

# AWARENESS AND USE OF DOMAIN SPECIFIC ELECTRONIC RESOURCES AMONG RESEARCH SCHOLARS IN UNIVERSITY OF KERALA

**Anju S Nair**

Guest lecturer

Department of Library & Information Sciences

University of Kerala

[anjuanoop91@gmail.com](mailto:anjuanoop91@gmail.com)

**Nanda Lal T S**

Senior Training Manager

EBSCO Information Services

New Delhi, India

[tsnandalal@gmail.com](mailto:tsnandalal@gmail.com)

**Abstract:** The main purpose of the paper is to examine the awareness and use of the e resources among the research scholars in University of Kerala. For the purpose a Questionnaire based study is conducted. Questionnaires were distributed to 250 respondents out of which 232 were received. The major objective of the study is to find the awareness of e-resources among research scholars. In general, about 96 percent of the researchers are aware of e-resources and majority of the respondents are using e-resources because of the easiness in searching them.

**Keywords:** E-resources, Domain specific, Research scholars, University of Kerala

## 1.0 Introduction

In the 21st century, most of the library resources are being made available in electronic formats such as e-journals, e-books, e-databases, etc. Many libraries are redefining their collection management policies to include digital collections through consortia models. The collection of modern libraries is not restricted to print media but they actively add e-resources to their existing collection, due to many reasons the most important of which are increasing cost of print publications and easy accessibility of e-resources. The transformation from print media towards the magnetic, optical and virtual formats gave rise to the concept of an electronic library. As e-resources provide access to substantial portion of world's literature expeditiously, exhaustively, efficiently, pinpointedly, up-to-date, authentically at the simple touch of a button, libraries cannot deprive their users and ought to include them in their collections.

## 2.0 Review of Literature

Sivakami & Rajendran (2019) attempt to determine and find the present status of awareness, accessibility and use of electronic resources among library and information science research scholars of Jiwaji University Gwalior, like; CD-ROM databases, online databases, online journals, OPAC etc. The study was done to find out the challenges, benefits, and progress gained by research scholars while accessing the e-resources. It is found out through study that 'Shodhganga' was mostly used (95 per cent) by research scholars, followed by DOAJ. It was also found out that research scholars got information about available e-resources and databases in their institute through the library website (45.5 per cent), followed by searching on Internet. A detailed result of this survey was discussed and recommendations were made to improve and enhance the usage of e-resources.

Navin Kumar & Kapil Kumar (2018) describes the awareness, access and usage of E-resources available in the Arts and Science Colleges Faculty Members in Erode District. Questionnaire method was used to examine and collect data from the Faculty Members of Arts and Science Colleges. The collected data has been analyzed with the help of a tool called as Statistical Package for Social Science (SPSS). This paper shows that the majority of male respondents use e-journals, and e-books are used by female respondents by Faculty Members in Gender-

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wise. Majority of the male users and female users were aware about the availability of E-resources. The analysis reveals that most of the respondents use E-resources only for Lecturer notes. This is very important for Academic Libraries since most of them call for more and more research work.

Leduc & Schopfel (2015) discussed the usage patterns of e-journals in French business schools. The paper makes use of COUNTER-compliant usage statistics from a nationwide usage study with data from journal collections of an international academic publisher. With regard to online collections, the usage appears to be relatively intensive, especially when compared to usage statistics from universities in the same fields. The result reflected an emerging research activity in business schools & a projected & required international orientation. However, the study also revealed important differences between schools, a fact that should not be overestimated because of the small sample size, even if the sample is a representative of French business schools. The paper enhances the knowledge on usage in specific environments in higher education.

Costa et al. (2014) discussed the availability of electronic journals in the Portuguese academic community improved in a spectacular way since the creation of the national university consortium, Online Knowledge Library in 2004. The work presented here is the outcome of a line of research begun in 2011 which aims to investigate the supply & use of electronic journals incorporated into university libraries through Online Knowledge Library. The study aims to present & analyze some of the statistical & bibliometric indicators of the Portuguese scientific consumption & output seeking to evaluate its connection with Online Knowledge Library. It was analyzed the usage of Online Knowledge Library resources by the public university's members of the consortium, from 2004 to 2010. In addition to the usage data of the consortium, they used the Web of Science (WoS) from which they identified the articles indexed by five Portuguese universities between 2000 & 2010.

