Rout (2010) attempted to assess and evaluate the use of e-resources by the faculty members of C.V. Raman College of Engineering (CVRCE), Bhubaneswar. The faculty member are aware of the e-resources and various types of e-resources, e-database, and e-journals, and suggests measures for the improvement in the access facilities with high Internet speed and subscription to more e-resources by the Central Library of CVRCE.

Bennett, Denise Beaubien, and Amy G. Buhler (2010) pointed that librarians at the University of Florida surveyed their engineering faculty to determine faculty use of tables of contents in either print or online format. Respondents rely heavily on library-subscribed databases and they still pay attention to the journal name when reading articles. The survey results support a trend of relying more on the interpersonal network that is carefully built by researchers as their careers progress.

3. RELEVANCE OF THE STUDY

One of the most basic of e-journal services is to provide awareness and promote the collection to prospective users. Access to e-journals can make a significant difference in the quality of work because e-journals are a lifeline to scholarly information resources. E-journals are highly valuable for faculty members in preparing teaching materials, review of literature, preparation of articles, on line tutorials, distance education modules etc. Hence the use of e-journals by the faculty members in the University of Kerala became relevant.

4. OBJECTIVES OF THE STUDY ARE:

- To understand the purpose for which the faculties are using the e-journals
- To study the frequency of using e-journals
- To identify the types of consortia used by the faculty
- To identify the e-journals used by faculties in science, social science and library science
- To study the difficulties faced by the faculties in accessing e-journals
- To find out the most preferred format of e-journal
- To find out commonly followed searching pattern for e-journals
- To dig out problems in accessing e-journals

5. METHODOLOGY

The population is made up of 120 faculty members from the difficult departments of University of Kerala. Questionnaire method is adopted for data collection. The questionnaire is formulated keeping in view, of the objectives and various facets of the study and it is personally distributed to 120 faculties, out of which 104 filled questionnaires are received back. Among them about 92 faculty members were aware about e-journals. The SPSS software package was used for analysing the data.

6. SIGNIFICANCE OF THE STUDY

The availability of information in the e-journal has created an opportunity for global access to information. Since research is a rational process aiming at discovery of relationship among the phenomenon and it produces new knowledge. E-journals represent a significant and growing part of an academic and research environment libraries. The study offers a way to identify the acceptance of e-journal, usefulness, advantages and obstacles while encountered while accessing e- journals. This study will help to provide more facilities in e-journal services. Over the last few years there has been a rapid increase in the e-journals and this electronic delivery of journals has resulted in elimination of paper, the ease in handling complex data, tables, moving pictures, sound images and video clips. Because of the multidimensional features of e-journals, they are becoming the choice of academic and public library users.

7. ANALYSIS OF DATA

7.1 Gender wise distribution of respondents

The faculty of University of Kerala holding different types of membership constituted both male and female.

Table 1. Gender wise distribution of respondents

Gender	No. of response	Percentage
Male	50	48.07
Female	54	52
Total	104	100

7.2 Age wise distribution of respondents

Table 2. Age wise distribution of respondents

Age	No. of response	Percentage
30-40	28	27%
40-50	44	42%
50-60	32	31%
Total	104	100%

From the table it is evident that 28 (27%) of the respondents were between 30-40 age group, 44(42%) were between 40-50 age group and 32(31%) were between 50-60 age group.

7.3 Use of e-journals

Electronic information sources are often faster than the print materials. The faculty members are using electronic journal, e-books and CD-Rom databases for current information on their specific subject.

Table 3. Use of e-journals by the respondents

Use of e-journals	No. of response
Yes	92 (88%)
No	12 (12%)
Total	104

The above table indicates that 88 percent of the respondents use e-journal, while 12 percent of the respondents do not use e-journals.

7.4 Place of accessing e-journals

Table 4. Place of accessing e-journals

SI. No.	Place	No of Respondents	Percentage
1	Department	55	52.88
2	Campus library	7	6.73
3	Kerala University Library	12	11.54
4	Home	14	13.46
5	Other libraries	4	3.85

Table 4 reveals that majority of the respondents (52.88%) are accessing e-journals from the department itself, followed by the campus library, Kerala University Library, home and other libraries (6.73%, 11.54%, 13.46%, 3.85%) respectively.

