Vol. 2 No. 1 July 2014 ISSN: 2321 – 788X

AWARENESS AND USE OF E-RESOURCES BY THE Ph.D SCHOLARS (FULL-TIME) OF THE SCHOOL OF CHEMISTRY, MADURAI KAMARAJ UNIVERSITY, MADURAI

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Abstract

E-Resources, available in different file formats and in multi-variety forms, have captured the attention of the research scholars in the recent years, thanks to the vast digital resources made available in Universities. This study attempts to trace out the awareness and use of e-resources by the full time Ph.D scholars of four departments of 'School of Chemistry' at Madurai Kamaraj University, Madurai. A sample size of 80 scholars was selected by random sampling method. The data required for the study was collected through a questionnaire. The findings of the study: 49 (65%) respondents locate information in the web with the help of Search Engines. Google has become the most popular search engine among the full time Ph.D scholars (92%). Keyword search is the favourite search strategy (40%). 31(41%) respondents have less than 6 months experience in using e-resources and 20(27%) respondents possess more than two years experience in utilizing the e-resources. 72 (96%) respondents are aware of Internet, 64 (85%) respondents are aware of e-journals/e-books and 63 (84%) respondents are aware about websites/home pages. 80% of the respondents use Internet and 39% of the respondents have not used the virtual conference ever.54(72%) respondents are expert in websites/Homepages and 42(56%) respondents are beginners in using e-journals/e-books. The major benefit of using e-resources is their ease of use (37%). 35 % of the respondents consider "Lack of knowledge for using e-resources' is the major constraint in using e-resources. Guidance from others is the main mode of learning about e-resources among the respondents (58%). 71% scholars want to attend some kind of training programme to learn to use e-resources. 15(20%) respondents need training in skills to get required information from various e-journals. Connectivity problem is the topmost limiting factor for 49% of the respondents and Lack of time is the major limiting factor for 23% of the respondents.

***Keywords**: E-resources, Search engines, search strategy, awareness of e-resources, advantages, limitations, learning modes.*

Introduction

E-resources have become a bubbling boon for the library professionals as well as library users in this Google era. The variety of e-resources available, the number of tools available to access these e-resources, the availability of so-called premium databases at lesser rates via consortia arrangements, establishment of UGC INFONET ICT centres in various universities and colleges, the ease of use, the nature of interactivity of e-resources and all such factors have made the library users to be at their ease in getting required information for pursuing their research. Though the information demand may be same both for the part-time and full time Ph.D research scholars, the latter group have the benefit of on-campus working facility, thus able to use all the latest e-resources available in the premises.

E-Resources

An electronic resource is defined as a resource which requires computer access or any electronic product that delivers a collection of data, be it text referring to full text bases, electronic journals, image collections, other multimedia products and numerical, graphical or time based, as a commercially available title that has been published with an aim to being marketed. These may be delivered on CD ROM, on tape, via internet and so on.

Types of E-Resources

The e-resources are basically divided in two major types are:

1. Online e-resources, which may include: e-journal (Full text & bibliographic), e-books, on-line Databases and Web sites.
2. Other electronic resources may include: CD ROM, Diskettes and Other portable computer databases.

Review of Literature

Habiba & Chowdhury (2012) presented an analytic study of the status of electronic resources, facilities and services provided by the Dhaka University Library (DUL). They discussed the purpose of using e-resources, benefits, subject coverage status, overall user satisfactions, problems that are faced by DUL users while accessing e-resources and perceived impact of e-resources on users. Finally, the paper reported the results from questionnaire-based survey of e-resources use and its impact on DUL users. Navalur, Balasubramani & Kumar (2012) examined the existence of various E-resources, awareness about E-resources, Preference to E-resources, and Assess Points of E-resources problems faced while accessing the E-resources and purpose of E-resources usage in Bharathidhasan University by teachers, students and research scholars.

Kandpal, Rawat & Vithal (2013) assessed and evaluated the exposure of ICT and the use of e-resources by the students of NTR College of Veterinary Science, Sri Venkateswara Veterinary University, Gannavaram, Andhra Pradesh with a view to know the exposure of ICT and e-resources to the student at their department or library based on a structured questionnaire. The study confirmed that students of Veterinary Sciences are aware of the e-resources and use various types of e-resources, e-database, and e-journals. The study suggested for the improvement in the access facilities with high internet speed and subscription of more e-resources for the students. Bhat & Mudhol (2014) presented the findings of a survey about the awareness and use of electronic resources by medical students available in the medical institute libraries. The subjects chosen for this study were 300 faculty members and medical students of Sher-E-Kashmir Institute of Medical Science (SKIMS), Jammu and Kashmir, India.