### **3.0 Significance of the Study**

It is widely accepted that there is a shift in emphasis from print documents to e-documents. But it is sure whether the rate of dependence on e-resources and the extent of use of these resources are the same among different categories of users. Similarly, it is not clear whether the pattern of use is the same among the different groups of the same category as research scholars. Therefore, this study purports to explore the awareness and use of domain specific electronic resources among the research scholars in science, social science, and humanities and the pattern of organization of electronic sources in research fields. This study would through light on the differences, if any, or similarities in the use of e-resources among different groups of researchers. This study would also help to evolve proper guidelines for the development of acquisition policy of e-resources. The study would also bring out the facilities and use of e-resources in the university departments of University of Kerala.

### **4.0 Objectives of the Study**

The main objectives of the study are:

1. To examine the prominent e-resources in the subject field of the research scholars.
2. To identify the awareness about domain specific e-resources among the research scholars
3. To study the different types of electronic resources used by research scholars
4. To examine the extent of use of e-resources by the research scholars in sciences, social sciences and humanities
5. To study the frequency of usage of the electronic resources
6. To determine the time spent for the use of e-resources
7. To identify the obstacles faced by the research scholars in using the e-resources in their subject fields.

### **5.0 Methodology**

The basic methodology adopted for the study was to conduct literature survey. This involves the use of sources like primary and secondary periodicals, books, databases and others which are relevant to the subject of study. The primary sources include primary journals and reports available in the Kerala University Library and the library of the Department of Library and Information Science. The major secondary sources consulted are the online versions of LISA, LISTA and ERIC. Other sources consulted are Google Scholar, Emerald database, Science Direct, Sodhganga, DOAJ, and DOAR. The population consists of the research scholars in Science, Social Science and Humanities in the Departments of University of Kerala. There is a total of 904 research scholars in the departments of University of Kerala. A structured questionnaire was prepared according to the objectives of the study. It contains 30 questions, both closed and open-ended questions. Personal data questions are also included in this study. Total 300 questionnaires were distributed among the research scholars out of which 232 (77.33%) were returned.

**5.0 Data Analysis and Interpretation**

A structured questionnaire was given to the respondents with a request to answer the questions. There is a total of 904 research scholars, among them 27.65% is taken as the sample. Questionnaires were distributed to 250 respondents out of which 232 were received. The responses to questions are analyzed in this chapter along with interpretations.

Table 1: Discipline wise distribution of the respondents

Sl. No.	Category	Number of respondents	Percentage
1	<b>Science Scholars</b>	<b>98</b>	<b>42</b>
2	<b>Social Science Scholars</b>	<b>83</b>	<b>36</b>
3	<b>Humanities Scholars</b>	<b>51</b>	<b>22</b>
4	<b>Total</b>	<b>232</b>	<b>100</b>

The major disciplines taken for the study are science, social science and humanities. The discipline wise distribution of the respondents is given in Table1. Out of the sample, 42 percent are from science, 36 percent are from social sciences and the rest (22%) belong to humanities subjects.

Table 2: Distribution of researchers based on age group (n= 232)

Age range	Science		Social Sciences		Humanities	
	Number of Respondents	%	Number of Respondents	%	Number of Respondents	%
Below 30	<b>81</b>	<b>82.65</b>	<b>67</b>	<b>80.72</b>	<b>40</b>	<b>78.43</b>
31-40	<b>17</b>	<b>17.35</b>	<b>16</b>	<b>19.28</b>	<b>11</b>	<b>21.57</b>
41-50	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Above 50	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Total	98	100	83	100	51	100

In the science disciplines more than 82 percent of the researchers belong to the age group of below 30. All the rest (17.35%) belong to the age group 31-40. This phenomenon is true in social science disciplines and humanities too. In these two categories the percentage of respondents belonging to the age group below 30 is 80.72 and 78.43 respectively.

Table 3: Gender wise distribution of the respondents

Gender	Science		Social Science		Humanities	
	Number of Respondents	%	Number of Respondents	%	Number of Respondents	%
Male	<b>19</b>	<b>19.39</b>	<b>14</b>	<b>16.87</b>	<b>18</b>	<b>35.29</b>
Female	<b>79</b>	<b>80.61</b>	<b>69</b>	<b>83.13</b>	<b>33</b>	<b>64.71</b>
Total	<b>98</b>	<b>100</b>	<b>83</b>	<b>100</b>	<b>51</b>	<b>100</b>

Among 98 respondents in science the share of males is only 19.39 percent. Thus, it is clear from the Table 3 that, most of the researchers are females in science. Their share is 16.87 in social sciences and 35.29 in humanities disciplines. It is quite interesting that in sciences, social sciences and humanities, there is hegemony of females is quite evident. Only difference is that in Humanities the share of males is comparatively more.

