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Evaluating the Effective Use of Electronic Journals by the Academia: A Study

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ABSTRACT

Users' studies are one of the most prominent areas of research in library and information science. Now the trend is to examine the use of e-libraries, e-journals and e-databases. Many studies have been carried out both in India and abroad in this area. This study aims to examine the user behaviour of 66 out of 100 research scholars and faculty members of select departments at the University of Mysore like environmental science, sericulture science, zoology and genetics form the sample. Structured questionnaire with 5 point scale was used and the mean and SD values were calculated using SPSS. The major findings are: Users use both print and electronic sources of information. Majority of the respondents have learnt to use e-journals effectively from 'friends/colleagues'. The respondents 'look for quality controlled scientific and scholarly journals'. Respondents identify relevant electronic articles by 'browsing through recent issues' (mean=3.39) followed by 'searching full-text databases from publishers or aggregator' (e.g. Elsevier, Springer).

Keywords: E-journals, e-databases, search engines, effective use, evaluation, academia

1. INTRODUCTION

Users' studies are one of the most research areas in library and information science. Roughly few thousand papers published have been published in last three decades. Guruprasad & Nikam[1] inter alia in their book 'Recent trends in Electronic Information Resource' reported that between 1975-77, there is a growth rate of over thirty studies per year[2]. Alongwith studies on information use, information seeking behaviour and communication behaviour, lot of studies are being carried out in the area of use of e-resources in general and e-journals and e-databases in particular. One of significant studies of the recent times is use patterns of e-information resources by Aerospace engineers and scientists carried out by Guruprasad[3] as part of doctoral work is worth noting. This study is largely based on the work of Tenopir & King[4]. Some of the Indian studies are those of authors like Nikam & Promodini[5], Moghaddam & Talawar[6], Madusudan[7], Despande & Pathak[8], Haridasan & Khan[9], and Satpathy & Ravath[10] which are related to the present study.

E-information resources in general and e-journals/databases in particular have made enormous impact on the scholarly communication of academia in universities and related research institutes. Consistent use of these resources by the scholarly community has not only increased research productivity but also added to the quality. e-journals have made the access of scientific information convenient and easy. Investment on subscribing to e-journals by the libraries attached to institution of higher education has provided good value for money and the benefits to both the scientific community are for wider than the use of off-line journals. This study is an attempt to evaluate the effective use of these journals by the academia of the University of Mysore drawn form a few disciplines like environmental science, sericulture science, zoology, and genetics.

2. SCOPE AND COVERAGE

Scope of the present study is confine to the faculty members and research scholars of the University of Mysore. An attempt is made here to evaluate the use and accessing of e-journals. The scope of the study is further restricted to few science departments of University of Mysore such as - Environmental science, Sericulture science, Zoology and Genetics. In order to make an intensive study, the scope of the topic has been limited only to the University of Mysore and the disciplines as mentioned above. The students of Masters Degree are not chosen as the sample.

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3. OBJECTIVES OF STUDY

The main objectives of the study are to:

(i) Know the purpose of seeking information;

(ii) Study the frequency of using e-journals;

(iii) Make a comparative analysis of usage of print verses e-journals;

(iv) Find out the preferred place for accessing e-journals;

(v) Determine the problems faced in accessing and using e-journals; and

(vi) Know the extent of use of library for accessing e-journals.

4. METHODOLOGY

For collection of data survey method and questionnaire tool is used in this study. The questionnaire covers questions like personal data, purpose of information seeking, e-journal use and impact, Use of open access journal, and library use. Nearly 66 questionnaires were obtained among the faculty members and research scholars of the University of Mysore covering four departments such as Environmental science, Sericulture science, Zoology, and Genetics. Statistical tools like Mean and SD and simple percentages were used for the calculation of the data.

5. RESULTS AND DISCUSSIONS

Out of 66 respondents, the majority of the respondents are research scholars representing 45 (62.1 %) and remaining 21 (37.9 %) respondents are faculty members. More than half of them are from Genetics and Zoology representing 36 (54.5 %) followed by Environment Science 17 (25.8 %) and Sericulture Science 13 (19.7 %). It was seen that out of 66 respondents, 38 (57.6 %) respondents are male and 28 (42.4 %) are female. Further, most of the faculty member and research scholars are engaged actively in 'basic research' (mean=1.54); 'teaching' (mean=1.03); 'research, design and development' (mean=0.97); 'guiding for research' (mean=0.68) and 'management/administration' (mean=0.50). The respondents state that before joining the present job they have worked in 'academic/educational organisation(s)' representing 39 (59.1 %), 16 (24.2 %) of them have worked in 'research and development institutes'. Nearly 4.5 % each have worked for 'industry' and 'government'.

