

Perceived Barriers in Accessing E-Resources by the Members of the Faculty of Engineering Colleges

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Abstract

The present study has analysed the barriers faced by the members of the faculty of Engineering Colleges in southern districts of Tamil Nadu while accessing e-resources. The authors also investigated the awareness, level of computer literacy, use of e-resources and the perceived problems in accessing e-resources by conducting survey among the teachers of Engineering College through the structured questionnaire. The study revealed that faculty members are aware of e-resources; computer literacy is more and uses the e-resources to meet their information requirements mainly for teaching learning and research activities. The study also listed out the perceived barriers in accessing e-resources by the faculty of Engineering Colleges.

Keywords: *E-resources, accessing e-resources, barriers, use of e-sources, faculty members, Engineering Colleges.*

Introduction

The technological changes and its impacts have changed the traditional libraries in electronic or digital libraries. The term 'e-library' and 'e-resources' are become well known to all and frequently used terms by the academic community consisting of students and faculty. National Knowledge Commission (2006) has also stressed the importance of sharing knowledge and this process is further strengthened through modern electronic gadgets. The emergence of World Wide Web (WWW) has given an excellent opportunity to access the information at the global level. In addition to the internet, there are various platforms sponsored by the government and private agencies to access e-resources for the faculty of engineering colleges for the promotion of integrated information system for the development of application oriented Indian engineering education to standard of global level.

E-Resources

Electronic Resources is one of the emerging trends in the changing environments of libraries and information centres. The Electronic resource may be available as offline resources or online resources. Electronic publishing is getting a tremendous impetus from the publishing industries as well as Library and Information Centres. E-Books, E-journals, E-Magazines,

E-Conferences, etc. are some of the leading digital resources that exert a dominant pressure on the publishing world, paving the way to the transition from print to electronic media.

Electronic resources are the electronic representation of information sources. The electronic resources are systems in which information is stored electronically and made accessible through electronic systems and computer networks. These resources include OPAC, CD-ROMs, online databases, e-journals, e-books, internet resources etc.

Among the e-resources, e-journals have been most widely used by the faculty of Engineering Colleges. The phrase 'e-journals' has been defined variously by different authors. According to Singh (2013), e-journal as any journal existing in an electronic format that embraces all periodicals available electronically as well as in paper copy, including the text of periodicals accessible through online networks and those periodicals distributed in CD-ROM form.

Thus the term '*electronic resources*' includes any resource available in an electronic format that was accessed and viewed by the users on computer screen.

Need and Significance of the Study

The technological advancements found in the library have moved faculty and students from using printed sources to electronic resources, and more specifically to the Internet based various applications as a major source for their information requirement. Before using Internet they must be a computer literate to access e-resources. Learning a machine language is not so difficult in compared to other learning. However, there are several factors such as age, negative attitude towards modern equipments, anxiety, lack of proper guidance, lack of self interest; techno phobia and lack of internet accessibility force them to keep away from using e-resources. No doubt, the Internet is a boon for higher education and it is a facilitator for teaching, learning and research. In this context, several studies have been conducted on various aspects related to e-journals and e-resources at national and international level among the research scholars, college students and among the members of the Faculty. Some of these studies were carried out among the faculty members of United Arab Emirates University on the usage of electronic resources (**Ibrahim, 2004**), on major obstacles on using e-resources among the users in academic and research institutions in Tanzania (**Manda, 2005**). Representative studies on factors that influence the use of library resources by the faculty members at Technological Educational Institution of Thessaloniki (**Korobili, Tilikidou; Delistavrou, 2005**). At the national level most of the studies were about the awareness of e-resources among the teachers of Arts and Science College of **Saravanan & Mary (2007)**, barriers encountered by the faculty members of Arts and Science Colleges by **Saravanan & Lawyed Stephen (2010)**. But a closer analysis of the available studies shows that studies on factors that influence the use of e-resources among the faculty members of Engineering Colleges are scanty. Hence, the present investigators are motivated to take up a survey based study among the

teachers of Engineering Colleges, since they strongly feels that the effective usage of e-resources have direct impact on the academic productivity of the teachers.

Statement of the Problem

Promotion of research and creating new knowledge are the major aim of technical education at higher education. Faculties of Engineering Colleges are carrying out research works in various disciplines. Their research work and the class room interactions are positively influenced by the e-resources. There are factors which keep away the members of the faculty from using e-resources. Hence the problem for the present study is entitled as “**Perceived Barriers in Accessing E-Resources by the Members of the Faculty of Engineering Colleges**”.

