

ONLINE INFORMATION RESOURCES ACCESS BY RESEARCH SCHOLARS OF SOCIAL SCIENCES, PURE SCIENCES AND ENGINEERING IN TAMIL NADU: A STUDY

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Abstract

This paper investigates the usage of online information resources, various search techniques and barriers involved in accessing of online Information Resources. The study was carried out among the research scholars who are pursuing research in Social Sciences, Pure Sciences and Engineering at various Colleges and Universities in Tamil Nadu. A total of 210 copies of the questionnaire were distributed and 172 (81.90%) research scholars were responded. The major findings of the study were indicated that majority of the research scholars preferred to access to full text articles, keyword was the first priority and slow process of internet was the major problem. The study is recommended to upgrade interconnectivity and provide information literacy programme to make use online information resources subscribed by the institutions effectively for research and development activities.

Keyword: Online Information Resources, Research Scholars, Search Techniques, Barriers, Tamil Nadu,

1. Introduction

Online information resources are most important for the research activities in the higher educational institutions. The usage of these resources have been considerably increased by the library users especially research scholars. Similarly, the publishing industries also make use of their scholarly content in the electronic forms. The users enable to access to the resource either by subscription payment or open access mode remotely. The academic libraries are introduced new innovative technologies to provide the latest information to the user community. The world “electronic resources” help the research scholars to produce more research outputs in the institutions. Moreover, the research scholars also found number of difficulties in accessing the online resources. The main difficulties widely faced by the users is lack of internet speed, lack of search skills and inadequate infrastructure facilities available in the libraries.

2. Related Literature

Ahmad and Fatima¹ reported that the researchers use a variety of ICT products and services for their research work as these products prove very helpful in finding needed information quickly and easily and recommended proper training and guidance for use of ICT based technologies for the optimum utilization of these services by the researchers. Raza and Upadhyay² revealed that the research scholars were referring e-journals for their research. Kubar and others³ indicated that the electronic resources are highly useful for research and academic community and also recommended that the library must conduct

user awareness programme to train the research and academic community to increase utilization of electronic resources. **Parameshwar and Patil**⁴ found that a large portion of user populations in the university are aware about the Internet, but they do not know all its techniques and applications. **Shankar Reddy**⁵ revealed that the library is used regularly by scholars clearly expressed the desire for more journals and for access to electronic journals. **Thanuskodi**⁶ revealed that Internet is the sciences are making maximum use of Internet facility provided by the university and researchers in other fields still rely on bibliographies and printed journals. **Rubina Bhatti, Mahe Bushra Asghar, Sarwat Mukhtar and Tariq M. Chohan**⁷ explained that the Social Scientists faced the problems like Lack of awareness, expensive subscription, English language material, slow speed and lack of time. **Shashi Kant Khare, Neelam Thapa and K.C. Sahoo**⁸ reported that that the rate of Internet use is more in research scholars of Science, Life Sciences, Engineering, Technology and Management faculties as compared to the faculties of Arts, Social Sciences, Law, Education and Commerce. **Bansode and Pujar**⁹ explained search techniques used to retrieving the information by the research scholars. **Haneefa and Sheena**¹⁰ analyzed that the slow internet accessibility is the main reason for not fully satisfied by doctoral students.

3. Objectives of the Study

- To examine the access of online information resources by the research scholars.
- To ascertain the various search techniques used by research scholars to access online resources
- To find out the various barriers of research scholars in accessing of online information resources.

4. Hypothesis

- H₁ There is no difference in using of online information resources among research scholars
- H₂ There is difference in search techniques used by the research scholars to access to online resources
- H₃ There is no difference in the barriers of accessing scholarly content by research scholars.

5. Methodology

The study was conducted among the research scholars who are pursuing research in social science, pure science and engineering in various colleges and universities of Tamil Nadu. The questionnaire method was used to collect the data from the respondents. The questionnaire containing questions related to the objectives of the study were distributed among 210 research scholars randomly, 172 research scholars have responded with 81.90%

and 38 research scholars were not returned back inspite of many attempt made to collect the data. The data collected were analyzed by SPSS.