Chandra, Sankaranarayanan & Nagarajan (2014) attempted to investigate the awareness of e-resources, experience level in using e-resources, time spent on using e-resources, purpose of using e-resources, use of various online sources and the most preferred place for accessing e-resources by the Associate Professors and Assistant Professors of Arts and Science Colleges in Chennai. Parthasarathy & Kavitha (2014) explained the experience in using E-resources, Adequacy of using e-resources, Preferred Search engine, possible reasons for using E-resources and Satisfaction level of using e-resources by the teachers of Government Colleges in Tiruchirapalli. They found that about 484(42.20%) Male and 207(39.81%) Female respondents fulfilled between 51-75 percent of their information needs and 85(7.41%) Male and 28(5.38%) Female respondents fulfilled less than 10.00 percent of their information needs through Electronic Information Resources.

Objectives of the Study

The researcher has the following objectives for her study, inter alia:

- To provide gender-wise and department-wise distribution of the respondents.
- To trace out the experience of the respondents in using e-resources.
- To find out the awareness and frequency of using different kinds of e-resources by the respondents.
- To find out how competent the respondents are in using different e-resources.
- To rate different features of e-resources by the respondents.
- To elicit the benefits enjoyed and problems faced in using e-resources.
- To trace out the mode employed by the respondents to learn about e-resources.
- To identify the need and areas of training on the use of e-resources and
- To list out the factors those limit the use of e-library services.

Methodology

a) Research Type: The study undertaken by the researcher belongs to descriptive research study. The researcher has used survey method in his study.
b) Sample Size: The researcher has decided to collect data from all the four departments of the School of Chemistry (Organic Chemistry, Inorganic Chemistry, Physical Chemisty and Natural Product) so as to able to draw inferences that will fully represent the information seeking behavior of the whole school of Chemistry. It was decided to get data from 20 respondents from each of the above four departments. The researcher collected data from first 20 Ph.D scholars she met in their concerned department on the day of her data collection work.
c) Tool for Data Collection: Questionnaire is the tool selected by the research for collecting data from the chosen sample. A simple but a clearly presented questionnaire with 25 questions was used as a tool. No open ended question was included.
d) Method of data collection: The data was collected from the sample users in the month of April 2014. The questionnaires were distributed to the full time Ph.D Scholars by the researcher personally.. The duly filled-in questionnaires were collected back from them immediately after they were filled. Out of 80 questionnaires distributed to the respondents, the research was able to get back only 75 duly filled-in questionnaires.
e) Data Analysis and Interpretation: The data collected was simplified by means by tables – single column and double column or triple column tables – prepared with the help of coding with tally marks. The tabulated data was analysed with simple percentage method in MS Excel to draw necessary inferences. Two hypotheses were formed for the study by the researcher. To test the hypothesis, Chi-square test was used. PSPP statistical package (a free GNU version equivalent to the commercial IBM SPSS) Version 0.8.3 (April 2014) was used to calculate chi-square and test the hypotheses.

1. Gender-wise distribution of respondents

Table 1: Gender-wise distribution of respondents

S.No	Gender	No. of respondents	%
01	Male	48	64
02	Female	27	36
Total		75	100%

Table 1 shows the Gender-wise distribution of respondents. Out of seventy five respondents under study, 48(64%) respondents are male and 27(36%) respondents are female. Thus, majority of the respondents, under the present study, are Male.

2: Department-wise grouping of respondents

Table 2: Department-wise grouping of respondents

S.No	Department	No. of respondents	%
01	Organic chemistry	23	31
02	Inorganic chemistry	20	27
03	Physical chemistry	21	28
04	Natural product	11	14
Total		75	100%

Table 2 depicts that 31% of the respondents are from the Department of Organic chemistry and 27% of the respondents are from the Department of Inorganic chemistry. While 28% of the respondents belong to Department of Physical Chemistry, 14% of the respondents belong to Department of Natural product. Out of the respondents of the study from the School of Chemistry, majority of the them belong to Department of Organic Chemistry

3. Locating information in internet

Table 3: Locating information in internet

S.No	Locating information	No. of respondents	%
01	Search Engine	49	65
02	web site address	26	35
Total		75	100%

The table 3 shows that 49 (65%) respondents are locating information in the web with the help of Search Engines and the remaining 26 (35%) respondents are locating information using website address.