Objectives of the Study

The major objective of the study is to analyse the barriers perceived by the members of the faculty of Engineering Colleges. The specific objectives of the study are:

1. To analyse the academic productivity of the faculty of Engineering Colleges.
2. To assess the level of computer literacy among the members of the faculty of Engineering Colleges.
3. To analyze the frequency with which the faculty members uses e-resources with respect to gender, faculty, designation, years of experience and academic productivity.
4. To analyze the purpose for which e-resources is being used by the faculty members.
5. To identify the barriers encountered by the faculty members when using e-resources.

Hypotheses of the Study

1. Level of computer literacy among the faculty members is low.
2. Academic productivity of the faculty of engineering Colleges are low.
3. Faculty members encountered barriers when accessing e-resources.

Limitations of the Study

Every study has its own limitations, the present study has also has its own limitations. Limitations of the present study are

1. The present study is confined only to the southern district of Tamil Nadu namely Kanyakumari, Tirunelveli and Thoothukudi district.
2. Respondents for the study are the members of the faculty of Engineering Colleges only.
3. Present study is based on the sample of 240 faculty members who are working in Engineering Colleges in various disciplines.

Methodology

The present study intends to examine the barriers encountered by the faculty members of Engineering Colleges in the southern district, the level of computer literacy, purpose and problems

faced by them when accessing e-resources and hence survey method is employed for data collection. Population for the proposed study is all those faculties who are working in various disciplines of Engineering in the designation such as Assistant Professor, Associate Professor and Professors in Engineering Colleges in the southern district of Tamil Nadu. The survey was conducted among the 300 faculty members of engineering colleges using a well structured questionnaire prepared by the investigator in consultation with experts in the field. Stratified random sampling technique is adopted for the collection of data by giving due weightage to various categories of the variable under study. Out of 300 questionnaires, only 240 questionnaires are complete in every aspect and hence 240 questionnaires are selected for analysis. The response rate of the questionnaire is 80 percent. The collected data are analysed using descriptive statistics and interpreted accordingly.

Analysis and Interpretation of Data

The data collected through questionnaire were analyzed by keeping the above mentioned objectives. Collected data were analyzed using SPSS (Statistical Package for Social Science) with appropriate statistical techniques.

1. Locality and Age wise distribution of Respondents

Locality and age-wise distribution of respondents of the study are given in table 1.

Table 1
Locality and Age wise distribution of Samples

Variables		Age				Total
		Below 28 Years	28 - 38 Years	39 - 49 years	Above 49 Years	
Locale	Rural	46	0	56	34	136
	Urban	0	76	0	28	104
Total		46	76	56	62	240

Table 1 discloses that 136 respondents out of 240 are of rural background and the remaining 104 belong to urban. Moreover, most of the respondents belong to the age group 28-38, followed by the faculty members of age above 49 years (62 out of 240), age group 39-49 years and the remaining are below 28 years.

2. Discipline wise Designation of Respondents

Discipline wise designations of respondents of the respondents are presented in table 2.

Table 2
Discipline wise Designation of Respondents

Variables		Designation		Total
		Assistant Professor	Asso. Professor	
Discipline	Non-Engineering	64	0	64(26.67%)
	Engineering	150	26	176(73.33%)
Total		214(89.2%)	26(10.8%)	240

Table 2 indicates that majority of the respondents of the study are Engineering discipline and the remaining 26.67 per cent belongs to Non- Engineering disciplines. In addition to that majority of the respondents of the study are Assistant Professor in category.

3. Level of Computer Literacy

Computer literacy is the prerequisite skill for accessing e-resources and it is one of the necessary skills among the faculty members to survive among the student community. Realizing this, in the present study attempted to identify the level of computer literacy among the faculty members on a four point scales. Opinions of the respondents are summarized in table 3.

Table 3
Level of Computer Literacy

S.no	Computer Literacy	Frequency	Percent
1	Below Average	30	12.5
2	Average	109	45.41
3	Excellent	101	42.1
Total		120	100.0

It is clear from the table 3 that 45.41 per cent of the faculty members have computer literacy at average, 42.1 per cent are excellent in using computer and 12.5 per cent are below average level.

4. Level of Computer Literacy with respect to Discipline

Level of computer literacy among the faculty members are further analysed with respect to discipline. Details of analysis are in table 4.

Table 4
Level of Computer Literacy with Discipline

Variables		Discipline		Total	Chi-square
		Non-Engineering	Engineering		
Level of Computer Literacy	Below Average	12	8	30	13.71* at df=2
	Average	33	86	119	
	Excellent	20	81	101	
Total	65	175	240		

It is vivid from table that faculty members are differ in their computer literacy with respect to discipline, faculty members of non-engineering disciplines have below average computer literacy and of Engineering discipline have more computer literacy and significant association exists between the faculty of based on discipline at 0.05 level with 2 degrees of freedom.

5. Academic Productivity

Academic productivity of the faculty reflects their dependence on primary sources, which are more update in electronic sources than the traditional sources. Academic productivity of the teachers of Engineering Colleges is presented in table 5.