5.1 Purpose of Seeking Information

The main purpose of seeking information by respondents is 'to do research work and to write articles' (mean=3.67, SD=0.64); 'to participate in meetings, seminars conferences' (mean=2.54, SD=1.53); 'to keep up to date' (mean=2.39, SD=1.67); to prepare for 'teaching' (mean=2.12, SD=1.63), and 'to submit funded project' (mean=1.97, SD=1.63).

5.2 Use of E-information Sources for Research

Users use both print and electronic sources of information. Usage are shown in Table 1.

Table 1. Use of e-information sources for research

S. No.	Types of resources	Mean	SD
PRINT SOURCES			
1.	Journals	3.68	0.88
2.	Handbooks	3.13	3.14
3.	Books	2.76	1.56
4.	Theses & dissertations	2.39	1.51
5.	Dictionaries	1.92	1.44
6.	Directories	1.62	1.37
7.	Trade literature/ reports	1.21	1.41
ELECTRONIC SOURCES			
1.	E-journals	3.29	1.25
2.	E-books	2.56	1.59
3.	E-these& dissertation	2.03	2.03
4.	E-encyclopedias	1.68	1.41
5.	E-handbooks	1.60	1.43
6.	E-directories	1.29	1.22
7.	E-trade literature/reports	1.06	1.49

5.3 Time Taken to Search for a Particular Information

The majority of the respondents stated that they search information within a day 57 (86.36 %), 8 (12.12 %) search information within a week, sand only 1 (1.52 %) search for the information within a month.

5.4 Methods to Use E-Journal Effectively and Ways to Identify Articles

The majority of the respondents that have learnt to use e-journals from 'friends/colleagues' (mean=2.79, SD=1.39) followed by those who use is by 'trial/error' (mean=2.57, SD=1.41); 'got guidance from teachers' (mean=1.55, SD=1.47); 'through library orientation and training program' (mean=1.00, SD=1.36). The survey reveals that majority of the respondents identify relevant e-articles by 'browsing through recent issues' (Table. 2) and search much less by relying on alerting services' (based on a personal profile).

Table 2. Ways of identification of e-journal articles

S. No.	Identification methods	Mean	SD
1.	Browsing through recent issues	3.39	1.18
2.	Searching full text database from publisher or aggregator (e.g: Elsevier, Springer)	2.276	1.49
3.	Searching bibliographic databases	2.47	1.42
4.	Following citations, bibliographic references	2.30	1.35
5.	Relying on alerting services (based on a personal profile)	1.49	1.24

5.5 Reason of More Use of E-journals than Printed Journals and Problems Faced

The reasons stated by respondents why they are using e-journals more than the printed journals given in Table 3.

Table 3. More use of e-journals Vs the printed journals

S. No.	Reasons	Mean	SD
1.	Helps to keep me up to date	3.26	1.34
2.	Access to information for research is quick and instant	3.15	1.40
3.	It is a ready- to-use source	2.65	1.49
4.	Full-text retrieval is quick/faster	2.50	1.45
5.	Information is accurate/authentic	2.20	1.70

The problems faced by respondents while using the e-journals on the campus are shown in Table 4.

Table 4. Effective use of e-journals problems

S. No.	Type of problems	Mean	SD
1.	Poor Internet connectivity	2.44	1.24
2.	Consumes too much time	2.10	1.34
3.	Frequent power cuts	1.73	1.53
4.	Problem in network	1.51	1.44
5.	Inadequate computer systems	1.47	1.44
6.	Insufficient workstations	1.20	1.42
7.	Lack guidance and training	0.97	1.21

5.6 Help Sought from Library Staff

Help sought from the library staff by the respondents is presented. The purpose for which they seek help was to 'locate books' (mean=1.92, SD=1.53); 'to find journal articles' (mean=1.64, SD=1.47); 'to use e-resource' (mean=1.50, SD=1.45) and 'to access e-journal' (mean=1.33, SD=1.28).