7.5. Frequency of accessing e-journals

Table 5. Frequency of use of e-journals

SI. No:	Frequency	No of Respondents (92)	Percentage
1	Daily	39	42.39
2	Once in a week	24	26.08
3	Once in a month	12	13.05
4	Rarely	17	18.47

From the above table it is clear that majority (42.39%) of the faculty members use e-journals daily and a good number (26.08%) of the faculty members are using e-journals once in a week. It is interesting to note that 13.05% and 18.47% of the respondents use e-journals once in a month and rarely.

7.6 Opinion about speed of accessing e-journals

Table 6. Speed of accessing e-journals

SI. No:	Speed	No. of Respondents	Percentage
1	Fast	37	40.21
2	Slow	55	59.78
3	Very slow	0	0
4	Failed in getting access most of the time	0	0

From the above table it is clear that 59.78% of the faculty members are of opinion that they are experiencing fast in accessing e-journals. According to 59.78% of the faculty members, they feel slow in accessing e-journals.

7.7. Forms of Journals preferred

Journals are published in print and electronic format.

Table 7. Forms of journals preferred

SI. No:	Types of journals	No. of Respondents	Percentage
1	Print	18	19.56
2	Electronic	21	22.82
3	Both	53	57.60

The analysis reveals that 22.82% of the respondents choose electronic version as the better choice of journals form, where as 19.56% depends on print version of the journals. It is interesting to note that 57.60% of the respondents prefer both print, as well as electronic version

7.8 Use of Open Access Journals

Open-access journals are [scholarly journals](#) that are available online to the reader "without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself."

Table 8. Use of Open Access Journals

Use of Open Access Journals	No. of response	Percentage
Yes	87	94.56
No	5	5.43

Above table depicts that 94.56% the faculty members are using open access journals, but 5.43% of the faculties are not aware about the use of open access journals.

7.9 Level of satisfaction while conducting e-journal

Table 9. Level of satisfaction while conducting e-journal

SI. No:	Right result	No of respondents
1	Always	27
2	Most of the time	59
3	Rarely	6
4	Never	0

The analysis shows that majority of the faculties are satisfy the result of e-journal. The majority of the respondent (59) is satisfied most of the time and among the 27 respondent always satisfied.

7.10 e-journals used by the faculty members

Most of the top ranked journals from different discipline such as science, social science and library science are analyzed to determine their usage among the faculty.

Table 10. E-journals used by the faculty members

Subject	Journal Name	No. of Respondents	Percentage
Social science	American Economic Review	13	36.11%
	Economic Journal	24	66.66%
	American Journal of Sociology	8	22.23%
	American Sociological Review	2	5.55%
	Annual Review of Sociology	17	47.22%
	British Journal of Sociology	6	16.66%

Science	Astronomical Journal	12	23.53%
	Astrophysical Journal	8	15.68%
	Journal of the American Chemical Society	17	33.33%
	New Journal of Physics	4	7.85%
	Biochemical Journal	6	11.76%
	Biophysical Journal	11	21.57%
	European Journal of Biochemistry	1	1.96%
	American Journal of Botany	16	31.37%
	International Journal of Plant Sciences	3	5.88%
	Journal of Morphology	1	1.97%
	Journal of Natural History	6	11.76%
	Journal of Zoological Systematic and Evolutionary Research	3	5.88%
	Journal of Zoology	18	35.29%
Library science	Advances in Librarianship	1	20%
	Library and information science abstract	5	100%
	Library Reviews	1	20%
	LISTA	2	40%
	DLIST	2	40%
	Aslib journals	4	80%
	DESIDOC Journals	2	40%
	BMLA	1	20%
	ELIS	1	20%
	Library Consortium Management	1	20%
	Annals of Library and Information Science	3	60%

The analysis shows that the faculty members in different disciplines they suggest the priority of the journals based on the usage. 66.66% of Social Science faculty members prefer Economic journal, Annual Review of Sociology is preferred 17 by faculty members followed by American Economics Reviews (13 faculty members).

In science discipline a total of 14 journals are listed.35.29% of faculty members prefer Journals of the American Chemical society followed by 31.37% of faculties prefer American journal of Botany. Then the preferred journal is Astronomical Journal and 47.06 of faculty members prefer other journals.

In the Library Science the most preferred journal is Library and Information Science Abstract (100% faculty members preferred) followed by 80%, 60% and 40% of faculties preferred Aslib journals, Annals of Library and Information Science, LISTA, DLIST and DESIDOC journals each. 20% of faculty members preferred Advances in Librarianship, Library Reviews, , BMLA,

ELIS, Library Consortium Management, each.