Table 4: Awareness about e-resources

Awareness about e-resources	Science		Social Science		Humanities	
	Number of Respondents	%	Number of Respondents	%	Number of Respondents	%
Aware	<b>97</b>	<b>98.98</b>	<b>82</b>	<b>98.80</b>	<b>47</b>	<b>92.16</b>
Does not aware	<b>1</b>	<b>1.02</b>	<b>1</b>	<b>1.20</b>	<b>4</b>	<b>7.84</b>
Total	<b>98</b>	<b>100</b>	<b>83</b>	<b>100</b>	<b>51</b>	<b>100</b>

From the above Table 4, the awareness of e-resources among the science, social science and humanities researchers becomes clear. In the science and social science disciplines about 99 percent of researchers are familiar with e-resources. In the case of humanities, they constitute only about 92.16 percent. This clearly shows that science and social science scholars are ahead of humanities in the awareness about e-resources.

Table 5: Usage of e-resources

Usage of e-resources	Science		Social Science		Humanities	
	Number of Respondents	%	Number of Respondents	%	Number of Respondents	%
Using	<b>96</b>	<b>97.96</b>	<b>82</b>	<b>98.80</b>	<b>47</b>	<b>92.16</b>
Not using	<b>2</b>	<b>2.04</b>	<b>1</b>	<b>1.20</b>	<b>4</b>	<b>7.84</b>
Total	<b>98</b>	<b>100</b>	<b>83</b>	<b>100</b>	<b>51</b>	<b>100</b>

From the above Table 5, the usage of e-resources among the science, social science and humanities researchers becomes clear. In the science disciplines 96 (97.96%) researchers are using resources. In the case of social science 82 (98.80%) are using e-resources. In humanities disciplines 47 (92.16%). This clearly shows that social science scholars are ahead of others in the usage of e-resources.

Table 6: Use of e-resources

Discipline	Rank	E books		E journals		Data base		ETDs		blogs		E mail	
			%		%		%		%		%		%
Science	1	0	0	27	11.64	205	88.36	0	0	0	0	0	0
	2	0	0	185	79.74	27	11.64	20	8.62	0	0	0	0
	3	0	0	20	8.62	0	0	212	91.38	0	0	0	0
	4	0	0	0	0	0	0	0	0	20	8.62	212	91.38
	5	185	79.74	0	0	0	0	0	0	27	11.64	20	8.62
	6	47	20.26	0	0	0	0	0	0	185	79.74	0	0
Social Science	1	0	0	223	96.12	0	0	9	3.88	0	0	0	0
	2	0	0	9	3.88	223	96.12	0	0	0	0	0	0
	3	0	0	0	0	9	3.88	223	96.12	0	0	0	0
	4	223	96.12	0	0	0	0	0	0	0	0	9	3.88
	5	9	3.88	0	0	0	0	0	0	19	8.19	204	87.93
	6	0	0	0	0	0	0	0	0	213	91.81	19	8.19
Humanities	1	0	0	201	86.64	0	0	31	13.36	0	0	0	0
	2	0	0	31	13.36	201	86.64	0	0	0	0	0	0
	3	0	0	0	0	31	13.36	201	86.64	0	0	0	0
	4	201	86.64	0	0	0	0	0	0	0	0	31	13.36
	5	31	13.36	0	0	0	0	0	0	186	80.17	15	6.47
	6	0	0	0	0	0	0	0	0	46	19.83	186	80.17

It is clear from Table 6, that in science disciplines majority of the respondents (88.36%) gives first rank to databases and second rank for e-journals (79.74%). 91.38 percent assign third rank to ETDs. E-mails also are popular (91.38%). But there are few users for blogs (79.74%) and sixth rank for blog (79.74%). In social science discipline majority of the respondents (96.12%) gives first rank to e-journals and second rank for database (96.12%). 96.12 percent assign third rank to ETDs and fourth rank for E-books and fifth rank for e-mail (87.93%) and sixth rank for blogs (91.81%). In humanities disciplines majority of the respondents (86.64%) gives first rank to E-journals and second rank for databases (86.64%).86.64 percent assign third rank for ETDs (86.64%). 86.64 percent assigns fourth rank for E-books. But there are few users for E-mails (80.17%).