6. Data Analysis and Findings

6.1. Distribution of Respondents

The respondents were divided into three broad groups Social Science, Pure Sciences and Engineering .The group was made based on the research discipline of research scholars and the same is given in table 1.

Table 1 Demographic Information

S.No	Description	No. of Distribution	No. of Respondents	%
1	Social Science	70	60	85.71
2.	Pure Sciences	70	65	92.85
3.	Engineering	70	49	70.00
	Total	210	174 (81.90%)	

The copies of the questionnaire were equally (70) distributed among the research scholars of the above three categories. It is found that the research scholars belong to Pure Science have responded more and occupied first place 65(92.85%), it is followed by Social Science with 70(85.71%) and placed in the second position, the research scholars belong to Engineering 49(70) have responded less in numbers and placed in the third position.

6.2. Use of Online Information Resources

The Research Scholars are referring a lot of resources to collect the relevant information for their research. The study is indented to analysis the scholarly content used by the research scholars on nominal scales “YES” and “NO”. The weightage is assigned from least to highest. Five types of scholarly content were indentified and the same is given table 2.

Table 2 Use of Online Information Resources

S.No	Description	Yes	No	Total	Mean	Rank	Chi-Square
1.	Article Abstract	78 44.8%	96 55.2%	174 100%	1.55	4	1.862
2.	Full Text Articles	150 86.2%	24 13.8%	174 100%	1.13	1	91.241
3.	Reviews	133 76.4%	41 23.6%	174 100%	1.23	2	48.644
4.	Research Reports	111 63.8%	63 36.2%	174 100%	1.36	3	13.241
5.	Bibliographic Database	30 17.2%	144 82.8%	174 100%	1.82	5	74.690

Table 2 shows that majority of research scholars were used full text articles (Mean 1.13, Rank 1) to collect information for their research. The research scholars were widely utilized the reviews (Mean 1.23, Rank 2) in order to collect the research works carried out previously and their findings. A number of research scholars were also preferred to use research reports (Mean 1.36, Rank 3) to collect addition information for their research. It is found that only few research scholars were interested to bibliographic databases (Mean 1.82, Rank 5).It is conclude that majority of research scholars in each categories were used the full text articles to collect information for their research, since it gives complete information about research or studies.

6.3. Use of Online Information Resources by Research Scholars

The use of information resources is varied from person to person. The research scholars have to select the most appropriate resource which provides the information needed for their research. The study is focused to ascertain the resources highly used by the most of the research scholars and the same is given in table 3.

Table 3 Use of Online Information Resources by Research Scholars

S.No	Description	Social Sciences n=60		M	Pure Science n=65		M	Engineering n=49		M	Chi-Square
		YES	No		YES	No		YES	No		
1.	Article Abstract	29 48.3%	31 51.7%	1.51	30 46.2%	35 53.8%	1.53	19 38.8%	30 61.2%	1.61	1.070
2.	Full Text Articles	50 83.3%	10 16.7%	1.16	57 87.7%	8 12.3%	1.12	43 87.8%	6 12.2%	1.12	.636
3.	Reviews	46 76.7%	14 23.3%	1.23	49 75.4%	16 24.6%	1.24	38 77.6%	11 22.4%	1.22	.075
4.	Research Reports	36 60.0%	24 40.0%	1.40	44 67.7%	21 32.3%	1.32	31 63.3%	18 36.7%	1.36	.808
5.	Bibliographic Database	8 13.3%	52 86.7%	1.86	13 20.0%	52 80.0%	1.80	9 18.4%	40 81.6%	1.81	1.032
	Average Mean Score			1.43	Average Mean Score		1.40	Average Mean Score		1.42	

Table 3 indicates that majority research scholars belong to pure science were widely used scholarly content to collect information for their research, they placed first rank and secured the mean score of 1.40 on two point scale rating. It is followed by engineering research scholars occupied second rank in using of scholarly contents for their research and they secured the mean 1.42 on two pint scale rating. It is further indicated that social science research scholars have placed in the third rank in over all usage of scholarly content and their mean is 1.43.The Chi-square test is also applied to test the hypothesis that there is no difference in using of scholarly content among research

scholars. The calculated value (1.070) for parameter is less than table value (9.488). Hence, the hypothesis is proved.

