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Awareness and Use of E-Journals by the Research Scholars of Pondicherry University: A Survey

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ABSTRACT

The e-journals available in Pondicherry University library are UGC-INFONET e-journals, Open access e-journals, INDEST e-journals and the journals subscribed by the library. The present study is aimed to study the awareness and use of e-journals by the research scholars of Pondicherry University (PU). It is intended to assess awareness on e-journals, the types of e-journals used, purpose and frequency of using e-journal, problems in accessing e-journals, search methods used in accessing them, satisfaction with print and e-journals, adequacy of e-journals and user training provided by the university library in accessing e-journals. Survey method is adopted in the present study. A sample of 150 research scholars of Pondicherry University was selected by simple random method out of 750 full-time research scholars. A well-structured questionnaire is designed keeping in view the objectives of the study. Data was collected from the research scholars using a questionnaire tool.

The findings of the study reveal that the majority of research scholars (80%) are reading e-journals. Majority of them (58.3%) use e-journals daily. Majority of them (73.4%) use print as well as e-journals. Majority of them (58.3%) are using e-journals for research work. The major problem faced by research scholars is 'slow Internet connectivity (**70**%). Majority of them (79%) are aware of UGC-INFONET journals. All the research scholars are using Google regularly. Majority of them are satisfied with print journals (66.7%) and e-journals (66.7%). Majority of them (70.9%) replied that Pondicherry University Library is conducting the user training programme. Several recommendations have been made for effective use of e-journals. A few suggestions have been made for further research.

Keywords: E-Journals, E-Journals use, UGC-INFONET e-Journals, Open Access e-Journals, User surveys, University Libraries.

I. INTRODUCTION

The library contains various types of reading materials namely books, journals, maps, microforms, sound recordings, video readings etc. They are procured, processed and maintained in libraries to meet the information requirements of the user community. It is necessary to conduct studies to examine the awareness and use of these reading materials to design a need-based acquisition policy, to develop a balanced collection in the prevailing environment of diminishing budgetary provision and to maximize the use of the collection. The university library through its reading materials and services help in the successful conduct of research programmes of the university. In this context, among all the reading materials, journals are playing an important role in informing the latest research findings and avoiding the duplication of research work. The journals are available in print as well as in electronic format.

Due to the advances in information and communication technology, many new products and services came into existence. E-journals form one of the latest products. They have overcome the geographical limitation associated with print media. Further, the distribution time between product publication and its delivery has been drastically reduced. An e-journal, as its name implies, is a serial containing scholarly communication and articles issued periodically in electronic form by employing computers. Universities libraries are subscribing to e-journals and spending money on them. It is extremely important to show the accountability for the subscription of e-journals and the feedback from the end-users. It is also necessary to know to what extent the users are aware of these resources and to what extent they are using these resources so that necessary steps can be undertaken to maximise the use of e-journals and to develop need-based acquisition policy. In this context, the present study entitled 'Awareness and use of electronic journals

by the research scholars of Pondicherry University has been undertaken.

OBJECTIVES OF THE STUDY

The main objectives of the present study are as follows:

1. To survey the awareness of e-journals between the research scholars of Pondicherry University.
2. To study the purpose and frequency of using e-journals.
3. To observe the advantages and disadvantages of print and e-journals.
4. To know the search techniques used for accessing e-journals
5. To survey the types of e-journals used.
6. To identify the search engine used by the scholars.
7. To reading the preferred formats for using e-journals.
8. To identify the problems faced by research scholars while accessing e-journals.
9. To determine the need for guiding user training programmes to increase the use of e-journals; and documents.
10. To suggest the ways and means for effective use of e-journals and to improve facilities and services concerning e-journals.

II. REVIEW OF LITERATURE

A study on the e-journals by researchers of Aligarh Muslim University was conducted by Raza and Upadhyay (2006). The survey reveals that all the researchers are aware of e-journals in AMU. Many research scholars are consulting e-journals from their departmental labs and computer centres, not only for research purpose but also to update their knowledge. However, the study also revealed several problems, including lack of training and slow downloading. The researchers' feelings about the need for print journals as well as electronic journals are also discussed.

Role of e-journals in the 21st century has been presented by Jaya Prakash (2005). He concluded that in the present era of knowledge expansion and financial constraints, the e-journals are the only solution. Kumbar et al. (2006) have examined the usage of UGC-INFONET e-journal consortium by the research scholars and faculty members of the Department of Chemistry, Karnataka University, Dharwad. They have analysed and interpreted the data collected from 45 users using a questionnaire.

Sharma (2009) reported the availability of e-resources and their use. His study highlights the preferences and importance of on-line resources among the teachers and research scholars. Mostofa (2013) explored the use of impact of e-resources in the selected private universities in Bangladesh. The study highlighted the frequency, types of electronic resources and purposes of use. It also explored the problems faced while accessing electronic resources.

Habiba and Chowdhury (2012) stated the purpose of using e-resources, benefits, subject coverage status, overall user satisfaction and problems that are faced by DUL users. Tenopir and Washinton (2003) found that usage patterns have changed with the advent of electronic resources, and virtual reference services are needed to accompany this shift, as are better ways to count and report virtual library use.