5.7 INFLIBNET'S User Awareness and Training Programme for Accessing E - Journals

Out of 66 responses, very few users 7 (10.6 %) have attended the awareness and training programme for accessing e-journals conducted by the INFLIBNET and the majority of them have not attended the awareness programme representing 38 (57.6 %).

5.8 User Perception about E-journals Features

Table 5. shows important features of e-journals that are stated by the respondents :

Table 5. Most important features of e-journals: Users' perception

S. No.	Features	Mean	SD
1.	Articles are displayed clearly in an easy to read format	2.45	1.53
2.	Access to the same content (including images) as the print format.	2.44	1.51
3.	Articles are printed clearly, in an easy to-read format	2.23	1.65
4.	Electronic search capabilities	2.18	1.52
5.	Hyperlinks to content outside the journal article	1.74	1.50
6.	Remote computer access (from your home, office, etc.) to journals	1.68	1.44
7.	User friendly interface	1.65	1.59

5.9 Frequency of Visit to Library to Access E-journals

Good percentage 28 (42.42 %) of the respondents do not visit library at all to access e-journals, followed by 27 (40.9 %) respondents who visited the library to access e-journals 'once in a month'; 'several times in a week' 7 (10.6 %); then 'twice a month' 2 (3.03 %) and almost daily 2 (3.03 %).

5.10 E-Journals of Reputed Publishers Most Accessed

The data presents the use of e-journals of the publisher by the respondents. It may be seen from the Table 6. that majority of respondents use the publisher such as 'Springer Link' and least by 'Royal Society of Chemistry'.

Table 6. E-journals of reputed publishers most accessed

S. No.	Publishers	Mean	SD
1.	Springer Link	3.30	1.26
2.	Elsevier Science	3.00	1.56
3.	Oxford University Press	2.00	1.65
4.	Academic Press	1.26	1.45
5.	Blackwell	1.23	1.53
6.	Taylor and Francis	1.12	1.46
7.	Cambridge University Press	1.01	1.41
8.	J-STOR	0.92	1.28
9.	Emerald	0.48	0.86
10.	American Chemical Society	0.36	0.88
11.	Royal Society of Chemistry	0.32	0.84

5.11 Strategy Used for Accessing E-journals Articles

To access e-journals several strategies are used by the library users including author, subject, title, keyword search, date of publication, etc. The search strategies used by the respondents are shown in Table 7.

Table 7. Strategy used for accessing e-journals articles

S. No.	Search strategy	Mean	SD
1.	Title of articles	2.82	1.49
2.	Subject	2.76	1.66
3.	Journal titles	2.73	1.31
4.	Key words	2.70	1.73
5.	Author	2.53	1.45
6.	Abstracts	1.76	1.57
7.	Publisher's name	1.54	1.66
8.	Date of publication	1.41	1.31
9.	Table of content	1.39	1.25
10.	ISSN	1.07	1.23
11.	ISBN	1.05	1.18

5.12 Preferred Format and Search Engines

The articles appearing in e-journals are available in PDF and HTML formats. An attempt was made to find out which of these two file formats respondents prefer for downloading the e-papers. The PDF format is the most opted one with a mean of 3.59 and SD=1.08 and the next being HTML with a mean of 1.76 and SD=1.43.

The users of information use many search engines to access e-information. The most popular search engines used are Google, Yahoo, AltaVista, etc. It may be seen from the Table 8 that the search engines 'Google' is most preferred.

Table 8. Search engines most often used

S. No.	Search engine	Mean	SD
1.	Google	3.68	0.98
2.	Yahoo	1.89	1.57
3.	MSN	0.53	0.92
4.	Hotbot	0.32	0.80
5.	Alta Vista	0.32	0.79

5.13 Open Access Journals - Level of Awareness

Open access journals (OAJs) are all the time available for reference to the information users on the Internet. But the issue is, are they aware of it? Hence an attempt is made here to find out no. of journals they are aware of.

Large number of respondents are aware of at least '4-7' OAJs in their own field representing 32 (48.5 %) followed by those who are aware of 'more than 10 open OAJs in their own filed 12 (18.2 %) of them say that they are aware of more than 10 OAJs. Nearly 9 respondents representing 13.6 % are aware of 1-3 open access journals and 7 of those representing 10.6 % are not aware of any OAJs. Only 6 of those scoring 9.1 % are aware of 8-9 OAJs.