6.4. Search Techniques to access Online Information Resources

It is easy to access the scholarly content by using various search techniques .It helps the users to retrieve the specific information in the internet. The study has identified five types of search techniques which may use by the most of the users to access information in the internet and the same is given in figure 1. The weightage is assigned from least to highest e.g. “YES” =1, No “2”.

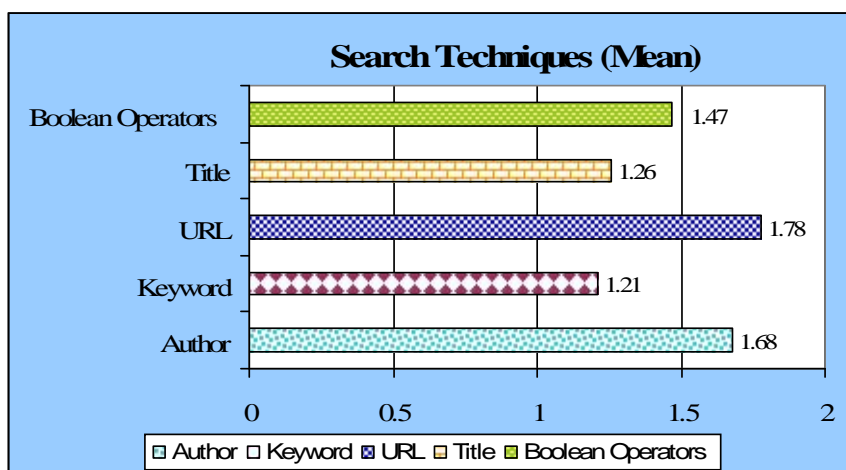


Figure 1. Search Techniques

Figure 1 shows indicates that majority of the research scholars were used “Keyword” (Mean 1.21, Rank 1) to access to the scholarly content and followed by “title” (Mean 1.26, Rank 2). It is further found that a good numbers of respondents were used “Boolean Operators” (Mean 1.47, Rank 3). It is also observed that (Mean 1.68, Rank 4) of r of respondents were used the name of the “author” as a search techniques to access to scholarly content. It is only few respondents were used “URL” (Mean 1.78, Rank 5) to locate the information in internet. It is concluded that most of the research scholars were used “Keyword” as a search technique to access to scholarly content in the internet.

6.5. Search Techniques for Online Resources by Research Scholars

The digital content available in the internet makes the research in all disciplines easy in respect of accessing the resources. It provides access to digital resources any where in the world. The search technique is playing a vital role in order to retrieve the specific and relevant information. The study is also made an attempt to find out the various search techniques used by the research scholars and the same is given in table 5. The weightage is given from least to highest e.g. YES =1, No =2.

Table 5 Search Techniques for Online Resources by Research Scholars

S.No	Description	Social Sciences n=60			Pure Science n=65			Engineering n=49			Chi-Square	
		Yes	No	Mean	Yes	No	Mean	Yes	No	Mean		
1.	Author	19 31.7%	41 68.3%	1.68	20 30.8%	45 69.2%	1.69	16 32.7%	33 67.3%	1.67	.046	
2.	Keyword	48 80%	12 20%	1.20	49 75.4%	16 24.6%	1.24	40 81.6%	9 18.4%	1.18	.739	
3.	URL	16 26.7%	44 73.3%	1.73	15 23.1%	50 76.9%	1.76	7 14.3%	42 85.7%	1.85	2.515	
4.	Title	48 80%	12 20%	1.20	44 67.7%	21 32.3%	1.32	36 73.5%	13 26.5%	1.26	2.430	
5.	Boolean Operators	32 53.3%	28 46.7%	1.46	35 53.8%	30 46.2%	1.46	24 49.0%	25 51%	1.51	.305	
Average Mean Score				1.45	Average Mean Score			1.49	Average Mean Score			1.49

Table 5 shows that the search techniques used by the research scholars in accessing of scholarly content. The analysis is made based on the average mean score by each group. It is found that research scholars belong to social science were highly used the search techniques to access to scholarly content and ranked first place with average mean score of 1.45 on two point scale rating .The second place in using of search techniques were shared by both pure science and engineering research scholars and their mean score is 1.49 for each on two point scaling rate. It is concluded that the social science research scholars were widely used all the search techniques when it is compared with pure science and engineering research scholars. The chi-square test is also employed to test the hypothesis that there is difference in search techniques used by the research scholars. The calculated value is (2.515) for parameter is less than the table value (9.488).Therefore, the hypothesis is not proved.