Zainab, Huzaimah and Ang (2007) examined the users and their use of electronic journals published in a hosting system called EJUM (Electronic Journal of the University of Malaya), their perceived satisfaction with the e-journals, the preferred features in electronic journals in general, and the problems they face when using them. The findings reveal that e-journals are used for searching for new information, reading full-text articles, reading abstracts and browsing tables of contents. Users are led to EJUM by chance while browsing the Internet (41.8 per cent). Respondents prefer keyword (28.9 per cent) and titles (24.3 per cent) for searching databases.

Flecker (2001) is of opinion that e-journals have become the largest and the fastest-growing segment of the digital collections for most of the libraries in the past 2 or 3 years and many ways, archiving and preserving e-journals will be dramatically different from what has been done for paper-based journals. He stressed that the process must be funded by the government through the national libraries or similar bodies, particularly for material subject to copyright deposit.

Harish Chandra (2006) gives a brief introduction about the building e-collection in libraries and their features. He discusses e-books and e-journals, their utility, features, advantages, factors for the selection. The paper further narrates the experience with screenshots for providing access to e-books and e-journals at IIT Madras under Intranet and the internet with the help of Central Library website. The usage of statistics and selected e-journal publishers and gateways are also listed.

Dilek-kayaogly's (2008) study focused on the use of e-journals by faculty of Istanbul University, Turkey. The majority of respondents of the survey supported the transition from print to e-

only. Some respondents reported that the major barrier to using e-journals was the lack of subscriptions in their field.

Haridasan and khan (2009) examined the impact and use of e-resources by social scientists in the National Social Science Documentation Centre (NASSDOC), India. Electronic resources are a significant part of library collections. A large amount is invested in the development and management of e-resources in the libraries. The study aims to identify the acceptance of e-resources in the National Social Science Documentation Centre (NASSDOC) Library in New Delhi, India and determine their usage, performance, degree of user satisfaction, and barriers faced in the access of e-resources. It also attempts to find out the users' views about computer literacy among social scientists.

Tahir, Mahmood and Shafique (2008) made a study on the use of electronic information resources and facilities by the research scholars. He found that the availability of electronic resources like electronic databases (online and CD-ROM), electronic journals, digital books, Internet and e-mail has a great impact on the information-seeking behaviour of the humanities scholars.

Bergman (2005) has discussed the position of electronic resources as a speciality to deal with the management of digital resources, but little has been written about the librarians, now working in this speciality.

Electronic resources management appears to substantially blur the line between public and technical services. Use of e-journals by doctoral research scholars of Goa has been studied by Rekha and Madhusudhan (2009).

The study reveals that 96% of the respondents are aware of the e-journals and access the UGC Infonet Digital Library Consortium through GUL and IC website. Majority of users (98%) use UGC-Infonet e-journals for their research work (thesis). The most common problem faced by the respondents is that there is difficulty in accessing full-text and a majority of the respondents (95%) replied that more journals are needed.

Kaur and Verma (2009) aim to describe the use of electronic resources and services provided at the Central Library of the Indian Institute of Technology, Delhi. It has been found that the usage of e-journals is increasing. This is due to awareness among the users about the library e-resources and services. Owing to easy access available at various places in the institute, users are accessing these resources at hostels and departments more as compared to the library. The users coming to the library have decreased.

Nisha, Ali and Ara (2008) examined the use of the INDEST-AICTE the consortium of MHRD and UGC-INFONET consortium of INFLIBNET by users of IIT Delhi and Delhi University. The results have indicated that the majority of users are aware of INDEST and UGC-INFONET consortia at IIT Delhi and Delhi University. Most of the users access INDEST and UGC-INFONET consortia through e-databases. Slow downloading, lack of maintenance, lack of training, lack of infrastructure and language etc., are the major problems that would discourage the users from accessing resources on INDEST and UGCINFONET.

Asnafi (2007) conducted a study intending to design a special portal for free electronic journals for Shahid Chamran Ahwaz University based on the attitudes of graduate students of this University about these journals. Data collecting tools were literature review, checklist, questionnaire and Yahoo search engine.

The study indicates that graduate students of Shahid Chamran Ahwaz University have little familiarity with free electronic journals of their special course and their use of these journals are at a low level. Chi-Square test cleared that there is no significant difference among using full time and part-time graduate students of Shahid Chamran Ahwaz University of free electronic journals. In this study, by Web metrics method, 63 highly cited free electronic journals were determined. Finally, by Microsoft FrontPage, that is a special software for designing webpages, the primary version of the special portal of free electronic journals for Shahid Chamran Ahwaz University was designed and created. Free electronic journals of each university course will be accessible from this.

III. METHODOLOGY OF THE STUDY

The research method chosen for this study is the survey method. Here, the questionnaire tool is chosen because it could collect a reasonable amount of data and information over a short time. Due to anonymity, the respondents can give their answers freely, easily without any fear.