4. Search engine preferences

Table 4: Search engine preferences

S.No	Period of library usage	No. of respondents	%
01	Google	69	92
02	yahoo	05	7
03	Alta vista	0	0
04	MSN search	01	1
Total		75	100%

The table 4 reveals that 92% of the respondents are familiar with Google search engine, 7% of the respondents are familiar with Yahoo and 1 % of the respondents are familiar with MSN . It is quite surprising to note that no one was familiar with the Alta vista search engine. From this study it is derived that Google has become the most popular search engine among the full time Ph.D scholars under the study.

5. Search strategy adopted

Table 5: Search strategy adopted

S.No	Search strategy	No. of respondents	%
01	Keyword search	30	40
02	Title search	16	21
03	Author search	06	8
04	Subject search	23	31
Total		75	100%

As per the table 5, (30) 40% of the respondents use Keyword search strategy followed by (23) 31% of the respondents using Subject search strategy. While (16)21% of the respondents employ Title search, (06) 8% of the respondents use Author search strategy. Thus, it is confirmed that keyword search has been the favorite searching strategy of the full time Ph. D scholars under study.

6. Experience in using e-resources

Table 6: Experience in using e-resources

S.No	Experience	No. of respondents	%
01	Less than 6 months	31	41
02	6-12 months	11	15
03	1-2 years	13	17
04	More than two years	20	27
Total		75	100%

It is observed from the above given table that 31(41%) respondents have less than 6 months experience in using e-resources and 11(15%) respondents have 6-12 months experience. While 13(17%) respondents possess 1-2 years experience in using the e-resources, 20(27%) respondents possess more than two years experience in utilizing the potentialities of e-resources.

7. Awareness of e-resources

Table 7: Awareness of e-resources

S.NO	Awareness of E-resources	No. of respondents		%	
		Yes	No	Yes	No
01	CD-ROMs	44	31	59	41
02	Internet	72	03	96	4
03	Websites/Homepages	63	12	84	16
04	online databases	50	25	67	33
05	E-journals/e-books	64	11	85	15
06	E-theses and E-dissertations	46	29	61	39
07	E—conference proceedings	22	53	29	71
08	List serves/Mailing List	36	39	48	52
09	Virtual conferences	41	34	55	45
10	FAQ	30	45	40	60
11	Chat	58	17	77	23
12	Map/sound/image collections	52	23	69	31
13	Online bookshops	54	21	72	28

Table 7 reveals the kind/variety of e-resources the respondents are aware of. 72 (96%) respondents are aware of Internet, 64 (85%) respondents are aware of e-journals/e-books and 63 (84%) respondents are aware about websites/home pages. As far as the least known e-resources are concerned, 22 (29%) respondents are aware of e-conference proceedings, 30 (40%) respondents use FAQ and 36 (48%) respondents are aware of list serves/ mailing list.

8. Frequency of using e-resources

Table 8: Frequency of using e-resources

S.No	Frequency of using e-resources	No. of Respondents and Percentages							
		Daily	%	Weekly	%	Rarely	%	Never	%
01	CD-ROMs	19	25	18	24	23	31	15	20
02	Internet	59	79	13	17	2	3	1	1
03	Websites/Homepages	60	80	12	16	3	4	0	0
04	Online databases e-journals/e-books	44	57	17	23	12	16	2	3
05	E-theses and E-dissertations	13	17	22	29	33	43	7	9

06	E-conference proceedings	12	16	11	15	30	40	22	29
07	List serves/Mailing List	20	27	12	16	37	49	6	8
08	Virtual conferences	8	11	12	16	26	34	29	39
09	FAQs	8	11	12	16	38	51	17	22
10	Chat	25	33	23	31	24	32	3	4
11	Map/sound/image collections	17	23	27	36	21	28	10	13
12	Virtual Help Desks	11	15	13	17	26	35	25	33
13	Online bookshops	13	17	23	31	36	48	3	4

Table 8 shows the frequency of e-resource usage by the respondents. 80% of the respondents use Internet and 11% of the respondents use virtual conference and FAQs daily. 36% of the respondents use map/sound/image collection and 15% of the respondents use E-conference weekly. 51% of the respondents use FAQ and 3% of the respondents use Internet rarely. 39% of the respondents have not used the virtual conference ever and 0% of the respondents have not used the websites/Homepages ever.

