ACCESS AND USAGE OF E-JOURNALS BY RESEARCH SCHOLARS IN NATIONAL INSTITUTE OF TECHNOLOGY (NIT) ROURKELA, ODISHA: A CASE STUDY

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The purpose of this study is to investigate different aspects such as awareness, access and usage of e-journals among the research scholars at Biju Patnaik Central Library (BPCL) of National Institute of Technology (NIT) Rourkela, Odisha. The scope of this paper limits to: (i) E-Resources: Only e-Journal is considered among the various types of e-resources subscribed by library; (ii) Respondents: Only Research scholars are taken into consideration; and (iii) Questionnaires: 150 questionnaires collected from 700 research scholars. This paper also reveals the problems and suggests some solutions. The study shows that User Education Programmes (UEP), stable high-speed internet supply and adequate number of computers should be provided to ensure constant access that can effectively enhance the usage of e-journals.

Keywords: E-journals; E-databases; Online Journals; Library Consortia.

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INTRODUCTION

Presently we are living in the information age; Biju Patnaik Central Library (BPCL) also invests significant amount of money on subscription to e-journals every year. The Library caters to the educational and research needs of the academic community and its resources are consulted by scholars from all over the world. BPCL@NITR has started functioning since 1965. Currently, the library holds collection of over 70,630 books, 18,000 back volumes of periodicals and 76 print journals along with various forms of e-resources. Apart from the online journals and standards provided by INDEST-AICTE Consortium, the library subscribes to various online science and technology research journals to support teaching and research activity. Other resources included ISI codes, educational video courses & cassettes and CD-ROMS, etc.

BPCL tries to implement state-of-the-art technology to provide services to NITR academic community at large. The BPCL is automated with state-of-the-art technology tools by using integrated library software package called Libsys and modernized with latest Radio Frequency Identification (RFID) based automation system that facilitates Self Check-in/Check-out and automatic security gate system. This technology offers fastest, easiest, most efficient way to track, locate and manage library materials. The RFID system counts more than 1.2 lakhs transactions (issue, return and renewal) in a year. For more and updated details refer 1.Therefore, there is a need for the study on e-resources to understand and analyze their usage [1].

REVIEW OF LITERATURE

Considerable amount of literature exists on use of e-resources.

Liew, Foo and Chennupati [2] found that a majority of graduate students have interest in e-journals and accept of e-journals because of their research value. They also found that a large number of graduate students depend on e-journals rather than on print versions.

Sathe, Grad and Guise [3] reported that faculty members were likely to use print journals and students prefer e-journals. They found that students prefer to use e-journals because they can access them anytime and anywhere.

King et al., (2003) [4] found an increase in the reading of journals articles among university members. The study also found that almost all the faculty members were able to identify and locate journal articles through browsing.

Kelly and Orr [5] found that part-time students were likely to use e-journals through the internet. But they were facing the problem while accessing e-journals due to slow internet speed.

Bar-Ilan and Fink [6] found in their study that Faculty members were using e-journals more frequently than other doctoral students. Almost all of respondents preferred to use e-journals rather than print journals due to their features such as ease of information search, retrieval and accessibility.

Raza and Upadhyay [7] found in their study that research scholars at Aligarh Muslim University were aware of e-journals and using them frequently for research work and to update their knowledge. The study also informs that the users lack training and skills to access e-journals. But majority of them use the search feature to access e-journals.

Voorbij and Ongering [8] revealed that full-text searching is the most important feature of e-journals.

Anemia and Riyahiniya [9] found in their study that 70 % of respondents were aware of access to online databases through the central library website, 53% of respondents used the same. Sluggish internet speed, shortage of hardware facilities and irregular orientation were some of the problems faced by the user.

Dilek-Kayaoglu [10] narrates that the Istanbul University faculty members like and are regular t users of e-journals for their research purpose.

Tenopir, et al., [11] found in their study that 99.5% of the faculty members were reading e-journals for research purpose. 54.5% of the respondents indicated that they were readings articles for getting new ideas. The study also found that less time was spent on average for reading.

Haridasan, Sudharma and Majid [12] study on "Impact and use of e-resources by Social Scientists in National Social Science Documentation Center (NASDOC) India" found that e-resources are a significant part of the library and as they call for huge investments. The goal of this study was to examine user satisfaction, performance and identify the problems users are facing while accessing e-resources.

Tyagi [13] studied use of e-journals and databases by post-graduate students, research scholars and faculty members of IIT Kanpur. The result showed that 100% faculty members, 94.74% research scholars, and 83.78% of the PG students were aware of e-journals. The study concludes that the e-journals were most preferred among e-resources. The result also found that 56.88% of the respondents preferred to use e-journals as against only 23.12% who preferred print journals.