5.14 Availability of Funds to Pay Publication Fees

When the information users want to publish the article in open access journals, they have to pay for it. So, the question is who should pay for it and from which source? So an attempt is made here to find out where do, the funds come from. The respondents opine that it comes from 'my research grant' (mean=2.14, SD=1.63); 'library/ institution funds' (mean=1.83, SD=1.73) 'my personal funds' (mean=1.26, SD=1.42); 'department funds' (mean=1.21, SD=1.48) and 'commercial sponsors' (mean=0.76, SD=1.18).

5.15 Length of Publishing Articles in Open Access Journals

An attempt has been made to find out since when the respondents are publishing in open access journals. The respondents have been publishing in open access journals since 'One year' (mean=1.45, SD=1.65); followed by 'One to two year' (mean=0.82, SD=1.36); 'More than four year' (mean=0.55, SD=1.23) and 'Three to four year' (mean=0.50, SD=0.98).

5.16 Use of Open Access Directories

Open access directories are free source of accessing information on the internet. Various open access directories are used by the respondents which is based on certain recommendations/sources shown in Table 9.

Table 9. Use of open access directories

S. No.	Extent of using open access directories	Mean	SD
1.	DOAJ - Directory of Open Access Journals	1.00	1.40
2.	Recommendation from librarian	0.89	1.27
3.	Lund directory of open access journals	0.83	1.21
4.	Cite link	0.76	1.16
5.	Cite seer	0.65	1.12
6.	Scirus	0.61	1.05

5.17 Identification of Suitable Open Access Journals for Publishing Research Papers

To publish their paper in open access journals (OAJs), the faculty and researcher must be aware of suitable OAJs. The various parameters for identification of suitable OAJs are shown in Table 10.

Table 9. Identification of suitable open access journals for publishing research papers

S. No.	Parameters	Mean	SD
1.	Look for quality controlled scientific and scholarly journals	2.26	1.54
2.	Choose to publish in open access journals	1.60	1.47
3.	Go through scholarly communication web sites	1.55	1.50
4.	opts for our own university science journal	1.44	1.45
5.	Commercial society journals	1.38	1.46

6. CONCLUSIONS

The main purpose for which the respondents seek information is most 'to do research work and write articles' (mean=3.67) and the least purpose being 'to submit funded project (mean=1.97). Users use both print and e-sources of information. Highly used print source are 'journals' and in case of electronic source 'e-journals' are used most. The least used print sources are 'trade literature/reports' and the least electronic sources being 'e-trade literature/ reports'. Majority of the respondents state that, they search information within a day representing 57 (86.36 %). Very few of them take a month to search the information. Majority of the respondents have learnt to use e-journals effectively from 'friends/ colleagues' and the least used contact 'through library orientation and training programme'. The survey reveals that majority of the respondents identify relevant e-articles by 'browsing through recent issues' (mean=3.39) and the method least is 'relying on alerting services' (based on a personal profile). Main reasons for problems faced by respondents while using the e-journals stated is 'poor internet connectivity' (mean=2.44) and the problem least faced by respondents while using the e-journals on the campus is 'inadequate computer systems' (mean=1.47). Users seek help from the library staff for the main purpose as 'to locate books' (mean=1.92) and the least purpose being 'to access e-journal' (mean=1.33). Very few users have attended the awareness and training programme for accessing e-journals by the INFLIBNET representing 7 (10.6 %) and many respondents have not attended the awareness programme representing 38 (57.6 %). Most of the respondents do not visit library at all to access e-journals representing 28 (42.42 %). Those who visit the library are very few 2 (3.03 %). The important features of e-journals which are stated by respondents is 'articles are displayed clearly in an easy to read format' (mean=2.45) and the least being 'a user friendly interface' (mean=1.65). The uses of e-journals through publisher by the respondents in that majority of respondents use the publisher 'Springer Link' and the least-used publisher being 'Royal Society of Chemistry'. It may be seen that 'title of article' is the most frequently used strategy for accessing e-journal articles by respondents and the least used strategy being 'ISBN' (mean=1.05). The PDF format is the most opted one and the next being HTML. 'Google' is most preferred search engine for accessing information on the Internet by the respondents with a mean score of 3.68 and least used search engine is 'AltaVista'. Large number of respondents are aware of '4-7' open access journals in their own filed representing 32 (48.5 %). Funds for publishing papers in open access journals comes from 'my research grant' to pay publication fees. The use of various open access directories by the respondents is based on 'recommendation from colleagues' (mean=1.15).

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