7.11 Methods of search options

Table 11. Methods of search options

SI.No:	Search Method	Respondents	Rank
1	Author 's name	12	4
2	Article title	72	1
3	Journal title	47	2
4	Abstract	7	5
5	Subject	33	3
6	Keywords	6	6

Tables 11 indicates that 72 faculty members are searching e-journals by article title, 42 by journal title, by 33 by subject and 12 faculty members are preferred to use author name for searching e-journals.

7.12 Types of consortia frequently visit

Library Consortium is an Association of a group of libraries to achieve mutually the common objective. It is felt that the concept of e-journals consortia can work well the libraries without requiring additional fees to access the e-journals.

Table 12. Types of consortia frequently visit

SI. No:	Types of consortia	Respondents	Rank
1	JSTOR	48	3
2	UGC- INFONET	87	1
3	ICSSR	19	4
4	J-Gate way portal	52	2

The analysis shows that majority (87) of the faculty members are using UGC-INFONET consortia, followed by J- gate way portal. (52) Almost same number (48) of the respondents visit JSTOR consortia, only 19 respondents use ICSSR consortia.

7.13 Use of Electronic Information Sources

Table 13. Use of Electronic Information Sources

SI. No:	Type of Electronic Information sources	Respondents	Rank
1	OPAC	23	3
2	CD- Rom based Data bases	4	5
3	E-journals	57	1
4	E-books	21	4
5	Online	41	2

From the table, it is clear that 57 respondents use e-journals as their prime electronic information sources, 41 respondents basically focused on online information sources because it is freely available, 23 respondents use OPAC and only few faculties (4 respondents) use CD-ROM based information as main electronic information sources.

7.14 Method of learning about electronic information sources

Table 14. Method of learning about Electronic information sources

SI. No:	Methods of learning Electronic Information sources	No. of Respondents
1	Trial and error	27
2	Guidance from others	9
3	Self thought /study	56
4	Guidance from library staff	0

From the above table, it is clear that majority (56) of the respondents are of the opinion that the method of learning about accessing electronic information sources are by self thought/ study method, while trial and errors method was sought by 27 faculties. Only 9 of the faculty members got guidance from others, most of the respondents did not got training or any courses related to the use of e-resources.

7.15 Opinion about getting Full text of the article

Table 15 .Opinion about getting Full text of the article

SI. No:	Types of consortia	No. of Respondents
1	Always	29
2	Occasionally	48
3	Some times	15
4	Never	0

The analysis shows that (48) majority of the faculty members are occasionally satisfied with the full text of the journal articles, where as a good number (29) of the faculty members are satisfied with getting full text of the journal article always. The 15 members have sometimes satisfied with the full text.

7.16 Hindrance of using e-journals

Table 16. Hindrance of using e-journals

SI. No:	Hindrance	Respondents	Percentage	Rank
1	Too much information retrieval	39	42.39	2
2	Time consuming	81	88.04	1
3	Limited access to computer terminal	37	40.21	3
4	Using electronic resources often detracts from doing work	10	10.86	4
5	Lack of IT knowledge to effectively utilize the services	0	0	5

The above table reveals that 42.39% of the faculty members find too much information retrieval as the major problem of e-journals access 88.04% members find time consuming is one of the hindrance of using e-journals and 40.21% members find limited access to computer terminal is another problem.

7.17 Frequently used E- journals portals

The Kerala University Library, Campus Library, kariyavattam and some of the department libraries are subscribing national and international journals such as ACM digital library, IEEE / IEE electronic library, Elsevier's Science Direct etc.

Table 17. Frequency of using e-journal portals

SI No:	E- journal portal	No of Respondants	Percentage	Rank
1	Acm digital library	12	13%	5
2	ASEM Journals	13	14%	4
3	Proquest Science Direct	9	10%	8
4	Indian academy of sciences	10	11%	7
5	Ei village2	0	0	
6	ACM Reviews	6	7%	10
7	Nature	17	18%	3
8	IEEE/IEE electronic library	10	11%	7
9	Springer verlag's link	18	20%	2
10	Eluwer e-journals	11	12%	6
11	ASTM Journals	8	9%	9
12	Elsevier's science direct	19	21%	1
13	ASCE Journals	8	9%	9
14	Online resources discipline wise	19	21%	1

It is evident that both online resources and discipline wise, Elsevier's Science Direct is used by

the most of the respondents (21%), and ACM reviews were the least used by the respondents (7%).