Design of the Questionnaire

The questionnaire is designed in a simple and neat layout which enables the respondents to read, understand and complete quickly. Structured questions are used extensively in the questionnaire so that the respondents can check the appropriate boxes according to their option. The questionnaire consists of questions relating to purpose and

International Journal of Advances in Engineering and Management (IJAEM)
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frequency of using e-journals, search methods used for accessing e-journal articles, problems faced while using e-journals, types of e-journals used, search engines used, satisfaction with print and e-journals and user training programmes. A pilot study was conducted on a group of 20 research scholars. Based on their feedback, the questionnaire is modified.

The population of the study and selection of sample

The population of the study consists of research scholars of Pondicherry University. The research scholars in this university are doing their research work in 37 departments belonging to 15 schools. There are 800 regular research scholars in 37 departments as per the records of the university. As the population is large in terms of time, cost and labour, the investigation selected a sample of 150 research scholars out of 800 by simple random method.

IV. DATA ANALYSIS AND INTERPRETATION

Data is analysed based on the objectives of the study using Excel Software and presented in the form tables along with detailed discussion.

4.1 Reading of e-journals

The research scholars use various kinds of reading materials for their research work. To know whether the research scholars read e-journals or not, a question has been put to them. Their responses are shown in Table 4.1.

Table 4.1: Distribution of research scholars according to the reading of e-journals

Response	Research Scholars					
	Science		Arts and Social Science		Grand total	
	No.	%	No.	%	No.	%
Yes	70	87.5	50	71.4	120	80
No	10	12.5	2	28.6	30	20
Total	80	100	70	100	150	100

Table 4.1 clearly shows that the majority of the respondents (80%) are reading e-journals, while only 20% of the respondents replied negatively. It is also evident from the table that more percentage of science research scholars are reading e-journals compared to arts and social science research scholars.

4.2 Frequency of using e-journals

The research scholars, who are reading e-journals, are again asked to indicate the frequency of using e-journals. The responses given by them are shown in Table 4.2.

Table 4.2: Distribution of research scholars according to their frequency of using e-journals

Response	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%	No.	%
Daily	45	64.3	25	50	70	58.3
Weekly	10	14.2	10	20	20	16.7
Monthly	10	14.2	10	20	20	16.7
Occasionally	5	7.3	5	10	10	8.3
Total	70	100	50	100	120	100

It is evident from Table 4.2 that the majority of research scholars (58.3%) are using e-journals daily. It is also evident from the table that 16.7% of research scholars are using e-journals weekly. The same percentages of them (16.7%) are using e-journals monthly and the remaining of them (8.3%) are using e-journals occasionally. It is also evident from Table 4.2 that science research scholars are using e-journals more frequently compared to arts and social science research scholars.

4.3 Preference to types of e-journals

A question was posed to the research scholars to indicate their preference for the type of e-journals. Their responses are shown in Table 4.3.

International Journal of Advances in Engineering and Management (IJAEM)
Volume 2, Issue 1, pp: 523-540 www.ijaem.net ISSN: 2395-5252

Table 4.3. Distribution of research scholars according to their Preference to types of e-journals

Response	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%	No.	%
E-journals	10	12.5	10	14.2	20	13.3
Print journals	10	12.5	10	14.2	20	13.3
Both journals	60	75	50	71.6	110	73.4
Total	80	100	70	100	150	100

It is obvious from Table 4.3 that most of the research scholars (73.4%) prefer both e-journals and print journals. It is also evident from the table that 13.3% of research scholars prefer e-journals and the same percentage of them (13.3%) prefer print journals. There is not much difference in the preference of science research scholars and arts and social science research scholars towards the types of e-journals.

4.4 Reasons for preferring e-journals

The research scholars, who are preferring e-journals, were asked to mention the reasons for their preference. Their responses are shown in Table 4.4.

Table 4.4. Distribution of research scholars according to their reasons for preferring e-journals

Response	Research scholars					
	Science		Arts and social science		Grand total	
	No	%	No.	%	No.	%
Easy to use	2	20	2	20	4	20
The date can be saved maintained and printed	3	30	3	30	6	30
Quick access	2	20	2	20	4	20
Easy to search	3	30	3	30	6	30

Note: Respondents were permitted to tick more than one answer.

The reasons mentioned by research scholars for preferring e-journals are, easy to use (20%), the date can be saved, maintained and printed (30%), quick access (20%), and easy to search (30%).

4.5 Reasons for preferring print journals

The research scholars, who are preferring print journals, were asked to mention the reasons for their preference. Their responses are shown in Table 4.5.

Table 4.5. Distribution of research scholars according to their reasons for preferring print journals

Response	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%	No.	%
Familiarity	2	20	2	20	4	20
Convenient to use	3	30	3	30	6	30
Personally like print version	2	20	2	20	4	20
Easy to read	3	30	3	30	6	30
Any other	0	0	0	0	0	0
Total	10	100	10	100	20	100

Note: Respondents were permitted to tick more than one answer.

The reasons mentioned by research scholars for preferring print journals are familiarity (20%), convenient to use (30%), personally like print version (20%) and easy to read (30%). Nobody specified other reasons.