Table 7: Sources of learning about the use of e-resources

Sources of Learning	Science		Social Sciences		Humanities	
	Number of Respondents	%	Number of Respondents	%	Number of Respondents	%
Teachers	31	20.13	26	21.14	17	23.29
Friends and colleagues	69	44.81	55	44.72	35	47.95
Search engine	43	27.92	34	27.64	15	20.55
Formal courses	10	6.49	8	6.50	6	8.22
Others	1	0.65	0	0	0	0
Total	154	100	123	100	73	100

An interesting finding here is that there is a striking similarity among science, social science and humanities research scholars in the percentages of the various sources of learning about the e-resources. The percentages of researchers who have learned about the use of e-resources from teachers range from 20 to 23 percent among the three groups. Similarly, the percentages of researchers who have learned from friends and colleagues vary from 45 to 48 percent. Whereas 28 percent of the researchers from sciences and social sciences learned about e-resources from search engines, the corresponding figure from humanities is 21 percent. The percentages of those who have learned about them from formal sources veer around 6 – 8 percent. These are the four major means of coming into contact with e-resources.

Table 8: Place of accessing e-resources

Place	Science		Social Science		Humanities	
	Number of Respondents	%	Number of Respondents	%	Number of Respondents	%
Department Library	71	40.57	45	37.50	37	39.78
Campus Library	37	21.14	24	20.00	18	19.35
University Library	18	10.29	12	10.00	13	13.98
Home	45	25.71	37	30.83	22	23.66
Others	4	2.29	2	1.67	3	3.23
Total	175	100	120	100	93	100

It is obvious from the Table 8, that the Departmental Libraries are the most sought-after places for accessing the e-resources. The percentages of scholars who make use of the department library are 40.57, 37.50 and 39.78 among science, social sciences and humanities respectively. The next popular option is home. Here the percentages range from 24 – 31. The third most used spot is the Karyavattom campus library of the university. The percentages vary from 19 – 22. This is followed by Kerala University Central Library. In the place accessing the e-resources also there is not much difference among research scholars of different domains.

Table 9: Preferred access points of e-resources

Discipline	Rank	General purpose search engines		Library websites		Specific websites		Subject gateways	
			%		%		%		%
Science	1	198	85.34	0	0.00	34	14.66	0	0.00
	2	27	11.64	7	3.02	136	58.62	62	26.72
	3	7	3.02	89	38.36	0	0.00	136	58.62
	4	0	0.00	136	58.62	62	26.72	34	14.66
Social Science	1	211	90.95	0	0.00	21	9.05	0	0.00
	2	21	9.05	0	0.00	193	83.19	18	7.76
	3	0	0.00	232	100.00	0	0.00	0	0.00
	4	0	0.00	0	0.00	18	7.76	214	92.24
Humanities	1	212	91.38	0	0.00	20	8.62	0	0.00
	2	20	8.62	0	0.00	194	83.62	18	7.76
	3	0	0.00	228	98.28	0	0.00	4	1.72

	4	0	0.00	4	1.72	18	7.76	210	90.52
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In science disciplines majority of the respondents (85.34%) gives first rank to general purpose search engines and second rank for specific websites (58.62%). 58.62 percent assign third rank to subject gateways. But there are few users for library websites. In social science discipline majority of the respondents (90.95%) gives first rank to general purpose search engines, second rank for specific websites (83.19%), third rank for library websites (100%), and fourth rank for subject gateways (92.24%). In humanities discipline majority of the respondents (91.38%) gives first rank to general purpose search engines, second rank for specific websites (83.62%), third rank for library websites (98.28%), and fourth rank for subject gateways (90.52%). It is clear that irrespective of the subject domains, research scholars prefer general search engines. They assign a low priority to subject gateways in spite of their significance in subject search. It points to the need for intense user education or imparting of digital literacy skills.

Table 10: Search Methods

Search Methods	Disciplines	Not at all satisfactory	%	Slightly satisfied	%	Moderately satisfied	%	Satisfied	%	Extremely satisfied	%
Subject	Science	0	0	16	16.33	29	29.59	42	42.86	11	11.22
	Social Science	1	1.20	13	15.66	25	30.12	39	46.99	5	6.02
	Humanities	0	0	13	25.49	14	27.45	23	45.10	1	1.96
Author	Science	1	1.02	14	14.29	36	36.73	41	41.84	6	6.12
	Social Science	1	1.20	9	10.84	29	34.94	38	45.78	6	7.23
	Humanities	0	0	8	15.69	13	25.49	29	56.86	1	1.96
Keyword	Science	1	1.02	10	10.20	27	27.55	48	48.98	12	12.24
	Social Science	2	2.41	13	15.66	22	26.51	35	42.17	11	13.25
	Humanities	0	0	9	17.65	14	27.45	28	54.90	0	0
Journal title	Science	0	0	12	12.24	21	21.43	51	52.04	14	14.29
	Social Science	0	0	12	14.46	20	24.10	36	43.37	15	18.07
	Humanities	0	0	11	21.57	15	29.41	21	41.18	4	7.84
Title of the article	Science	0	0	6	6.12	13	13.27	46	46.94	33	33.67
	Social Science	0	0	9	10.84	16	19.28	34	40.96	24	28.92
	Humanities	0	0	7	13.73	15	29.41	20	39.22	9	17.65
Date of Publication	Science	25	25.51	16	16.33	15	15.31	38	38.78	4	4.08
	Social Science	19	22.89	18	21.69	17	20.48	28	33.73	1	1.20
	Humanities	16	31.37	9	17.65	11	21.57	15	29.41	0	0