7.18 Frequency of using components of e-journals

While browsing e-journals the users may prefer different means like, reading content page, abstract full text etc.

Table .18 Frequency of used components

SI.No:	Component of e-journals	No of Respondents	Rank
1	Table content	12	3
2	Journal abstract	53	1
3	Full text	27	2
4	Article reference	0	0
5	Alerting service	0	0
6	Others	0	0

The analysis revealed that most of the respondents (53) used journal abstract as the favourite component of e-journal, (27) of the respondents used full text and remaining (12) of the respondents used table content.

7.19 Purpose of use of e-journal by faculty members

Table.19 Purpose of use of e-journal

Purpose of use	Most	Often	Some times	Some what	Least
Research needs	47 (51.09%)	29 (31.52%)	16 (17.39%)	0	0
Education	33 (36%)	38 (41%)	4 (4%)	8 (9%)	9 (10%)
Carrier info	5 (5%)	7 (8%)	26 (28%)	0	54 (59%)
Professional achievements	27 (29%)	43 (47%)	14 (15%)	8 (9%)	0
Recreational	0	0	0	0	0
Current info	34 (37%)	18 (20%)	13 (14%)	22 (24%)	5 (5%)

The table shows the majority (51.09%) of faculty members use e-journals mostly for research needs, 37% uses it for current information needs and 5% used for career information. About half 47% of the respondents often used e-journals for professional achievements, 41% often use it for educational purpose and only 8% often use for carrier information.

Few of the respondents (28%) sometimes use e-journals for carrier information, 17.39% sometimes used it for research needs and 4% sometimes use it for educational purposes. About 24% used it for current information. Among the respondents 9% used of e-journals for education and professional achievements.

7.20 Problems in accessing E-journals by the faculty members

Table .20 Problems in Accessing E-journals by the faculty members

Problems	Most	Often	Some what	Some times	Least
Power failure	13	25	30	8	16
Lack of system speed	19	24	20	18	11
Searching is difficult	7	26	34	6	19
Core journals are very few	15	36	11	17	13
Difficult in accessing full text	24	11	27	13	17
Difficult to read from computer	10	22	31	19	10
Others	0	0	0		0

From the Table 11.20 it is clear that 24 respondents are mostly facing difficulties in accessing full text and only 7 respondents have the problem with searching difficulties. 36 of them often facing core journals are very few and just 11 faculty members are facing difficulty in accessing full text. 34 respondents felt somewhat occurred problem with searching is difficulty becomes and faculty members are some time facing problem with difficulty to read from computer.

7.21 Satisfaction Level in accessing of e-journals

Table .21 Satisfaction Level in accessing of E-journals

SI. No:	Rating	No of Respondents
1	Excellent	17 (18%)
2	Good	43 (47%)
3	Satisfactory	32 (35%)
4	Total	92

The above table shows that 18% users rated e-journal service as excellent. Only 47% users rated it as good and 35% of the faculty members are satisfied with the present situation. In this situation e-journals are very useful for the faculty members.

8. FINDINGS AND DISCUSSION

Majority of the faculty members use e-journals for their research needs and career information. About half of the respondents use e-journals for professional achievements. Few of the respondents use e-journals for carrier information and current information.

Majority of the faculty members access e-journals daily and a considerable number of respondents access e-journals rarely. The majority of the faculty members are using UGC-INFONET consortia, followed by J-gate way portal. About the respondents visit JSTOR consortia and few of the respondents are use ICSSR consortia. According to social science discipline majority of the faculty gives priority to economic journal. In the science subject most usage of journal under the topic zoology, chemistry and botany. In the library science most of the faculty is suggested LISA, followed by Aslib journals and Annals of Library and Information Science journals each. Majority of the faculty members discipline suggest the priority of the journals based on the usage. Social /Science faculty members prefer Economics journal, Annual review of Sociology is preferred, about half of the faculty members followed by American Economics Reviews.

In Science discipline a total of faculty members prefer Journals of the American Chemical society. A few of the respondents are prefer American journal of botany and Astronomical Journal. In the library science the most preferred journal is Library and Information Science Abstract. Following the faculty preferred LISTA, DLIST and DESIDOC journals each. About the faculty members preferred Advances in Librarianship, Library Reviews, Aslib journal, BMLA, ELIS, Library Consortium management, annals of Library and Information Science each. Majority of the faculty members find too much information retrieval, as the major problem of e-journals access find time consuming is one of the hindrance of usage and members find limited access to computer terminal. The majority of the respondents choose electronic version as the better choice of journals form, where as a few members are depend on print version of the journals. It is interesting that the respondents prefer both print, as well as electronic version of the journals. While seeking information through e-journals most of them prefer article title or journal title. But advanced search method is also used considerable. A good number of the respondents point out that, they have last problems with power failure while accessing e-journals. Difficulty in accessing full text is frequent occurred problem in accessing e-journals.