6.6. Barriers in Accessing of Online Information Resources

The research scholars are widely used the web based resources for their academic performance. The web provides a variety of information in various formats. Similarly, they are also unable to retrieve the content due to various barriers associated with internet application. In this study, it is focused to ascertain the various barriers involved in accessing of scholarly content and the same is given in Figure 2.

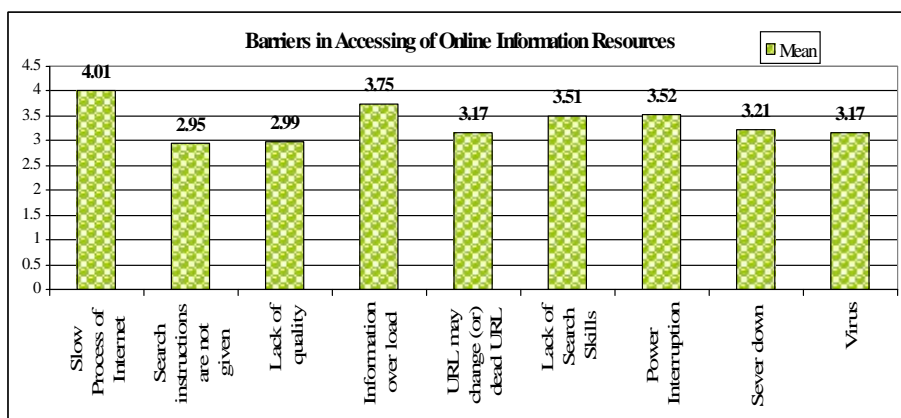


Figure 2. Barriers in Accessing of Online Information Resources

Figure 2 shows that “slow process of internet” (Mean 4.01) was the most important problem faced by the majority of research scholars of all categories. It is followed by “Information overload (Mean 3.75) was another barrier, so that the research scholars find difficulties in selecting of relevant information. It is further observed that “Power interruption (Mean 3.52) and “Lack of search skills” were closely associated barriers among the research scholars. A good number of research scholars were found “Server down (3.21) and Virus (3.17) as barriers for accessing of scholarly content. A very least number of research scholars were found the barriers such as “Search instructions are not given” (Mean 2.95) and “Lack of quality” (Mean 2.99) for their access to scholarly content.

6.7. Barriers in Accessing of Online Resources by Research Scholars

The scholarly contents are published in printed/ non - print resources. But, majority of research scholars are preferred to use online resources due to various reasons. Similarly, they are also facing a lot of barriers in accessing of scholarly content. The study is attempted to find out the major problems faced by all categories of research scholars in collecting of information for their research and the same is given in table 7.