Das and Maharana [14] also found that e-resources help users in their research work.

OBJECTIVES OF THE STUDY

This study has the following objectives:

- To explore the *level of awareness* among the research scholars of NITR about the existence of the e-journals subscribed by the Central Library.

- To find out *the purpose of usage* of e-journals by the research scholars.

- To analyze the *frequency* of e-journals usage.

- To find out the *problems encountered in accessing* the e-journals by research scholars.

- To determine the *importance of e-journals* for the research scholars.

METHODOLOGY

In the present study, primary data was collected through survey method by using a structured questionnaire. Method of collecting data – (i) Group mail sent to all research scholars with the questionnaire and (ii) Personal meeting with the research scholars. The population for this study was selected from among research scholars of M. Tech (R) and Ph.D. of NITR adopting Convenience sampling technique (Yu & Cooper [15]). A questionnaire was prepared and data collected from various scholars. The gathered data were analyzed and interpreted.

DATA ANALYSIS AND INTERPRETATION

The questionnaire had questions on different aspects such as Awareness (04), Access (08) and Usage (05) in tune with the goals of the study.

Respondent's Profile

The respondents were Ph.D. and M. Tech (R) students in different disciplines as shown below:

Disciplines

Table 1: Distribution of Sample

Disciplines	Respondents	Percentage
Engineering	117	78
Science	13	8.67
Management	11	7.33
Humanities & Social Science	9	6
Total	**150**	**100**

Table 1 shows the distribution of sample among various disciplines in NIT Rourkela. The Engineering discipline include Biotechnology and Medical Engineering, Civil Engineering, Chemical Engineering, Ceramic Engineering, Computer Science & Engineering, Electronics & Communication Engineering, Electrical Engineering, Food Process Engineering, Industrial Design, Mechanical Engineering, Metallurgical & Materials Engineering, Mining Engineering, Planning and Architecture. The Science disciplines include Physics, Chemistry, Mathematics and Life Science. Humanities & Social Science discipline includes English, Psychology, Economics, and Sociology and MA programme.

Table 2: Course wise number of Respondents

Course	Frequency of distribution	Percentage
Ph.D.	110	73%
M. Tech (R)	40	27%
Total	**150**	**100%**

73% of the respondents belong to Ph.D. courses of various disciplines, and nearly 27% of the respondents belong to M. Tech (Research) courses in different disciplines.

Awareness Aspects

Figure 1 shows that 120 (80%) of the respondents were aware of online scientific e-journals; however, nearly 30 (20%) of the respondents were not even aware of the availability of e-journals.
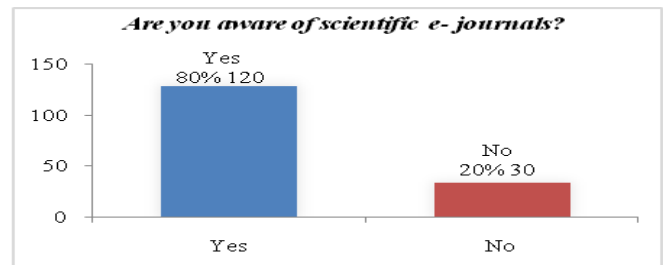

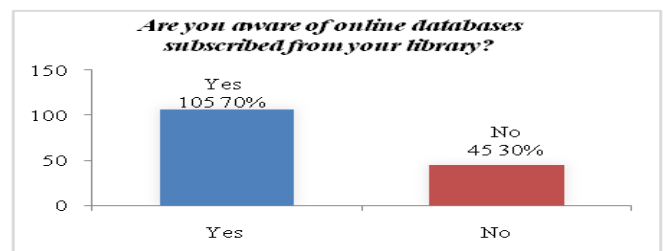**Figure 1: Awareness of online scientific e-journals**

Figure 2: Awareness of online databases subscribed by the library

Similarly while 70% of the respondents were aware of online databases available in the library, about 30% were not aware of these.
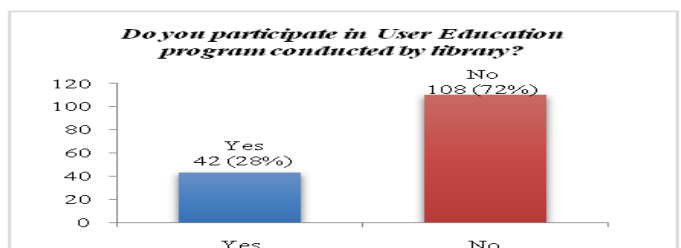