From the Table 10 it is clear that science more scholars prefer searching by journal title, followed by author. Title of the article manifested by the key words is also acceptable to them. The same trend is visible among research scholars in Social Sciences. They are not at all satisfied with searching by date of publication. From the Table 10 it is clear that humanities scholars prefer searching by author.

Table 11: Search strategies

Search methods	Science		Social Science		Humanities	
	Number of Respondents	%	Number of Respondents	%	Number of Respondents	%
Boolean operators	<b>46</b>	<b>26.29</b>	<b>39</b>	<b>33.33</b>	<b>26</b>	<b>33.33</b>



Truncation	18	10.29	15	12.82	12	15.38
Field searching	84	48	50	42.74	37	47.44
Wild card searching	17	9.71	12	10.26	0	0
Others	10	5.71	1	0.85	3	3.85

Field searching was found to be the most popular search method adopted by science, social science and humanities scholars. The percentages of those who resort to Boolean search were found to be 26.29, 33.33 and 33.33 among the three categories of science, social science and humanities groups. Truncation was not very common among them.

Table 12: Awareness about UGC-INFONET

Awareness about UGC-INFONET	Science		Social Science		Humanities	
	Number of Respondents	%	Number of Respondents	%	Number of Respondents	%
Aware	63	64.29	42	50.60	32	62.75
Not aware	35	35.71	41	49.40	19	37.25
Total	98	100	83	100	51	100

While about 63 (64.29%) of the science researchers are aware of the Infonet services, their corresponding figure from the social science and humanities scholars is 50.60% and 62.75% respectively. Therefore, it is clear from the Table12 that science scholars are more aware of and only about half of the social science researchers know about the facility.

Table 13: Frequency of using UGC-INFONET

Frequency of using UGC-INFONET	Science		Social Science		Humanities	
	Number of Respondents	%	Number of Respondents	%	Number of Respondents	%
Daily	9	9.18	6	7.23	5	9.80
Weekly	19	19.39	11	13.25	6	11.76
Monthly	5	5.10	13	15.66	3	5.88
Occasionally	28	28.57	20	24.10	8	15.69
Not at all	37	37.76	33	39.76	29	56.86
Total	98	100	83	100	51	100

The Table shows that occasional users are more in all disciplines. The analysis also reveals that there are people who have not used it though they are aware of it. This is true in Sciences, Social Sciences and humanities.

Table 14: Factors that attract researchers to e-resources

Factors	Science		Social Science		Humanities	
	Number of Respondents	%	Number of Respondents	%	Number of Respondents	%
Up to datedness	48	32.21	34	33.01	30	31.91
Comprehensiveness	38	25.50	28	27.18	26	27.66
Easy search	63	42.28	41	39.81	38	40.43
Others	0	0	0	0	0	0
Total	149	100	103	100	94	100

Ease of search was found to be the factor that attracts a major group of researchers in Sciences, Social Sciences and Humanities (and percentages are 42.28, 39.81 and 40.43) respectively. This fact is clear from Table 14

Table 15: Familiarity of subject gateways

Familiarity	Science		Social Science		Humanities	
	Number of Respondents	%	Number of Respondents	%	Number of Respondents	%

Familiar	75	76.53	56	67.47	39	76.47
Not familiar	23	23.47	27	32.53	12	23.53
Total	98	100	83	100	51	100

In science discipline, 76.53 percent are familiar with subject gateways whereas in social science disciplines, the corresponding percentage is 67.47. In humanities disciplines, 76.47 percent are familiar with subject gateways. It is clear that familiarity with subject gateways is a little less in social sciences.