9. Competence in utilizing the e-resources

Table 9: Competence in utilizing the e-resources

S.No	Competency in using e-resources	No. of respondents and %					
		Expert	%	Beginner	%	Unable to use	%
1.	CD-ROMs	34	45	27	36	14	19
2.	Internet	54	72	20	27	01	1
3.	Websites/Homepages	40	53	30	40	05	7
4.	Online databases	29	39	32	43	14	18
5.	e-journals/e-books	39	52	30	40	06	8
6.	E-theses and E-dissertations	20	27	37	49	18	24
7.	E-conference proceedings	15	20	32	43	28	37
8.	List serves/Mailing List	20	26	32	42	24	32
9.	Virtual conferences	15	20	23	31	37	49
10.	FAQs	13	17	24	32	38	51
11.	Chat	29	39	34	45	12	16
12.	Map/sound/image collections	23	31	29	39	23	30
13.	Virtual Help Desks	09	12	28	37	38	51
14.	Online bookshops	26	35	42	56	07	9

It is found from the above table that: 54(72%) respondents are expert in websites/Homepages and 09(13%) respondents are expert in using virtual help desks. 42(56%) respondents are beginners in using e-journals/e-books and 20(27%) respondents are the beginners in using the Internet. 38(51%) respondents are unable to use the Virtual help desks and FAQ and 01(01%) of respondents are unable to use the Internet.

10: Rating the features of e-resources

Table 10: Rating the features of e-resources

S.No	Rating	No. of Respondents and Percentages							
		Poor		Good		V Good		Excellent	
		No.	%	No.	%	No.	%	No.	%
01	Accessibility	13	17	44	59	14	19	4	5
02	Accuracy	6	8	48	64	18	24	3	4
03	Availability	6	8	49	66	19	25	1	1
04	Consistency	10	13	50	67	12	16	3	4
05	Ease of use	5	7	46	61	14	19	10	13
06	Flexibility	5	7	44	59	21	28	5	6
07	Permanence	10	13	43	57	17	23	5	7
08	Timeliness	7	9	46	62	18	24	4	5
09	Uniqueness	11	15	42	56	15	20	7	9
10	Usefulness	4	5	41	55	20	27	10	13

Table 10 shows that: 13(17%) respondents have rated accessibility feature of E-resources as poor and 4(5%) respondents have rated the usefulness of e-resources as poor. 50(67%) respondents rated consistency feature as good and 41(55%) respondents rated usefulness of e-resources as good. While (28%) respondents rated flexibility feature as very good, 12(16%) respondents rated consistency feature as very good. While 10(13%) respondents rated 'easy to use' feature of e-resources as excellent and 1(1%) respondents rated the availability feature as excellent.

11. Benefits of e-resources to conventional resources

Table 11: Benefits of e-resources to conventional resources

S.No	Benefits	No. of respondents	%
01	Ease of use	28	37
02	More informative	26	35
03	Useful	14	19
04	Less expensive	05	6
05	More preferred	02	3
Total		75	100%

Table 11 shows the benefits of e-resources as experienced by the respondents. 28 (37%) respondents opined that ease of use is the benefit they enjoy in using e-resources and 26(35%) respondents feel that 'being more informative' is the benefit of using e-resources. While 14(19%) respondents fell that e-resources are useful, 05 (6%) respondents view it as less expensive and 02(3%) respondents opined that it is the more preferred medium for getting required information. Thus, the major benefit of going behind the e-resources is their ease of use among the respondents under study.

12. Problems in using e-resources

Table 12: Problems in using e-resources

S.No	Problems	No. of respondents	%
01	Lack of facilities	21	28
02	Lack of training	18	24
03	Lack of knowledge on e-resources	26	35
04	Lack of time	10	13
Total		75	100%

Table 12 depicts that 35 % of the respondents consider "Lack of knowledge for using e-resources' is the major constraint in using e-resources followed by 28% of the respondents who feel that ''Lack of facilities' is their constrain. While 24 % of them face the problem of lack of training on the use of e-resources as their problem, 13 % of them viewed the time factor as their major constraint in using e-resources. So, lack of knowledge and lack of facilities have been the major problems faced by the respondents in using e-resources.

13. Mode of Learning about e-resources

Table 13: Mode of Learning about e-resources

S.No	Mode of learning	No. of respondents	%
01	Trial and error	29	38
02	Guidance from others	43	58
03	Course offered by the institution	03	04
Total		75	100%

It is inferred from the table 13 that 29 (38%) respondents learn about e- resources by trial and error method and 43 (58%) respondents get the guidance from others to learn. 03 respondents have learnt about e-resources through the formal courses on the use of such resources by the institutions. Thus, guidance from others has the main mode of learning e-resources among the respondents under study

14. Need for training to use e-resources

Table 14: Need for training to use e-resources

No. of respondents		%	
Yes, I want Training	No, I don't want training	Yes	No
53	22	71	29

It is transparent from table no. 14 that 53(71%) respondents need training for using the e-resources and 22(29%) respondents don't need any training on the use of e-resources. It is clear that majority of the full time Ph.D scholars they want to attend some kind of training programme to learn to use e-resources.