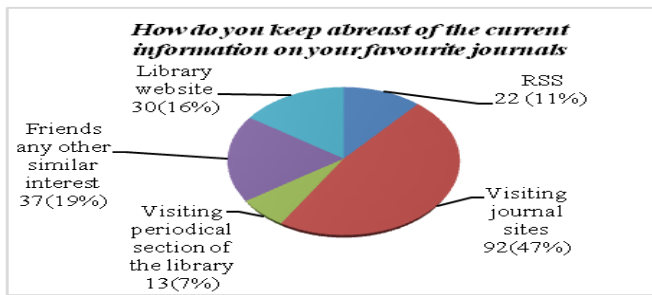**Figure 3: User Education program conducted by the library**

Figure 4: Sources for keeping abreast of new papers

It is seen that a large proportion of the respondents had not participated in the user education programme conducted by the library. Figure 4 indicates that nearly half of the respondents keep themselves informed of new relevant papers in their areas of interest by directly visiting the concerned journal websites.
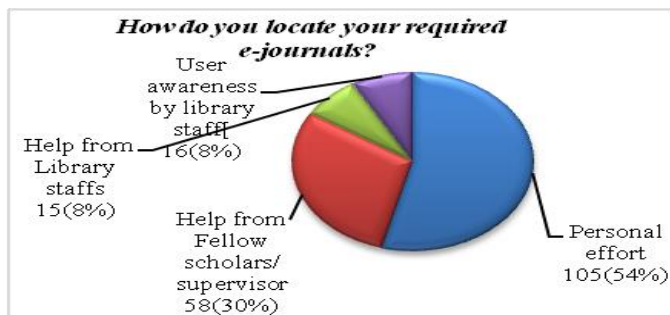
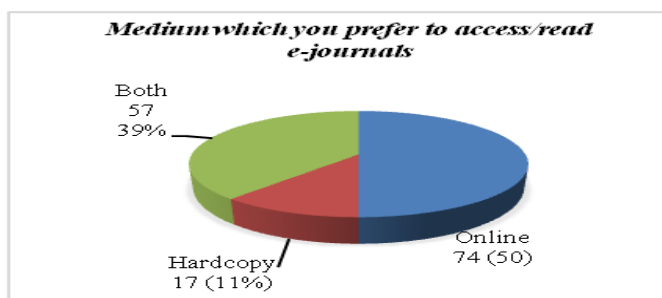**Access Aspects**

Figure 5: Respondents prefer to locate e-journals

Figure 6: Respondents prefer Medium to access/read e-journals

More than half of all respondents found their required e-journals by their personal effort whereas 58 (30%) find through their fellow scholars/supervisor. Only a small proportion of respondents seem to depend on library staff or library orientation programme.

Interestingly 74 (50%) respondents use e-journals and another 57 (39%) opt for both hard copy and e-journals; Only 17 (11%) of the

respondents chose hard copy, but. This does suggest that e-journals are quite popular among research scholars.
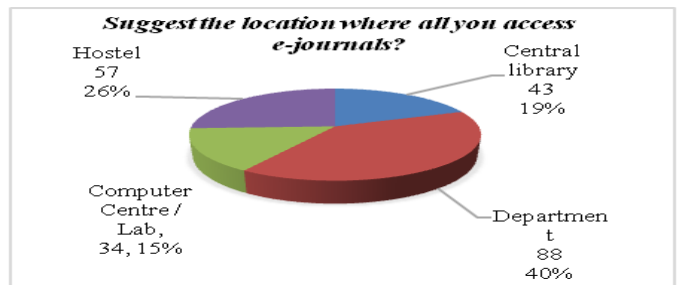

Figure 7: Accessing e-journals while using several location by the respondents
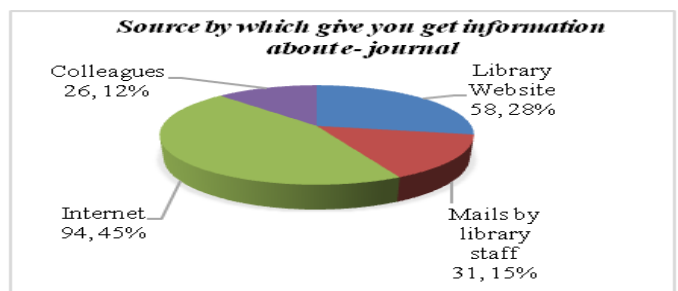

Figure 8: Using several source to get information about e- journal by the respondents

A majority prefer to access e-journals either from their office or the computer centre. A significant number, though, use the central library.