Table 16: Familiarity with open access resources

Familiarity	Science		Social Science		Humanities	
	Number of Respondents	%	Number of Respondents	%	Number of Respondents	%
Familiar	77	78.57	57	68.67	30	58.82
Not familiar	21	21.43	26	31.33	21	41.18
Total	98	100	83	100	51	100

Table 16 depicts the degree of familiarity with open access resources among the research scholars. In science disciplines, while 78.57 percent of researchers are aware of open sources the corresponding figures are 68.67 and 58.82 in social sciences and humanities respectively. It is clear that science scholars are more aware about open access resources and humanities people are less aware though more than half are aware.

Table 17: Usage of DOAJ

Usage	Science		Social Science		Humanities	
	Number of Respondents	%	Number of Respondents	%	Number of Respondents	%
Used	89	90.82	10	12.05	6	11.76
Not Used	9	9.18	73	87.95	45	88.24
Total	98	100	83	100	51	100

Analyzing the above Table 17, we can identify the frequency of those who make use of DOAJ and those who are not. Among the science scholars, 90.82 percent researchers have made use of DOAJ which is an impressive figure. But the percentage is very low (12.05%) among the social science and humanities research scholars. This aspect again highlights the need for information literacy sessions in the library.

Table 18: Opinion on the impact of e-resources on the use of print media

Impact	Science		Social Science		Humanities	
	Number of Respondents	%	Number of Respondents	%	Number of Respondents	%
Affected	47	47.96	45	54.22	25	49.02
Not affected	51	52.04	38	45.78	26	50.98
Total	98	100	83	100	51	100

Among the respondents in science discipline, 47.96 percent of the researchers agree that the onset of e-resources has adversely affected the use of print media. But more researchers in social sciences (54.22%) feel so. But the percentage of scholars who concur to this idea is more or less the same as that of science. Here also it can be seen that there is no considerable variation in the opinion of the three groups.

Table 19: Method of using e-resources

Process	Science		Social Science		Humanities	
	Number of Respondents	%	Number of Respondents	%	Number of Respondents	%



Read it from screen	45	13.89	34	14.05	26	14.69
Take print out	64	19.75	49	20.25	29	16.38
E-mail to your mail id	53	16.36	46	19.01	28	15.82
Download	87	26.85	66	27.27	42	23.73
Copy and paste	39	12.04	26	10.74	28	15.82
Bookmark or save	36	11.11	21	8.68	22	12.43
Others	0	0	0	0	2	1.13
Total	324	100	242	100	177	100

In science discipline 45 (14%) of the researchers read them from screen, 64 (20%) take print out, 53 (16%) e-mail to the mail id, 87 (27%) will download and 39 (12%) copy and paste the portions that they need, 36(11%)bookmark or save URL. In social science discipline 34 (14%) of the researchers read them from screen, 49 (20%) take print out, 46 (19%) e-mail to the mail id, 66 (27%) will download and 26 (11%) copy and paste the portions they need, 21 (9%) bookmark or save URL. In humanities discipline 26 (15%) of the researchers read it from screen, 29 (16%) take print out, 28 (16%) e-mail to the mail id, 42 (24%) will download and 28(16%) copy and paste the portions they need, 22(12%) bookmark or save URL. One percent of them uses other methods. The most common method is downloading the documents, in science, social science and humanities disciplines

Table 20: Obstacles in e-resources

Discipline	Rank	Time consuming	Unfamiliarity to use		Unwanted information		Difficult to search for the right information		Slow downloading speed		Lack of guidance		
		%	%	%	%	%	%	%	%	%			
Science	1	0	0	60	25.86	0	0	0	0	4	1.72	168	72.41
	2	0	0	172	74.14	0	0	0	0	0	0	60	25.86
	3	4	1.72	0	0	0	0	168	72.41	60	25.86	0	0
	4	60	25.86	0	0	168	72.41	4	1.72	0	0	0	0
	5	168	72.41	0	0	60	25.86	0	0	0	0	4	1.72
	6	0	0	0	0	4	1.72	60	25.86	168	72.41	0	0
Social Science	1	0	0	0	0	0	0	196	84.48	36	15.52	0	0
	2	0	0	0	0	0	0	36	15.52	196	84.48	0	0
	3	196	84.48	36	15.52	0	0	0	0	0	0	0	0
	4	36	15.52	196	84.48	0	0	0	0	0	0	0	0
	5	0	0	0	0	36	15.52	0	0	0	0	196	84.48
	6	0	0	0	0	196	84.48	0	0	0	0	36	15.52
Humanities	1	0	0	155	66.81	0	0	0	0	0	0	77	33.19
	2	0	0	77	33.19	0	0	0	0	0	0	155	66.81
	3	0	0	0	0	0	0	214	92.24	18	7.76	0	0
	4	0	0	0	0	0	0	18	7.76	214	92.24	0	0
	5	137	59.05	0	0	95	40.95	0	0	0	0	0	0
	6	95	40.95	0	0	137	59.05	0	0	0	0	0	0