15. Factors limiting the usage of e-library services

Table:15 Factors limiting the usage of e-library services

S.No	Factors	No. of respondents	%
01	Lack of time	17	23
02	Non-availability of e-resources	06	08
03	Connectivity problems/slowness	37	49
04	Access restrictions	11	15
05	Lack of sufficient information on existence of e-resources	03	04
06	Lack of instructions	01	1
	Total		100%

Table 15 describes the various factors limiting the usage of e-library services. Connectivity problem / Slowness is the topmost limiting factor for 49% of the respondents and Lack of time is the major limiting factor for 23% of the respondents. While 15 % of the respondents feel that "Access Restrictions" as their limiting factor, 8% of them opined that "non-availability of e-resources" as their limiting factor in the usage of e-library services.

Testing of Hypothesis 1

H0: There is no association between gender and problems in accessing e-resources.

Ha: There exists an association gender and problems in accessing e-resources.

- The chi-square value is 1.48 for 3 df and asymptotic significance is 0.69(i.e.p-value).
- Since, the p-value 0.69 is greater than 0.05, the difference between observed frequencies and expected frequencies is insignificant.
- Therefore, the null hypothesis (Ho), i.e. there is no difference between residing sector and level of satisfaction is accepted at 5% level of significance.

Testing of Hypothesis 2

H0: There is no association between background academic qualification and the mode of searching internet.

Ha: There is an association between background academic qualification and the mode of searching internet.

- The chi-square value is 5.43 for 1 df and asymptotic significance is 0.02(i.e.p-value).
- Since, the p-value 0.02 is lesser than 0.05, the difference between observed frequencies and expected frequencies is significant.
- Therefore, the null hypothesis (H0), i.e. there is no difference between residing sector and level of satisfaction is rejected at 5% level of significance.

Suggestions

- More researchers are to be encouraged to use the library e-resources to write articles for journals or to prepare papers for conferences and seminars.
- The scholars may be taught on various search features available in Google. And the scholars are to be introduced to various search engines apart from Google so as to enable them search for different kinds of e-resources effectively.
- Various search strategies that can be employed in search process may be intimated to the scholars.
- Enough ICT infrastructures are to be made available so as to facilitate the scholars to continue using Internet every day.
- A comprehensive orientation class may be organized for the full-time scholars on the availability and use of e-resources, department-wise. Because most of the respondents felt that lack of knowledge is a major constraint in using available e-resources.
- The connectivity problem being encountered by the scholars should be rectified by adapting broadband internet connection of good speed.

Conclusion

The e-resources play an ineluctable role in the scientific research activities of the research scholars. The libraries should conduct user education programmes for their research patrons enlightening them on the existence and uses of various subscribed and free e-journals, e-bibliographic databases and full text e-databases. The use of such e-resources needs to be measured from time and again to get right feedback from the users on their usability, currency, flexibility and suitability. These impact studies will give some

valid insight to the library administrators to plan further towards uplifting e-resource usage among the library patrons.

References

- Bajpal, R.P., Mal, B.K., & Bajpal, G.(2009). Use of e-resources Through Consortia : A Boon to Users of Indian University Libraries. In International Conference on Academic Libraries (pp.500-503).Delhi: University of Delhi.
- Bhat, I., & Mudhol, M. V. (2014). Use of E-resources by Faculty Members and Students of Sher-E-Kashmir Institute of Medical Science (SKIMS). DESIDOC Journal of Library & Information Technology, 34(1).
- Chandra, K., Sankaranarayanan, D., Nagarajan, M., & Mani, V. (2014). A Study on Use Pattern E-Resources among Faculty Members in Arts and Science Colleges in Chennai. Journal of Advances in Library and Information Science,3(1), 01-05.
- Habiba, U., & Chowdhury, S. (2012). Use of Electronic Resources and its Impact: A Study of Dhaka University Library Users. Eastern Librarian, 23(1), 74-90. doi:10.3329/el.v23i1.12122
- Kandpal, K. N., Rawat, S. S., & Vithal, K. S. R. (2013). Use of E-resources by Undergraduate Students of NTR College of Veterinary Science, Andhra Pradesh. DESIDOC Journal of Library & Information Technology, 33(5).
- Navalur, S. A., Balasubramani, R., & Kumar, P. A. (2012). Usage of E-resources by Faculty, Research Scholars and PG Students of Bharathidasan University: A Study. Journal of Advances in Library and Information Science,1(4), 165-172.
- Parthasarathy, R., & Kavitha, S. (2014). Utilization of E-Resources by the users of Government Colleges in Tiruchirapalli: A Study. Journal of Advances in Library and Information Science, 3(1), 57-60.