Analysis of responses to a question on the source from which the researchers come to know of e-journals, it was found (Figure 8) that 94 (45%) of the respondents use Internet, 58 (28%) get information via the library website. Whereas 31 (15%) of the respondents prefer Mails by library staff, and very few 26 (12%) of the respondents seek their colleagues' help in getting information about e-journals. In conclusion, most of the researchers are using the Internet and library website to get the information about e-journals.
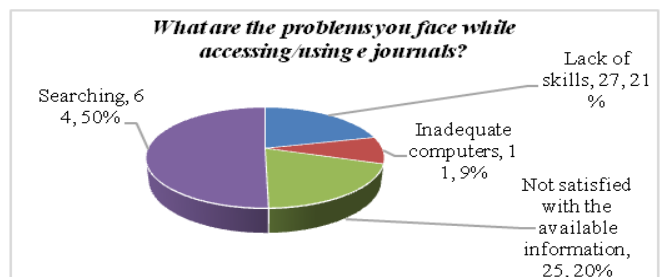

Figure 9: Respondents face problems while accessing/using e-journals

Figure 9 shows that 64 (50%) of the respondents face problem in searching whereas 27 (21%) due to lack of skills. Likewise, 25 (20%) of the respondents are not satisfied with the available information and 11 (9%) say inadequate number of computers is an issue in accessing/using e-journals.
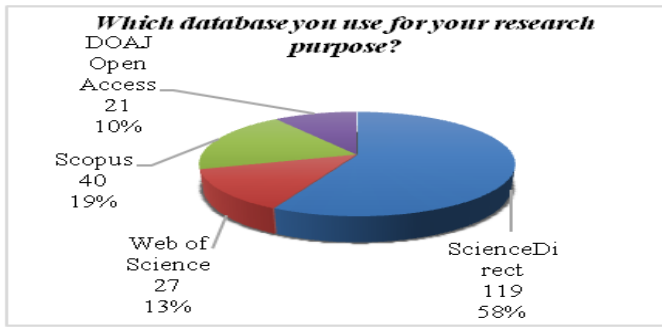
Usage Aspects

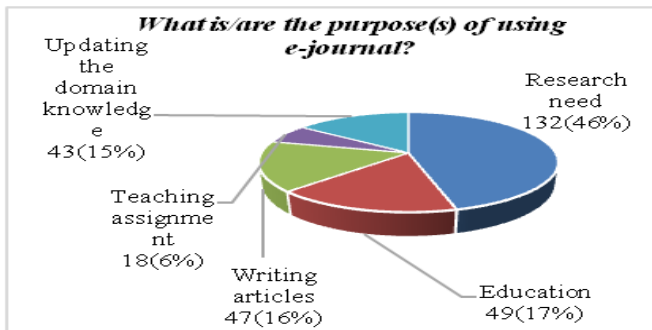**Figure 10: Database use by the respondents**

Figure 11: Purpose of using e-journal by the respondents

The result shows that maximum number of researchers use Science Direct followed by Scopus for their research purpose.

Figure 11 indicates that a significant proportion of researchers use e-journals in connection with their research, while a few also use them for preparing papers.
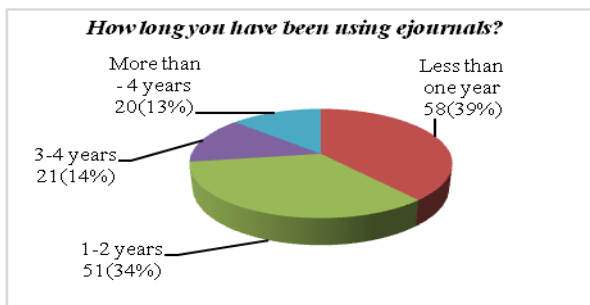

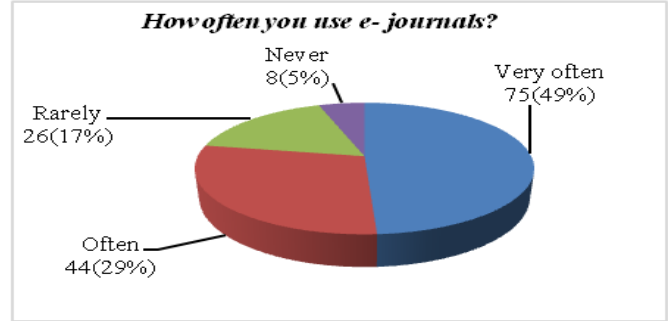**Figure 12: Length of experience in using e-journals**

Figure 13: Frequency of using e-journals

It is seen from Figure 12 that a large majority of researchers have been using e-journals only in the last 1 or 2 years; however, figure 13 shows a large number of them use e-journals quite frequently (Fig. 13).