In science discipline first rank is given to lack of guidance (72.41%), second rank for unfamiliarity to use (74.14%), third rank for difficult to search for the right information (72.41%), fourth rank for unwanted information (72.41%), fifth rank for time-consuming (72.41%) and sixth rank for slow downloading speed (72.41%). In social science discipline first rank is given to difficulty in searching for the right information (84.48%), second rank for slow downloading speed (84.48%), third rank for time-consuming fourth rank for unfamiliarity to use (84.48%), fifth rank for lack of guidance (84.48%) and sixth rank for unwanted information

(84.48%). In humanities discipline first rank is given to difficulty of unfamiliarity to use (66.81%), second rank for lack of guidance (66.81%), third rank for difficult to search for the right information (92.24%), fourth rank for slow downloading speed (92.24%), fifth rank for time-consuming (59.05%) and sixth rank for unwanted information (59.05%). Both science and humanities scholars give fifth rank for time-consuming and both social science and humanities scholars gives sixth rank for unwanted information.

Table 21: Satisfaction of e-resources

Satisfaction of e-resources	Science		Social Science		Humanities	
	Number of Respondents	%	Number of Respondents	%	Number of Respondents	%
Fully satisfied	12	12.24	9	10.84	3	5.88
Satisfied	79	80.61	71	85.54	42	82.35
Less satisfied	7	7.14	3	3.61	5	9.80
Dissatisfied	0	0	0	0	1	1.96
Total	98	100	83	100	51	100

In science discipline, 12(12.24%) are fully satisfied with available e-resources 79 (80.61%) are satisfied with available e-resources, and 7 (7.14%) are less satisfied. Nobody is dissatisfied. In social science discipline, 9 (10.84%) are fully satisfied with available e-resources 71 (85.54%) are satisfied with available e-resources, 3 (3.61%) are less satisfied. In humanities discipline, 3 (5.88%) are fully satisfied with available e-resources 42 (82.35%) are satisfied with available e-resources, 5 (9.80%) are less satisfied and only 1.96% is dissatisfied.

## 6.0 Findings

Science research scholars (42%) constitute majority of the sample. In the total sample, research scholars in Social Science constitute 36% and the rest (22%) are from Humanities disciplines.

1. Females constitute majority (76.33%) of the sample
2. Majority of the respondents belong to the age group below 30.
3. In general, about 96 percent of the researchers are aware of e-resources, whereas in humanities 7.84 percent are not aware of.
4. In science disciplines first rank is given to the search of databases (88.36%), while Social Science as well as the humanities disciplines give the first rank to e-journals.
5. Most of the researchers gained awareness about e-resources from their friends and colleagues, and they constitute 45.83 percent of the sample.
6. Around 40% of the research scholars use e-resources via department library. The home-based users occupy the second place with a share of 26.73 percent.
7. In Science, Social Science and Humanities discipline first rank is given to general purpose search engines and their share is 85.34%, 90.95% and 91.38% respectively.
8. In science disciplines, most of the respondents (52.04%) are satisfied with journal title search method. Social science scholars prefer subject search method and humanities scholars prefer author search method. Date of publication is the least used search method in all disciplines.
9. Most of the researchers prefer field searching in Science, Social Science and Humanities disciplines with a share of 48%, 42.74% and 47.44% respectively.
10. Science scholars are more aware of UGC-INFONET Digital Library Consortium than Social Science and Humanities scholars.
11. But majority of the researchers are not using making use of the UGC-INFONET services and even those who are use, do it only occasionally.
12. In all the three disciplines, majority of the respondents use e-resources because of the easiness in searching them.
13. Majority of the respondents in Science discipline are familiar with subject gateways (76.53%) than in Social Science and Humanities. However, the researchers in humanities are very less familiar with subject gateways.
14. Among the researchers, the science scholars are more familiar with open access resources and they constitute 78.57 percent among them.
15. The science scholars were found to use DOAJ (90.82%) than Social Science and Humanities scholars.