4.6 Internet facility

International Journal of Advances in Engineering and Management (IJAEM)
Volume 2, Issue 1, pp: 523-540 www.ijaem.net ISSN: 2395-5252

It is necessary to have an internet connection at the Department. Hence, a question is posed to the research scholars to know whether their Departments have an Internet connection or not. Their responses are shown in Table 4.6

Table 4.6. Distribution of research scholars according to having an Internet connection at their departments

Research scholars						
Response	**Science**		**Arts and social science**		**Grand total**	
	No	**%**	**No**	**%**	**No**	**%**
Yes	75	93.8	65	92.8	140	93.3
No	5	6.2	5	7.2	10	6.7
Total	80	100	70	100	150	100

It is evident from Table 4.6 that most of the research scholars (93.3%) replied that their Departments have an Internet connection and the remaining of them (6.7%) replied negatively in this regard. There is not much difference in the responses of science research scholars and arts and social science research scholars with regard to having an Internet connection at their respective departments.

4.7 Sources for learning how to use e-journals

A question has been put to research scholars to indicate the sources through which they learned how to use e-journals. Their responses are shown in Table 4.7.

Table 4.7. Distribution of research scholars according to the sources for learning how to use e-journals

Response	**Research scholars**					
	Science		**Arts and social science**		**Grand total**	
	No.	**%**	No.	%	**No.**	**%**
Teachers , friends , colleagues	50	71.4	30	60	80	66.6
Search engines	10	14.3	10	20	20	16.7
Formal course	10	14.3	10	20	20	16.7
Any other (specify)	0	0	0	0	0	0
Total	70	100	50	100	120	100

It is evident from Table 4.7 that the majority of research scholars (66.6%) learnt the use of e-journals through their teachers, friends, and colleagues. It also evident from the table that 16.7% of them learnt how to use e-journals through search engines, the same percentage of them (16.7%) learnt how to use e-journals from formal courses. Nobody specified other sources for learning the use of e-journals.

4.8 Purpose of using e-journals

The research scholars were asked to indicate the purpose of using e-journals. Their responses are shown in Table 4.8.

International Journal of Advances in Engineering and Management (IJAEM)
Volume 2, Issue 1, pp: 523-540 www.ijaem.net ISSN: 2395-5252

Table 4.8. Distribution of research scholars according to the purpose of using e-journals

Response	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%	No.	%
For research (thesis, dissertation, project work etc.)	45	64.3	25	50	70	58.3
For publishing articles	10	14.3	10	20	20	16.7
For finding relevant information in the area of specialization	5	7.1	5	10	10	8.3
For preparing seminar papers	10	14.3	10	20	20	16.7
Any other (specify)	0	0	0	0	0	0
Total	70	100	50	100	120	100

It is evident from Table 4.8 that the majority of research scholars (58.3%) are using e-journals for research work. It is also evident from the table that 16.7% of them are using e-journals for publishing articles and the same percentage of them (16.7%) are using e-journals for preparing seminar papers. The remaining of them (8.3%) are using e-journals for finding relevant information in the area of specialization.

4.9 Accessing of e-journals

Research scholars were asked to indicate how they access e-journals. Their responses are shown in Table 4.9.

Table 4.9. Distribution of research scholars according to accessing e-journals

Response	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%	No.	%
General purpose search engines	40	57	30	60	70	58
Specified journal websites	20	28.4	10	20	30	28
Online citation index	0	0	0	0	0	0
Library e-journals web pages	10	14.6	10	20	20	14

It is evident from Table 4.9 that the majority of research scholars (58%) access e-journals through general-purpose search engines. It is evident from the table that 28% of research scholars are accessing e-journals through specified journal websites and 14% of them are through library e-journals' web pages. None of them is accessing e-journals through an online citation index.

4.10 Preferred format for reading articles

Research scholars were asked to indicate the preferred format method used for reading articles. Their responses are shown in Table 4.10.

Table 4.10. Distribution of research scholars according to their preferred format method used in reading articles

Response	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%	No.	%
PDF	10	14.2	10	20	20	16.7
HTML	10	14.2	10	20	20	16.7
Both	50	71.6	30	60	80	66.6
Total	70	100	50	100	120	100

International Journal of Advances in Engineering and Management (IJAEM)
Volume 2, Issue 1, pp: 523-540 www.ijaem.net ISSN: 2395-5252

It is evident from Table 4.10 that the majority of the research scholars are reading articles through PDF and HTML (66.6%). It also evident from the table that 16.7% of research scholars are reading articles through PDF and the same percentage of them (16.7%) are reading articles through HTML. It is evident from Table 4.10 that more percentage of science research scholars are reading through both PDF and HTML compared to arts and social science research scholars.

4. 11 Problems faced while using e-journals through HTML and PDF

Research scholars were asked to indicate the problems faced by them while using e-journals through HTML and PDF. Their responses are shown in Table 4.11.