Table 7 Barriers in Accessing of Scholarly Content by Research Scholars

S.No	Description	SD	DA	UD	A	SA	Mean	SD	DA	UD	A	SA	Mean	SD	DA	UD	A	SA	Mean	Chi-Square
1.	Slow Process of Internet	4 6.7%	7 11.7%	4 6.7%	13 21.7%	32 53.3%	4.03	5 7.7%	5 7.7%	5 7.7%	22 33.8%	28 43.1%	3.96	4 8.2%	4 8.2%	0 0%	18 36.7%	23 46.9%	4.06	7.392
2.	Search instructions are not given	5 8.3%	14 23.3%	23 38.3%	15 25%	3 5%	2.95	3 4.6%	18 27.7%	25 38.5%	12 18.5%	7 10.8%	3.03	4 8.2%	13 26.5%	19 38.8%	11 22.4%	2 4.1%	2.87	3.938
3.	Lack of quality	7 11.7%	16 26.7%	20 33.3%	11 18.3%	6 10%	2.88	3 4.6%	19 29.2%	18 27.7%	14 21.5%	11 16.9%	3.16	4 8.2%	14 28.6%	17 34.7%	11 22.4%	3 6.1%	2.89	5.796
4.	Information over load	2 3.3%	7 11.7%	15 25.0%	20 33.3%	16 26.7%	3.68	2 3.1%	9 13.8%	13 20.0%	15 23.1%	26 40.0%	3.83	4 8.2%	3 6.1%	12 24.5%	12 24.5%	18 36.7%	3.75	6.954
5.	URL may change (or) dead URL	2 3.3%	7 11.7%	30 50.0%	14 23.3%	7 11.7%	3.28	5 7.7%	10 15.4%	25 38.5%	19 29.2%	6 9.2%	3.16	6 12.2%	5 10.2%	21 42.9%	15 30.6%	2 4.1%	3.04	6.962
6.	Lack of Search Skills	5 8.3%	11 18.3%	17 28.3%	15 25%	12 20%	3.30	2 3.1%	9 13.8%	15 23.1%	21 32.3%	18 27.7%	3.67	2 4.1%	6 12.2%	15 30.6%	15 30.6%	11 22.4%	3.55	4.650
7.	Power Interruption	1 1.7%	7 11.7%	21 35.0%	22 36.7%	9 15%	3.51	2 3.1%	11 16.9%	23 35.4%	20 30.8%	9 13.8%	3.35	0 0%	5 10.2%	16 32.7%	13 26.5%	15 30.6%	3.77	8.525
8.	Sever down	6 10.0%	9 15.0%	22 36.7%	12 20%	11 18.3%	3.21	4 6.2%	18 27.7%	13 20.0%	20 30.8%	10 15.4%	3.21	3 6.1%	11 22.4%	15 26.5%	13 26.5%	7 14.3%	3.20	7.914
9.	Virus	5 8.3%	9 15.0%	28 46.7%	10 16.7%	8 13.3%	3.11	4 6.2%	12 18.5%	22 33.8%	20 30.8%	7 10.8%	3.21	3 6.1%	8 16.3%	19 38.8%	15 30.6%	4 8.2%	3.18	5.467
		Average Mean Score					3.33	Average Mean Score					3.40	Average Mean Score					3.37	

Table 7 shows that the research scholars belong to pure science were highly faced a lot of barriers in accessing of scholarly content and they occupied first rank with an average mean score 3.40 on five point Likert' scale rating, it is followed by engineering research scholars and their an average mean score is 3.37 on five point scale rating with second rank. The social science research scholars were occupied third rank in accessing of scholarly content with an average mean score 3.33 on same five point scale rating. It is concluded that the social science research scholars were faced less barriers in accessing of scholarly content when is compared with pure science and engineering research scholars. The chi-square test is also applied to test the hypothesis that "there is no difference in the barriers of accessing scholarly content by research scholars. The calculated value (8.525) for parameter is less than the table value (15.507). Hence, the hypothesis is not proved.

7. Conclusion and Suggestions

The librarians should motivate the research scholars to use the resources available in the libraries. It is also important the LIS professionals to equipped with the latest technologies to impart new and innovative service to the users. Based on the study, the following suggestions are made

- The librarians have to create the awareness about resources available in the libraries. It will enable the research scholars to access to various types of online information resources. The research scholars will not depend on a particular resource. Further, it will support for research and development activities in the institutions
- The research scholars are not able to access to the specific information at very short span of time due to lack of search techniques and literacy. The librarian has train the research search to apply the various search techniques to retrieve the information as quickly as possible. So that the research scholars will be able to get the relevant information for their research.
- The usage of online information is totally based on the infrastructure facilities available in the libraries. In this study, majority of research scholars are not able to access to the resources due varies barriers problem especially slow speed of internet. The authorities of the institutions have to allocate more budget to develop the ICT facilities in the library. So that, the resources subscribed by the libraries will be highly accessed by the user community.

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