16. About half of the researchers from all the three disciplines hold the view that the advantage of e-resources has affected the use of print media whereas the remaining argued that the advantages of e-resources had not affected the use of print media.
17. Most of the respondents like to download the e-resources which they need.
18. As far as the problems are concerned, in Science disciplines first rank is given to 'lack of guidance'. In Social Science discipline first rank is given to 'difficult to search for the right information'. In Humanities disciplines, first rank is given to 'unfamiliarity to use e-resources' as obstacle in using e-resources.
19. Majority of the respondents in Social Science discipline are satisfied with the e-resources (78.31%) than Science (76.53%) and Humanities scholars (76.47%). It is obvious that there is not much difference in the rate of satisfaction among the groups.

#### Suggestions

1. Along with research scholars, separate user education programs in the use of electronic resources should be conducted for research guides also. This will augment the use of these resources by the research scholars.
2. Steps should be taken by the University authorities in collaboration with the university library professionals, to nurture the habit of making use of open access publications among the researchers. This requires extensive use of education programs.
3. The use of Directory of Open Access Journals (DOAJ) and DOAR should be encouraged among the researchers. All major commercial publishers like Elsevier, Springer, Taylor and Francis, Wiley and many others provide access to open sources by them. Users should be made aware of them. Along with that links have to be provided to all open access resources available globally.

#### 7.0 Conclusion

The study revealed that the use of e-resources is more among the researchers of Science disciplines. In terms of information seeking, today's researchers seem to be comfortable with using a wide variety of sources for information. Internet search engines, e-print servers, author websites, full-text databases, electronic journals, and print resources are all used to some degree by most users. It has been a tool to accomplish life endeavors in all fields.

#### 8.0 Reference

1. Bala, M. & Mittal, D. P. (2013). A Study of various types of e-resources used by research scholars. *IJRCCCT*, 2 (3), 146-150.
  2. Bhatt, R. K. (2010). Use of UGC-Infonet Digital Library Consortium resources by research scholars and faculty members of the University of Delhi in History and Political Science: A study. *Library Management*, 31(4/5), 319-343.
  3. Claire Leduc Joachim Schöpfel, (2015), "Usage of e-journals in French business schools", *The Electronic Library*, Vol. 33 Iss 2 pp. 258 – 272
  4. Costa, T., Lopes, C., & Vaz, F. (2014). Electronic Journals: Their Use and Impact in the Portuguese Universities Output. *Information Resources Management Journal (IRMJ)*, 27(3), 59-75.
  5. Dadzie, P. S. (2005). Electronic resources: access and usage at Ashesi University College. *Campus-Wide Information Systems*, 22(5), 290-297.
  6. Flick, U. (2015). *Introducing research methodology: A beginner's guide to doing a research project*. Sage, 58-62
  7. Garg, R. G., & Tamrakar, A. K. (2014). Utilization of Electronic-resources by the postgraduate students, research scholars and faculty members of Indian Institute of Technology, Kharagpur. *Journal of Scientometric Research*, 3(2), 75.
  8. Hema, R., Nagarajan, M., & Vanathi, B. (2013). A Study on use of ICT based Resources and Services by the Faculty Members, Research scholars, and PG Students of Arts and Science colleges in Union Territory of Puducherry. *Journal of Advances in Library and Information Science*, 2(1), 1-6.
  9. Maron, N. L., & Smith, K. K. (2009). Current models of digital scholarly communication: Results of an investigation conducted by Ithaka Strategic Services for the Association of Research
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Libraries. *Journal of electronic publishing*, 12(1).

10. Moorthy, A.L (2009) *DRDO E-Journals Consortium. DESIDOC Journal of library & Information Technology*, 29(5), 18-23.
11. Muthurasu, C., & Kannan, S. P. (2019). Use of E-Resources by Social Scientists in Tamil Nadu, India. In *Literacy Skill Development for Library Science Professionals* (pp. 146-173). IGI Global.
12. Shuling, W. (2007). Investigation & analysis of current use of electronic resources in university libraries. *Library Management* 28 (1/2), 72-88.
13. Sivakami, N., & Rajendran, N. (2019). Awareness, Access and Usage of E-resources among Faculty Members in Arts and Science Colleges. *Library Philosophy and Practice*, 1-9.
14. Soni, N. K., Gupta, K. K., & Shrivastava, J. (2018). Awareness and Usage of Electronic Resources among LIS Scholars of Jiwaji University, Gwalior: A Survey.
15. Vileno, L. (2007). From paper to electronic, the evolution of pathfinders: a review of the literature. *Reference Services Review*, 35(3), 434-451.
16. Zabeed Ahmed, S. M. (2013). Use of electronic resources by the faculty members in diverse public universities in Bangladesh. *The Electronic Library*, 31(3), 290-312.