Table 4.11. Distribution of research scholars according to the problems faced while using e-journals

Response	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%		
Pictures in PDF are too small	40	57.1	25	50	65	54.3
PDF loads slowly	15	21.4	10	20	25	20.8
Pictures in HTML loads slowly	10	14.3	10	20	20	16.6
Pictures in PDF are black and white	5	7.2	5	10	10	8.3
Total	70	100	50	100	120	100

The problems faced by research scholars while using e-journals through HTML and PDF are 'pictures in PDF are too small' (54.3%), 'PDF loads slowly' (20.8%), 'picture in HTML loads slowly' (16.6%), and 'pictures in PDF are black and white (8.3%)'.

4.12 Search strategy

A question was asked to research scholars to mention the search strategy used for accessing e-journals' articles. The responses are shown in Table 4.12.

Table 4.12. Distribution of research scholars according to the search strategy used for accessing e-journals' articles

Response	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%	No.	%
Author	30	42.8	20	40	50	41.7
Keywords	20	28.6	10	20	30	25.0
Subject	40	57.1	30	60	70	58.3
Data of publication	0	0	0	0	0	0
Title of article	20	28.6	20	40	40	16.6
Table of contents	0	0	0	0	0	0.0
Journals title	30	42.8	20	40	50	41.7

Note: Respondents were permitted to tick more than one answer.

The search methods used by the research scholars for accessing e-journals' articles are subject (58.3%), author (41.7%), journal title (41.7%), title of the article (16.6%) and keywords (25%). None of the research scholars is accessing e-journals by the table of contents and data of publication.

4.13 Problems faced while using e-journals

Research scholars were asked to know whether they faced any problem while using e-journals. Their responses are shown in Table 4.13.

International Journal of Advances in Engineering and Management (IJAEM)
Volume 2, Issue 1, pp: 523-540 www.ijaem.net ISSN: 2395-5252

Table 4.13. Distribution of research scholars according to the problems faced

Response	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%	No.	%
Yes	60	85.7	40	80	100	83.3
No	10	14.3	10	20	20	16.7
Total	70	100	50	100	120	100

It is evident from Table 4.13 that most of the research scholars (83.3%) are facing problems while using e-journals and 16.7% of them replied negatively.

4.14 Specific problems faced

The research scholars, who faced problems while accessing e-journals, are again asked to indicate the specific problems faced by them. Their responses are shown in Table 4.14.

Table 4.14. Distribution of research scholars according to the specific problems faced by them while using e-journals

Problems faced	Research scholars					
	Science		Arts and social science		Grand total	
	No. (N=60)	%	No. (N=40)	%	No. (N=100)	%
There is no enough information relevant to my subject	30	50	20	50	50	50
I am not familiar with the search of e-journals	0	0	0	0	0	0
24 hours access to the journals service is not available	30	50	20	50	50	50
Slow Internet connectivity	40	66.6	30	50	70	70
Frequent power cut	0	0	0	0		0
There is no access to back volumes of periodicals	30	50	20	50	50	50
Inadequate computer systems	10	16.6	10	25	20	20
Any other	0	0	0	0	0	0

Note: Respondents were permitted to tick more than one answer.

It is evident from Table 4.14 that the major problems faced by research scholars while using e-journals are 'slow Internet connectivity' (70%); 'there is no enough information relevant in my subject' (50%); 'twenty-four hours access to the journals is not available' (50%) and 'there is no access to back volumes of periodicals' (50%). A few research scholars (20%) are facing the problem of inadequate computer systems. The problems 'frequent power cut' and unfamiliarity with the search of e-journals' are not faced by any of the research scholars.

4.15 Awareness of UGC-INFONET journals

Research scholars were asked to know whether they are aware of UGC- Infonet journals or not. Their responses are shown in Table 4.15.

International Journal of Advances in Engineering and Management (IJAEM)
Volume 2, Issue 1, pp: 523-540 www.ijaem.net ISSN: 2395-5252

Table 4.15.Distribution of research scholars according to their awareness of UGC-Infonet journals

Response	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%	No.	%
Yes	55	78.6	40	80	95	79.1
No	15	21.4	10	20	25	20.9
Total	70	100	50	100	120	100

It is evident from Table 4.15 that most of the research scholars (79.1%) replied that they are aware of UGC-INFONET journals and the remaining of them (29.9%) replied negatively in this regard. There is not much difference between science research scholars and arts and social science research scholars with regard to their awareness of UGC-INFONET journals.

4.16 Types of journals used

A question was put to the research scholars to indicate the types of journals used by them. Their responses are shown in Table 4.16.

Table 4.16. Distribution of research scholars according to the type of journals used

Types of journals	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%	No.	%
UGC-INFONET e-journals	50	71.4	30	60	80	66.7
Open access journals	50	71.4	30	60	80	66.7
INDEST e-journals	20	28.6	20	40	40	33.3
E-journals subscribed by the library	20	28.6	20	40	40	33.3

Note: Respondents were permitted to tick more than one answer.

It is evident from Table 4.16 that most of the research scholars (66.7%) are using UGC-INFONET journals and the same percentage of them (66.7%) are using open access journals. It is also evident from the table that 33.3% of the research scholars are using INDEST e-journals. The same percentage of them (33.3%) are using e-journals subscribed by the library.

4.17 Use of Internet

A question was put to the research scholars to know whether they use the Internet other than searching for e-journals. The responses are shown in Table 4.17.

