A Study on Aptitude towards Access to E-Resources by the Research Scholars of Science Faculty in Pondicherry University

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Abstract

Access to electronic information have become increasingly important in today's knowledge society. In the field of science, most of the information published through electronic channels. This paper evaluates the attitude of science research scholars of Pondicherry University towards e-resources. The analysis of the collected data cover the online services accessed, frequency and purpose of accessing this e-resources, by the respondents. The problems faced by the research scholar of science also measured in this study.

Keywords

Electronic information, knowledge society, online services, Pondicherry University.

Electronic access

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Introduction

E-resources are resources in which information is stored electronically and which are accessible through electronic systems and networks. e-resources is a very broad term that includes a variety of different publishing models, including CD-ROMs, online database, e-journals, e-books, internet resource, Print – On – Demand (POD), e-mail publishing, wireless publishing, electronic link and web publishing etc. In this context the term means "any electronic product that delivers collection of data be it in text, numerical, graphical, or time based, as a commercially available resource."

Impact of e-resources on higher education and research

In the 21st Century Information Technology (IT) had brought rapid changes in education. The conventional teaching and learning is gradually moving towards online. The concept of digital library, virtual library, and electronic library came into present situation. Electronic information resources have many advantages over traditional information resources. For teaching and learning, electronic resources are available in web enabled medium. A lot of developments are witnessed in the recent years in e-publishing. Publishers are interested in many issues like publishing costs, changing readership, changing user expectations, rights management and archiving. Many authors and corporate bodies are resorting for self publishing of various scholarly publications, and quality assurance. Researchers are interested to have easy access to full text publications and reference linking in a complex information space.

In the information technology era, academic libraries and information centers have radically changed the information environment. Higher education institutions started subscribing to electronic resources to meet the users' requirements and expectations.

In view of the vital role being played by e-resources and Internet in education, information, research and development and information technology, an attempt has been made in the present work to bring out attitude towards access to electronic resources by the research scholars of science faculty of Pondicherry University.

Objectives of the study

The following objectives have been framed for this study:

1. To find out the respondent's of level of dependency on library for their research work.

2. To know the respondent's usage of online services.
3. To determine the respondent's frequency of accessing e-resources.
4. To findout respondent's place of accessing and reason for accessing of e-resources.
5. To find out respondent's purpose and year of experience in accessing e-resources.
6. To know the respondent's problems and satisfaction while accessing e-resources.

Hypotheses of the study

1. There are differences among the respondents in their level of dependency on library.
2. There are differences among the respondents in their usage of online services.
3. There are differences among the respondents in their frequency of accessing e- resources.
4. There are differences among the respondents in their purpose of using e - resources
5. There are differences among the respondents in their level of satisfaction with availability of e-resources.

Methodology

A questionnaire designed to elicit the opinion of research scholars of science faculty in Pondicherry University. Further which helps to know the e-resources facilities and its benefits, whether the users have been benefited or not through these technological based services also can be easily identified. Questionnaires were distributed to fifteen departments of science faculty, out of total number of 178 research scholar 170 questionnaires were responded. The well tested questionnaire was distributed personally to the research scholars of Science faculty, Pondicherry University, Pondicherry. Sufficient time was given to the respondents to furnish the required information. To analyse the collected data, simple percentage analysis and Chi-square test were applied

Result and Discussion

Table 1. Department wise respondent's level of dependency on library for research

S.No	Department	Totally Dependent	%	Dependent to Some extent	%	Not dependent	%	Total	%
1	Anthropology	10	52.63	6	31.58	3	15.79	19	100
2	Bio – Technology	3	50	1	16.67	2	33.33	6	100
3	Chemistry	6	37.5	5	31.25	3	31.25	16	100
4	Earth Science	2	50	2	50	-	-	4	100
5	Ecology & Env. Sci	8	61.54	5	38.46	-	-	13	100
6	Env. Technology	10	66.67	1	13.33	3	20	15	100
7	Biochemistry & Molecular Biology	4	50	3	37.5	1	12.5	8	100
8	Bioinformatics	6	66.67	-	-	3	33.33	9	100
9	Computer Science Eng.	2	50	2	50	-	-	4	100
10	Mathematics	10	71.42	2	14.29	2	14.29	14	100
11	Physics	16	44.45	12	33.33	8	22.22	36	100
12	Statistics	2	50	1	25	1	25	4	100
13	Electronics Media	2	66.67	1	33.33	-	-	3	100
14	Nano Science & technology	4	40	3	30	3	30	10	100
15	Green Energy & Technology	6	66.67	1	11.11	2	22.22	9	100
	Total	91	53.53	46	27.06	33	19.41	170	100

It could be seen from the above table that irrespective of the department, 91 (53.53%) of them totally dependent, 46 (27.06%) of them dependent to some extent and 33 (19.41%) of them not dependent on library for their research work.