Table 5
Academic Productivity

S.No	Academic Productivity	Frequency	Percent
1	Publication in referred journals	77	32.1
2	Publications in Journals	58	24.2
3	Publication of Books	7	2.92
4	Publication of chapters in a Book	19	7.92
5	Articles in Seminar/Conferences	79	32.92
Total		240	100.0

Table 5 shows that 32.1 per cent of the respondents have publication in referred journals, 32.92 per cent have publication in seminar and conferences, and 24.2 per cent have publication in journals other than referred journals. However, contributions in terms of books and chapter in a book are very low and it is respectively 2.92 per cent and 7.93 per cent.

6. Frequency of using R-resources

Similar to library visit, the frequency of using e-resources are further studied. Details of responses of the respondents are given in table 6.

Table 6
Frequency of Using E-resources

S.No	Frequency of Using E-resources	Frequency	Percent
1	Daily	52	21.7
2	Two to Three times in a week	109	45.42
3	Weekly Once	50	20.8
4	Monthly	29	12.1
Total		240	100.0

It is clear from the table that 45.42 per cent (109 out of 240) of the respondents use e-resources at least two to three time in a week, 21.7 per cent uses it daily, 20.8 per cent uses weekly once and 12.1 per cent uses weekly once. Hence the investigator comes to the conclusion that faculty members of Engineering Colleges use e-resources two to three time in a week.

7. Purpose of using E-resources

Purposes of using e-resources are varying from teaching to entertainment.

E-resources are more useful for the members of the faculty Engineering Colleges for their day-to-day teaching as well as learning and research activities. Purposes of using e-resources by the respondents of the study are presented in table 7.

Table 7
Purpose of Using E-resources

S.No	Purposes	Frequency	Percent
1	Teaching	60	25
2	Research	122	50.8
3	Contacts for scientific and educational tasks	31	12.9
4	Current Scientific Information	24	10
5	Career Development	3	1.25
Total		120	100.0

Table 7 shows that majority of the respondents (50.8 per cent) uses e-resources for research activities, 25 per cent uses e-resources for teaching, 12.9 per cent for establishing contacts with

scientific and educational tasks, and 10 per cent uses for current scientific information. Thus, it is interpreted that majority of the members of the faculty of Engineering Colleges uses e-resources for research oriented activities.

8. *Problems faced when Accessing E-resources*

Problems faced by the respondents while accessing e-resources are further analyzed and details are in table 8.

Table 8
Problems faced when accessing e-resources.

S.No	Problems	Frequency	Percent
1	Low Speed Internet connectivity	28	11.7
2	Lack of Printing Facility	78	32.5
3	Lack of Assistance from the Staff	134	55.8
Total		240	100.0

Table reveals that lack of spot guidance is the major problems among the faculty of Engineering Colleges while accessing e-resources (55.8 per cent), it is followed by printing facility (32.5 per cent) and low speed internet connectivity by 11.7 per cent. Hence, the investigator concludes that faculty members are expecting assistance from the library staff for accessing relevant information.

9. *Barriers in Accessing E-resources.*

Barriers perceived by the faculty members when accessing and using e-resources are assessed by asking them to rate their perceived experience on each statements on a five point scale ranging from 'strongly disagree' to 'strongly agree'. Details of the barriers along with mean score are provided in table 9.

Table 9
Barriers in Accessing E-resources

S.No	Barriers	Mean Score
1	I face problems in locating the most appropriate information sources	z3.63
2	I have problems in accessing internet	2.86
3	I face problems with speed and the capacity of the computers	3.18
4	Too much time necessary to retrieve the needed information	4.18
5	Too much time necessary to explore the information resources	4.13
6	I face problems to retrieve records relevant to my information need	4.09

7	My computer handling skills helps to access e-resources	4.11
8	Lack of knowledge in framing search strategy to retrieve information	3.93
Total		30.14

With regard to barriers the mean score is 30.14, which indicates that a high level of perceived barriers by the members of the faculty when accessing electronic sources. It also revealed that major barrier is too much time necessary to retrieve the needed information and too much time to explore the information sources (mean 4.18 and 4.13 respectively), the computer literacy (4.11) and is followed by the lack of knowledge in search techniques (3.93).

Conclusion

The advantages of e-resources have drawn attention of the users to a great extent especially among the members of the faculty of Engineering Colleges. Accordingly these resources have occupied a significant place in the library collection in the academic libraries. Positive attitude of faculty members towards e-resources enhances the use e-resources for their study as well as their research. The present study revealed that faculty members of Engineering Colleges uses e-sources for research activities and they encountered some barriers such lack of skill in retrieving relevant document, computer literacy, adopting apt search strategy and identification of their information requirement precisely. Proper orientation and guidance along with computer literacy enable them to use the e-resources effectively for their academic pursuit.

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