9. SUGGESTION FOR IMPROVEMENT

The university library has to organize regular user education programmes to familiarize the users with the location and access of e-journals. Make e-journals open to all, all the time. The technical journals should be provided through free access. It should be more benefit to professionals as well as common users. E-journals are essential in one campus, departments and also in university library. It helps in research needs and education. The facility for full text downloading should be provided.. A suitably guided subject wise handbook to be distributed among the faculty and researchers . The concept and availability of e-journals and proper training should given for library staff .

Making student and faculty aware of electronic journals can accomplish in different ways. Cataloging is one way to show the public what is accessible and available in the library computer database collection. But some libraries are not cataloging their e-journals because such journals are not physically present in the library collection. Another way to inform the public about e-journals is to give details directly on the library's web site through an e-journal's section, preferably listing individual journals.

The most important issue is that electronic journals require promotion in the same way as any other new information service. Documentation, training, publicity and usage demonstrations are all necessary to encourage usage and to distribute information. Electronic publishing creates an exciting time for libraries and librarians. No doubt, most journals will be available electronically in the future. Libraries and the information provider should be prepared to help their patrons with this transition from print to electronic journals. With the Web, electronic journals and other electronic resource libraries will continue their role as the information provider and will provide a collection that is easily accessible and relevant.

10. CONCLUSION

The result of the study offers significant information on the level of awareness and use of e-journals by the faculty members in University of Kerala. It shows that there is a high level use of the collection of e-journals among the teaching staff. The e-journals offers unlimited prospects for publication and distribution of information in electronic form. At present most of the libraries particularly University of Kerala are actively engaged in incorporating electronic media on networked environment to provide much needed primary research information. The study reveals that all the faculty members are using e-journals as a main medium to access scientific and research information. Most of the faculty members search e-journals through browse by subject or title methods. Elsevier's Science Direct is the most used publisher. The study has demonstrated that a large number of respondents use full text e-journals documents, if it is available. But the problem facing them is there is less number of significant full text document. The faculty members opined that users' orientation is helpful for using various kinds of e-journals. Like that the e-journals can support the users in a much better way.

REFERENCES

1. Sathyanarayana, N.V. . Electronic journal access and delivery models. 1. 3. DRTC Annual Seminar on Electronic Sources of Information, 2000. 18-23.
2. Mounissamy, P.,Kaliammal, A,Swaroop, Rani, . User's attitude towards electronic journal. V.50 (2), IASLIC Bulletin, 2005. 91-95.
3. Thanuskodi, S., and S. Ravi, . "Use of Digital Resources by Faculty and Research Scholars of Manonmaniam Sundaranar University, Tirunelveli." DESIDOC Journal of Library & Information Technology. 31.1 (2011): 25-30.
4. Tyagi, Sunil,. "Use and Awareness of Electronic Information Sources at IIT Roorkee, India: A Case Study." J LIS.it: Italian Journal of Library and Information Science .2.1 (2011).
5. Gupta, Dinesh K, . "Use Pattern of Print and Electronic Journals at the Kurukshetra University, India." Program: Electronic Library and Information Systems . 45.2 (2011): 213-30.
6. Mukherjee, Bhaskar, and Prashant Kumar, . "Use of UGC-Infonet E-Journals by Research Scholars of the Banaras Hindu University, Varanasi: A Case Study." Annals of Library and Information Studies . 57 .4 (2010): 339-47.

7. Nicholas, David, et al, . "Researchers' E-Journal use and Information Seeking Behaviour." *Journal of Information Science*. 36.4 (2010): 494-516.
8. Satpathy, Sunil Kumar, and Biswanath Rout, . "Use of E-Resources by the Faculty Members with Special Reference to CVRCE, Bhubaneswar." *DESIDOC Journal of Library & Information Technology*. 30.4 (2010): 11-6.
9. Bennett, Denise Beaubien, and Amy G. Buhler. "Browsing of E-Journals by Engineering Faculty." *Issues in Science & Technology Librarianship*. 61 (2010)

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