Table 4.17. Distribution of research scholars according to using of Internet other than searching e-journals

Response	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%	No.	%
Yes	70	87.5	60	85.7	130	86.7
No	10	12.5	10	14.3	20	13.3
Total	80	100	70	100	150	100

International Journal of Advances in Engineering and Management (IJAEM)
Volume 2, Issue 1, pp: 523-540 www.ijaem.net ISSN: 2395-5252

It is evident from Table 4.17 that majority of the research scholars (86.7%) are using the Internet other than searching e-journals and the remaining of them (13.3%) replied negatively in this regard.

4.18 Use of search engines

Research scholars were asked to indicate the type of search engines used regularly. Their responses are shown in Table 4.18.

Table 4.18. Distribution of research scholars according to the type of search engines used

Response	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%	No.	%
Google	80	100	70	100	150	100
Yahoo	50	62.5	45	64.3	95	63.3
Alta vista	0	0.0	0	0.0	0	0.0
Netscape	25	31.3	15	21.4	40	26.7
Bing	20	25	10	14.3	30	20
MSN	0	0	0	0	0	0

Note: Respondents were permitted to tick more than one answer.

It is evident from Table 4.18 that all the research scholars (100%) are using Google regularly. Majority of them (63.3%) are using Yahoo regularly. A significant percentage of them are using Netscape (26.7%) and Bing (20%). There is not much variation in the use of search engines between science research scholars and social science research scholars.

4. 19 Satisfaction with print journals

A question was put to the research scholars to know their level of satisfaction with print journals. Their responses are shown in Table 4.19.

Table 4.19. Distribution of research scholars according to their level of satisfaction with print journals

Level of satisfaction	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%	No.	%
Satisfied	50	68.7	50	64.3	100	66.7
Neither satisfied nor dissatisfied	25	25	15	28.6	40	26.7
Dissatisfied	5	6.3	5	7.1	10	6.7
Total	80	100	70	100	150	100

It evident from Table 4.19 that the majority of the research scholars (66.7%) are satisfied with the print journals. It is also evident from the table that 26.7% of them are neither satisfied nor dissatisfied with print e-journals and the remaining of them (6.7%) are dissatisfied with print journals. There is not much variation in the satisfaction of science research scholars and arts and social science research scholars with print journals.

4.20 Satisfaction with e-journals

Research scholars were asked to reveal their level of satisfaction with e-journals. Their responses are shown in Table 4.20.

International Journal of Advances in Engineering and Management (IJAEM)
Volume 2, Issue 1, pp: 523-540 www.ijaem.net ISSN: 2395-5252

Table 4.20. Distribution of research scholars according to their level of satisfaction with e-journals

Level of satisfaction	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%	No.	%
Satisfied	40	57.2	30	60	70	58.4
Neither satisfied nor dissatisfied	25	35.7	15	30	40	33.3
Dissatisfied	5	7.1	5	10	10	8.3

It evident from Table 4.20 that the majority of research scholars (58.4%) are satisfied with the e-journals. It is also evident from the table that 33.3% of them are neither satisfied nor dissatisfied with e-journals and the remaining 8.3% of them are dissatisfied with e-journals. There is not much variation in the satisfaction of science research scholars and arts and social science research scholars with e-journals.

4.21 Method of downloading or copying

The research scholars were asked to mention the method of downloading or copying the information searched from e-journals. The responses are shown in Table 4.21.

Table 4.21. Distribution of research scholars according to their method of downloading or copying the information searched.

Response	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%	No.	%
Print form	50	71.4	30	60	80	66.7
CD/DVD	50	71.4	30	60	80	66.7
Pen drive	20	28.6	20	40	400	33.3
Attach to e-mail	20	28.6	20	40	40	33.3

Note: Respondents were permitted to tick more than one answer.

It is evident from Table 4.21 that the majority of research scholars (66.7%) are downloading or copying the information searched from e-journals through print form, the same percentage of them (66.7%) are downloading or coping through CD/the, 33.3% of them through pen drives and 33.3% of them are downloading or coping through e-mail attach.

4. 22 Satisfaction with printing rate fixed per page

A question was put to their research scholars to know their satisfaction with printing rate fixed per page in the library. Their responses are shown in Table 4.22.

Table 4.22. Distribution of research scholars according to their satisfaction with printing rate fixed per page

Level of satisfaction	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%	No.	%
Satisfied	45	64.3	35	70	80	66.7

International Journal of Advances in Engineering and Management (IJAEM)
Volume 2, Issue 1, pp: 523-540 www.ijaem.net ISSN: 2395-5252

Neither satisfied nor dissatisfied	20	28.6	10	20	30	25
Dissatisfied	5	7.1	5	10	10	8.3
Total	70	100	50	100	120	100

It is evident from Table 4.22 that the majority of research scholars (66.7%) are satisfied with printing rate fixed per page. One-fourth of research scholars (25%) are neither satisfied nor dissatisfied with the printing rate fixed per page by the library and 8.3% of them are dissatisfied with the printing rate fixed per page.