FINDINGS

The respondents to this survey came from a heterogeneous group belonging to different departments. The majority of the respondents are pursuing Ph.D. Some major findings of the study are:

- Even though a large number of users are not participating in regular user education programmes, yet most of them were aware of e-journals and nearly half of them used e-journals quite frequently.

- Nearly half of the respondents prefer e-journals to print-on-paper version; however, 39% of the respondents chose both hard copy and e-journals; only a small proportion uses only print-on-paper versions. This clearly suggests the growing acceptance of e-journals among research scholars.

- Science Direct appears to be the most popular database; only a few are DOAJ. The scholars use e-journals for different purposes, though the primary purpose is research. (as per study by Liew, Foo and Chennupati,2000 [2]; Raza and Upadhyay, [7]; Dilek-Kayaoglu [10]; and Tenopir, et al. [11])

- Nearly half % of the respondents expressed that they face problems in searching and accessing e-journals (as found in study by Raza and Upadhyay [7]).

Practical Applications

- Based on the study, it is recommended that user education programme, stable high-speed Internet connectivity and adequate nos. of computers should be provided to ensure hassle-free access to e-journals.

REFERENCES

[1] BPCL - Biju Patnaik Central Library. http://library.nitrkl.ac.in [accessed 10 November 2015].

[2] Liew, Foo & Chennupati. A study of graduate student end-users' use and perception of electronic journals. *Online Information Review.* 4 (4), 2000, 302-315. doi:10.1108/14684520010350650

[3] Sathe, N.A., Grad & Guise. Print versus electronic journals: a preliminary investigation into the effect of journal format on research processes. *Journal of Medical Library Association.* 90 (2), 2002.

[4] King, D. W., Tenopir, C., Montgomery, C.H., & Aerni, S.E. Patterns of journal use by faculty at three diverse universities. *D-Lib Magazine.* 9(10),2003. http://www.dlib.org/dlib/october03/king/10king.html [accessed 22 August 2015].

[5] Kelly, Kimberly B & Orr, Gloria, J. Trends in distant student use of electronic resources: a survey. *College & Research Libraries.* April 2003, 176-90.

[6] Bar-Ilan, J. & Fink, N. Preference for electronic format of scientific journals—a case study of the science library users at the Hebrew University. *Library and Information Science Research.* 27, 2005, 363-376.

[7] Raza, M. & A Upadhyay. Usage of e-journals by researchers in Aligarh Muslim University: a study. *International Information and Library Review.* 38(3), 2006, 170-179.

[8] Voorbij, H. A. & Ongering. The use of electronic journals by Dutch researchers: A descriptive and exploratory study. *The Journal of Academic Librarianship.* 32 (3), 2006, 223-237.

[9] Asemi, A & Riyahiniya. Awareness and Use of Digital Resources in the Libraries of Asfahan University of Medical Sciences, Iran. *The Electronic Library.* 25(3), 2007, 316. doi:10.1108/02640470710754823

[10] Dilek-Kayaoglu, H. Use of electronic journals by faculty at Istanbul University, Turkey: the results of a survey. *The Journal of Academic Librarianship.* 34 (3), 2008, 239-247.

[11] Tenopir, King, Edwards & Wu. Electronic journals and changes in scholarly article seeking and reading patterns. *Aslib Proceedings.* 61 (1), 2009, 5-32. doi:10.1108/00012530910932267

[12] Haridasan, Sudharma & Majid. Impact and use of e- resources by social scientists in National social science documentation center (NASSDOC), India. *The Electronic Library,* 27 (1), 2009, 117-133.

[13] Tyagi, S. Awareness and Use Patterns of Online Journals and Databases: A Study of P. K. Kelkar Library at the Indian Institute of Technology Kanpur. *Library Student Journal.* 2012. http://www.librarystudentjournal.org/index.ph [accessed 13 November 2015].

[14] Das, P. & Maharana, R. Access, Awareness and Use of Electronic Information Resources by Research Scholars of Berhampur University: A study. *American Journal of Research in Humanities, Arts and Social Sciences (AIJRHASS).* 2013, 254-259.

[15] Yu, J. & Cooper, H. Convenience Sampling Technique Is Non-Probability Technique. 1983.