Chi – Square

Calculated chi-square value	Degrees of freedom	Level of Significant / P-value
35.15	28	0.16

It is observed from the above table and the calculated value of chi-square value 35.15 with degrees of freedom 28 and p-value of 0.16 that the respondent's level of dependency on library for research is not significant at a level of 5%. Hence it is concluded that there are no differences among the respondents in their level of dependency on library.

Table 2. Department wise respondent's Frequency of accessing e-resources

Department	Daily	%	Thrice a week	%	Once a week	%	Once in a month	%	Total	%
Anthropology	7	36.84	5	26.32	5	26.32	2	10.53	19	100
Bio – Technology	3	50	1	16.67	2	33.33	-	-	6	100
Chemistry	5	31.25	6	37.5	2	12.5	3	18.75	16	100
Earth Science	2	50	-	-	2	50	-	-	4	100
Ecology & Env. Sci	6	46.15	2	15.38	5	38.47	-	-	13	100
Env. Technology	8	53.33	-	-	7	46.67	-	-	15	100
Biochemistry & Molecular Biology	3	37.5	2	25	3	37.5	-	-	8	100
Bioinformatics	4	44.45	3	33.33	-		2	22.22	9	100
Computer Science Eng.	2	50	-	-	2	50	-	-	4	100
Mathematics	5	35.71	3	21.43	6	42.86	-	-	14	100
Physics	13	36.11	8	22.22	9	25	6	16.69	36	100
Statistics	3	75	-	-	1	25	-	-	4	100
Electronics Media			-	-	3	100	-	-	3	100
Nano Science & technology	3	30	2	20	3	30	2	20	10	100
Green Energy & Technology	4	44.45	-	-	2	22.22	3	33.33	9	100
Total	68	40	32	18.82	52	30.59	18	10.59	170	100

The above table illustrate that irrespective of the department 68(40%) of them daily, 32(18.82%) of them thrice a week, 52 (30.59%) of them once a week, and 18(10.59%) of them once in a month accessing e-resources.

Chi – Square

Calculated chi-square value	Degrees of freedom	Level of Significant / P-value
47.20	42	0.26

It is observed from the above table and the calculated value of chi-square value 47.20 with degrees of freedom 42 and p-value of 0.26 that the respondent's frequency of accessing e-resources not significant at a level of 5%. Hence it is concluded that there are no differences among the respondents in their frequency of accessing e-resources.

Table 3. Department wise respondent's place of accessing e-resources

Department	University library and department	%	Home	%	Internet Cafe	%	Total	%
Anthropology	15	78.95	4	21.05	-	-	19	100
Bio – Technology	5	83.33	1	16.67	-	-	6	100
Chemistry	12	75.00	2	12.5	2	12.5	16	100
Earth Science	4	100	-		-	-	4	100
Ecology & Env. Sci	10	76.92	1	20	2	15.38	13	100
Env. Technology	11	73.33	3	20	1	6.67	15	100
Biochemistry & Molecular Biology	6	75	-		2	25	8	100
Bioinformatics	7	77.78	2	22.22	-		9	100
Computer Science Eng.	2	50	-		2	50	4	100
Mathematics	11	78.57	2	14.29	1	7.14	14	100
Physics	29	80.56	3	8.33	4	11.11	36	100
Statistics	4	100	-	-	-	-	4	100
Electronics Media	3	100	-	-	-	-	3	100
Nano Science & technology	9	90	-	-	1	10	10	100
Green Energy & Technology	8	88.89	-	-	1	11.11	9	100
Total	136	80.00	18	10.59	16	9.41	170	100

It is clearly seen from the above table that irrespective of the department 136 (80.00%) of them in university library and department library, 18 (10.59%) of them at home and 16 (9.41%) of them at internet café accessing e-resources for their research work.

Table 4. Department wise respondent's reason for place of preference to access e-resources

Department	Speed of access	%	Price cost factor	%	Convenient hours	%	Provision for down load	%	Higher Bandwidth	%	Total	%
Anthropology	7	36.84	3	15.78	5	26.32	2	10.53	2	10.53	19	100
Bio – Technology	3	50					2	33.33	1	16.67	6	100
Chemistry	9	55.80	1	6.25	2	12.5	2	12.5	2	12.5	16	100
Earth Science	2	50			2	50					4	100
Ecology & Env. Sci	4	30.77	2	15.38	2	15.38	2	15.38	3	23.08	13	100
Env. Technology	8	53.33			1	6.67	3	20	3	20	15	100
Biochemistry & Molecular Biology	3	25	1	12.5	3	37.5			1	12.5	8	100
Bioinformatics	4	44.45			3	33.33	2	22.22			9	100
Computer Science Eng.	1	25			3	75					4	100
Mathematics	6	42.86			3	21.43	3	21.43	2	14.29	14	100
Physics	24	66.67	1	2.78	8	22.22			3	8.33	36	100
Statistics	2	50			2	50					4	100
Electronics Media	2	66.66			1	33.33					3	100
Nano Science & technology	5	50	1	10		-	2	20	2	20	10	100
Green Energy & Technology	5	55.55			4	44.45					9	100
Total	85	50.00	9	5.29	39	22.94	18	10.59	19	11.18	170	100