4. 23 Satisfaction with physical facilities

A question was put to the research scholars to know whether they are satisfied with the physical facility in the digital library. Their responses are shown in Table 4.23.

Table 4.23. Distribution of research scholars according to their satisfaction with physical facilities in the digital library

Response	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%	No.	%
Yes	70	87.5	60	85.7	130	86.7
No	10	12.5	10	14.3	20	13.3
Total	80	100	70	100	150	100

It is evident from Table 4.23 that most of the research scholars (86.7%) are satisfied with the physical facilities in the digital library and the remaining 13.3% of them are not satisfied in this regard. There is not much difference in the satisfaction of science research scholars and arts and social science research scholars with regard to physical facilities in the library.

4.24 Performance of the library

A question was put to the research scholars to rate the performance of the library in providing access to e-journals to meet their information requirements. Their responses are shown in Table 4.24.

Table 4.24. Distribution of research scholars according to their rating of the performance of the library

Response	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%	No.	%
Very good	30	42.8	20	40	50	41.7
Good	25	35.7	15	30	40	33.3
Average	10	14.3	10	20	20	16.7
Poor	5	7.2	5	10	10	8.3
Very poor	0	0	0	0	0	0
Total	70	100	50	100	120	100

It is evident from Table 4.24 that a high percentage of the research scholars (41.7%) rated the performance of the library as very good for providing access to e-journals to meet their information requirements. It is also evident from the table that one-third of the research scholars rated the performance of the library as good, 16.7% of them rated the performance of the library as average, 8.3% of them rated the performance of the library as poor and nobody rated the performance of the library as very poor in this regard.

4. 25. Adequate assistance from the library staff

A question has been put to the research scholars whether they are getting adequate assistance from the library while using e-journals. The responses are shown in Table 4.25.

International Journal of Advances in Engineering and Management (IJAEM)
Volume 2, Issue 1, pp: 523-540 www.ijaem.net ISSN: 2395-5252

Table 4.25. Distribution of research scholars according to getting adequate assistance from library staff

Response	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%	No.	%
Yes	55	78.6	40	80	95	79.2
No	15	21.4	10	20	25	20.8
Total	70	100	50	100	120	100

It is evident from Table 4.25 that majority of the research scholars (79.2%) replied that they are getting adequate assistance from the library staff while using e-journals. The remaining 20.8% of them replied negatively in this regard.

4.26 Conduct of user training programmes

A question was put to the research scholars to know whether the Pondicherry University Library conducts user training programmes in the use of e-journals. The responses in Table 4.26.

Table 4.26. Distribution of the research scholars according to their replies with regard to the conduct of user training programmes

Response	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%	No.	%
Yes	50	71.4	35	70	85	70.9
No	20	28.6	15	30	35	29.1
Total	70	100	50	100	120	100

It is evident from Table 4.26 that most of the research scholars (70.9%) replied that the Pondicherry University Library is conducting user training programmes in the use of e-journals. The remaining 29.1% of them replied negatively in this regard.

4.27 Willingness to attend user training programmes

A question was put to those researches, who replied that the Pondicherry University Library is not conducting user training programmes, whether they attend the user training programmes if the university library conducts. Their responses are shown in Table 4.27.

Table 4.27. Distribution of research scholars according to their willingness to attend user training programmes

Response	Research scholars					
	Science		Arts and social science		Grand total	
	No.	%	No.	%	No.	%
Yes	15	75	10	66.7	25	71.4
No	5	25	5	33.3	10	28.6
Total	20	100	15	100	35	100

It is evident from Table 4.27 that the majority of research scholars (71.4%) replied that they are willing to attend user training programmes in the use of e-journals if the library conducts and the remaining 28.6% of them replied negatively in this regard.

4.28 Devices used to access e-journals

The research scholars were asked to mention the devices used for accessing e-journals. Their responses are shown in Table 4.28

International Journal of Advances in Engineering and Management (IJAEM)
Volume 2, Issue 1, pp: 523-540 www.ijaem.net ISSN: 2395-5252

Table 4.28. Distribution of research scholars according to the devices used for accessing e-journals

Response	Research scholars					
	Science		Arts and social science		Total	
	No.	%	No.	%	No.	%
Desktop	60	85.7	40	80	100	83.3
Laptop	40	57.1	30	60	70	58.3
Mobile	20	28.6	20	40	40	33.4
I-Pad	20	28.6	10	20	30	25

Note: Respondents were permitted to tick more than one answer.

It is evident from Table 4.28 that majority of the research scholars (83.3%) are using Desktop for accessing e-journals. It is also evident from the table that 58.3% of research scholars are using Laptop for accessing e-journals, 33.4% of them are using mobile for accessing e-journals and the remaining 25% of them are using I-pad for accessing e-journals.

V. FINDINGS, SUGGESTIONS AND CONCLUSION

5.1. Major findings

The major findings of this study can be summarized as follows:

- All the research scholars of Pondicherry University are aware of e-journals and all of them use e-journals.
- Most of the research scholars (80%) are reading e-journals.
- Majority of them (58.3%) are using e-journals daily.
- Majority of them (73.4%) prefer both e-journals and print journals.
- Most of them (93.3%) replied that their departments have an internet connection.
- Majority of them (66.6%) learned the use of e-journals through their teachers, friends, colleagues, etc.
- Majority of them (58.3%) are using e-journals for research work.
- Majority of research scholars (58%) access e-journals through general-purpose search engines.
- Most of the research scholars (83.3%) are facing problems while using e-journals.
- The major problems faced by research scholars while using e-journals are slow internet connectivity (70%), not getting adequate information relevant to the subject needed (50%), and not getting access to back volumes of periodicals (50%).
- Majority of research scholars (66%) are reading articles through PDF and HTML.
- Most of them (79.1%) replied that they are aware of UGC-INFONET journals.
- Majority of the research scholars (86.7%) are using the Internet other than searching e-journals.
- Majority of them (66.7%) are satisfied with printing rate fixed per page.
- Most of the research scholars (86.7%) are satisfied with the physical facilities in the digital library.
- A high percentage of research scholars (41.7%) rated the performance of the library as very good.
- Majority of them (79.2%) replied that they are getting adequate assistance from the library staff while using e-journals.
- Most of the research scholars (70.9%) replied that the Pondicherry university library is conducting user training programmes in the use of e-journals.
- Majority of them (83.3%) are using the desktop for accessing e-journals.
- Majority of them (71.4%) replied that they are willing to attend user training programmes in the use of e-journals.
- Majority of the research scholars (66%) are reading articles through PDF and HTML.
- Majority of them (66.6%) are satisfied with printing rate fixed per page.
- All the research scholars (100%) use Google search engines while searching for information. It is followed by Yahoo (63.3%).
- Low Internet connectivity is the major obstacle while accessing e-journals (70%).
- Most of the research scholars (86.7%) are using the Internet other than searching e-journals.
- Majority of them (66.7%) are satisfied with print journals.
- Majority of them (58.4%) are satisfied with e-journals.
- Most of them (66.7%) are using UGC-INFONET journals and the same percentages of them (66.7%) are using open access journals

5.2. Suggestions

The following suggestions are made by the investigator based on the findings of the study.

❖ The study shows that a considerable percentage of research scholars (20%) are not reading e-journals. This may be due to the unavailability of e-journals and unawareness of journals existed in their subjects concerned. Hence, awareness is to be created among the research scholars through user training programmes by the library authorities.

❖ The study shows that the majority of the research scholars (73.4%) are preferring both prints as well as e-journals. Hence, the Pondicherry University Library authorities should subscribe both print as well as e-journals.

❖ Majority of the research scholars (58.3%) are accessing e-journals by subject. The other search methods are used to a less extent by them. Hence, the research scholars should be given training in accessing e-journals by various search methods while conducting user training programmes.

❖ The major problem faced by the research scholars is slow Internet connectivity (70%). Hence, the university library authorities should take necessary steps to increase the speed of Internet connectivity to save the time of the research scholars.

❖ A considerable percentage of research scholars (20.9%) are not aware of UGC-INFONET journals. Pondicherry University Library is getting access to several UGC-INFONET journals. Hence, awareness is to be created among the research scholars about these journals while conducting user education programmes for maximum utilization of these journals.

❖ The study shows that the majority of the research scholars (66.7%) are using open access journals. Plenty of open access journals are available on the Internet. Hence, awareness about open access journals among the research scholars is to be created by Pondicherry University Library authorities while conducting user education programmes to enhance the use of open access journals.

❖ The research scholars should be trained in the use of Yahoo, AltaVista, Netscape, Bing and MSN as they are using them to a lesser extent compared to Google. The use of other search engines helps research scholars to get more information on a subject.

❖ A considerable percentage of research scholars (20.8%) replied that they are not getting adequate assistance from library staff while using e-journals. This may be due to the lack of skills among library staff. Hence, the library staff should be trained about the use of e-journals. Once they got sufficient knowledge, they will help the research scholars in accessing e-journals.

❖ A significant percentage of research scholars (29.1%) replied that the Pondicherry University Library is not conducting user training programmes in the use of e-journals. A majority of them (71.4%) are willing to attend such programmes if the library conducts. Hence, the authorities of Pondicherry University Library should conduct user training programmes in the use of e-journals to the researchers.

5.3. Conclusion

Pondicherry University Library has plenty of e-journals to be accessed by its users. These e-journals are being used by research scholars in various disciplines for their research work. PDF is the preferred online format used for reading e-journals. The library should increase its number of computer systems and maintain these systems regularly. Bandwidth should be increased by the library to provide faster access, which will save users time and become a source of motivation to use e-journals. Advanced books and journals in all disciplines should be strengthened to support teaching and research work. The library should subscribe to more e-journals in the fields of research work undertaken by the university departments. The research scholars who participated in this survey were reading e-journals for their research. This shows that e-journals sources will continue to be a necessary component of the academic community. Many research scholars learnt about the e-journals by the advice of their teachers/friends/colleagues. A significant per cent of research scholars are not aware of UGC-INFONET e-journals and open access journals. Hence, the Pondicherry University Library should provide training to the research scholars in the use of e-journals and impart information literacy skills among them.

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