It could be noted from the study that irrespective of the department 85(50.00%) of them said speed of access, 9(5.29%) of them price of cost factor, 39(22.94%) of them convenient hours, 18 (10.59%) of them provision for down load and 19 (11.18%) of them higher bandwidth as the reason for place of preference to access e-resources for their research work.

Table 5.Department wise respondent's purpose of using e-resources

Department	For research work	%	For Project purpose	%	Updating current Information	%	prepare Articles	%	Total	%
Anthropology	8	42.10	3	15.79	4	21.05	4	21.05	19	100
Bio – Technology	3	50			2	33.33	1	16.67	6	100
Chemistry	6	37.5	3	18.75	4	25	3	18.75	16	100
Earth Science	-				3	75	1	25	4	100
Ecology & Env. Sci	5	39.46			3	23.08	2	38.46	13	100
Env. Technology	6	40	3	20	4	26.67	2	13.33	15	100
Biochemistry & Molecular Biology	3	37.5			2	25	3	37.5	8	100
Bioinformatics	4	44.45	2	22.22	2	22.22	1	11.11	9	100
Computer Science Eng.	3	75			1	25	-	-	4	100
Mathematics	5	35.71	2	14.29	4	28.57	3	21.43	14	100
Physics	9	25	2	5.56	13	36.11	12	33.33	36	100
Statistics	2	50					2	50	4	100
Electronics Media	1	33.33			2	66.67	-	-	3	100
Nano Science & technology	3	30	1	10	2	20	4	40	10	100
Green Energy & Technology	2	22.22	s3	33.33	4	44.45	-	-	9	100
Total	60	35.29	19	11.18	50	29.44	38	25.35	170	100

It could be observed from the table irrespective of the department 60(35.29%) of them for research work, 19(11.18%) of them for project purpose, 50(29.44%) of them to update current information and 38(25.35%) of them to prepare articles as the purpose of using e-resource for their research work.

Chi – Square

Calculated chi-square value	Degrees of freedom	Level of Significant / P-value
36.80	42	0.69

It is observed from the above table that the calculated value of chi-square value 36.80 with degrees of freedom 42 and p-value of 0.69 that the respondent's purpose of using e-resources not significant at a level of 5%. Hence it is concluded that there are no differences among the respondents in their purpose of using e-resources.

Table 6.Department wise respondent's year of experience in accessing e-resources

Department	Less than a year	%	One year	%	Two years	%	More than 2 years	%	Total	%
Anthropology	6	31.58	6	31.58	3	15.79	4	21.05	19	100
Bio – Technology	2	33.33	2	33.33	1	16.67	1	16.67	6	100
Chemistry	5	31.25	6	37.5	3	18.75	2	12.5	16	100
Earth Science	2	50	1	25	1	25	-		4	100
Ecology & Env. Sci	3	23.08	1	7.7	4	30.77	5	38.46	13	100
Env. Technology	4	26.67	5	33.33	3	20	3	20	15	100
Biochemistry & Molecular Biology	2	25	3	37.5	3	37.5	-		8	100
Bioinformatics	2	22.22	4	44.45	2	22.22	1	11.11	9	100

Computer Science Eng.	2	50	2	50	-		-		4	100
Mathematics	6	42.86	3	21.43	4	28.57	1	7.14	14	100
Physics	12	33.33	10	27.78	6	16.67	8	22.22	36	100
Statistics	2	50	2	50	-		-		4	100
Electronics Media	2	66.67	-		1	33.33	-		3	100
Nano Science & technology	2	20	4	40	3	30	1	10	10	100
Green Energy & Technology	4	44.45	1	11.11	2	22.22	2	22.22	9	100
Total	56	32.94	50	29.41	36	21.18	28	16.47	170	100

The above table indicate that Irrespective of the department 56 (32.94%) of them have less than a year, 50 (29.41%) of them one year, 36 (21.18%) of them two years and 28 (16.47%) of them more than 2 years experience in accessing e-resources.

Table 7.Department wise respondent's faced problems while accessing e-resources

Department	Lack of IT knowledge	&	Difficulty in finding relevant information	%	Limited computer terminals	%	Time consuming	%	Easy and convenient to use print form	%	Limitation of internet access speed	%	Total	%
Anthropology	4	21.05	5	26.31	2	10.53	2	10.53	3	15.79	3	15.79	19	100
Bio – Technology	1	16.67	3	50			2	33.33			-		6	100
Chemistry	3	18.75	4	25	4	25		-	2	12.5	3	18.75	16	100
Earth Science	-		2	50			2	50			-		4	100
Ecology & Env. Sci	2	15.38	3	23.08	3	23.08			1	12.5	8	100	13	100
Env. Technology	6	40	5	33.33	1	6.67			-		9	100	15	100
Biochemistry & Molecular Biology	2	25	2	25	1	12.5			-		4	100		
Bioinformatics	3	33.33	4	44.45					3	21.43	14	100		
Computer Science Eng.			2	50			3	8.33	4	11.11	36	100		
Mathematics	4	28.57	3	21.43	2	14.29	2	14.29						
Physics	7	19.45	9	25	9	25	4	11.11						
Statistics	1	25			2	50			1	25	-		4	100
Electronics Media			1	33.33	2	66.67					-		3	100
Nano Science & technology	3	30	2	20	2	20	1	10	2	20	-		10	100
Green Energy & Technology	4	44.45	2	22.22	2	22.22	1	11.11			-		9	100
Total	40	23.53	47	27.65	30	17.65	23	13.53	11	6.47	19	11.18	170	100

It is observed from the above table that irrespective of the department 40 (23.53%) of them lack of IT knowledge, 47 (27.65%) of them difficulty in finding relevant information, 30 (17.65%) of them limited computer terminals 23 (13.53%) of them time consuming, 11 (6.47%) of them easy and convenient to use print form and 19 (11.18%) of them limitation of internet access speed are faced problems while accessing e-resources.

Table 8.Department wise respondent's level of satisfaction with the availability of e-resources

Department	Fully satisfied	%	Partially satisfied	%	Least satisfied	%	No comments	%	Total	%
Anthropology	9	47.37	6	31.58	4	21.05	-		19	100
Bio – Technology	2	33.33	3	50	1	16.67	-		6	100
Chemistry	7	43.75	5	31.25	2	12.5	2	12.5	16	100
Earth Science	2	50	2	50	-		-		4	100
Ecology & Env. Sci	6	46.15	4	30.77	2	7.7	1	15.38	13	100
Env. Technology	5	33.33	6	40	3	20	1	6.67	15	100
Biochemistry & Molecular Biology	2	25	4	50	2	25	-		8	100
Bioinformatics	4	44.45	3	33.33	2	22.22	-		9	100
Computer Science Eng.	2	50	2	50	-		-		4	100
Mathematics	6	42.86	5	35.71	2	14.29	1	7.14	14	100
Physics	14	38.89	11	30.56	7	19.44	4	11.11	36	100
Statistics	2	50	1	25	-		1	25	4	100
Electronics Media	1	33.33	2	66.67	-		-		3	100
Nano Science & technology	3	30	3	30	3	30	1	10	10	100
Green Energy & Technology	3	33.33	4	44.45	2	22.22	-		9	100
Total	68	40	61	35.88	30	17.65	11	6.47	170	100

The table 9 reveals that irrespective of the department 68 (40%) of them fully satisfied, 61(35.88%) of them partially satisfied, 30 (17.65%) of them least satisfied, 11(6.47%) of them no comments with the availability of e-resources**.**

Findings

The findings of the present study lead to the following observations

- The finding shows that more than 50% respondents totally dependent on library for their research and study.
- It is found that more than 70% of the respondents used e-books and e-journals for their research work.
- The finding shows that 40% of the respondents accessing e-resources daily for their research work.
- Further the study indicates that 35% of the respondents using e-resources for the purpose of research work and it is followed by updating current information.
- The finding shows that more than 60% of respondent's year of experience were "less than one year" and "one year".
- The important finding shows that majority (51.16%) of the respondents faced problems of "Lack of IT knowledge" and "difficulty in finding relevant information" while accessing e-resources.
- It is also found that majority (75.88%) of the respondents fully satisfied and partially satisfied with the availability of e-resources.

Conclusion

Electronic resources are invaluable research tools which complement print based resources in any traditional library. Electronic resources provide access to information that might be restricted to the user because of geographical location or finances.

The present study described the significant and usefulness of e-resources to the research scholars of

Science Faculty, Pondicherry University. It is also revealed that the study provides problems and level of satisfaction while accessing e-resources by the research scholars. It is concluded from the study that the Pondicherry University library play a active role in providing various e-resources to its research scholars for their research programme.

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