

# Present Status of Availability of Electronic Resources in Engineering Institutions in Tamil Nadu

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## Abstract

*The paper describes about the availability of electronic resources in academic libraries in Tamilnadu. It is based on the case study conducted in the Engineering Institutions of Tamilnadu. The study provides evidence of the current status of e-resources, selection and access to various e- resources.*

**Keywords:** E-Resources, Academic Libraries, Engineering Institutions

## 1. Introduction

Academic libraries have a particular contribution to accomplish the goals of the institution. It serves more than repositories for materials and knowledge; they are of an access point to acquiring knowledge and skills. Technology provides better access to information, especially electronic resources play a vital role in supporting academic activities. In recent years, academic users have become more dependent on article databases and electronic journals to obtain information pertinent to their needs. In India, especially higher education has tremendous growth in providing quality education for past two decades, most of the universities and colleges are providing pin pointed electronic information to their users. It is right time to evaluate or assess the library electronic collections. This paper presents preliminary findings of the present status of availability of electronic journals in engineering institutions in Tamil Nadu.

## 2. Review of Literature

Over the last decade, many researchers have studied the information seeking behavior of academic users in the area of electronic journals and article databases.

Rusch-Feja, D and Siebeky (1999)<sup>1</sup> carried out research at the Max Plank Society in Germany to study about the use and acceptance of electronic journals. Results showed that significantly high acceptance of electronic journals and an unwillingness to return to print versions. Use of Elsevier Journals was on higher side. The frequency of the use of electronic journals from four scholarly publishers was evaluated. The researchers also rated the advantages and disadvantages of electronic journals. The advantages listed as currency, ease of access, timeliness, up-to-date information, additional searching modification, etc., the disadvantages like the lack of long term access, network dependency, difficulty in reading from monitor, loss of important attributes of the paper version, lack of citation status and standards. Cochenour D and Moothart T (2003)<sup>2</sup> surveyed the Colorado Stat e University faculty, graduate students, and administrative staffs in the Spring 2001 to determine their usage and acceptance of e-journals. Findings of the study highlight the majority of respondent's use e-journals at least monthly and preferred multiple access points on the library web page and OPAC.

Almost all respondents supported adding electronic access to print journal subscriptions. Also it discussed respondents strongly supported having access to journal back runs older than four years.

Another study by Abouserie (2006)<sup>3</sup> surveyed on use of electronic journals by Library and Information Science faculty members at the school of Information Science at the University of Pittsburgh. The study showed a difference in using various information sources, where the study found variability in the sources used according to rank and gender. Also there was a variance satisfaction with electronic resources, where faculty members were most satisfied with index and abstracts and Full Text databases and Electronic Journals. Faculty members considered electronic journals highly credible, most accurate, highly responsible and most supportive and convenient to meet their needs.

Borrego A. et al (2007)<sup>4</sup> presented the results of a survey on the use of electronic journals by the academic staff of the universities belonging to the Consortium of Academic Libraries of Catalonia (CBUC). The results showed that a high proportion of teaching and research staff are aware of the collection of electronic journals and that there is an increasing preference for the electronic to the detriment of the printed format. The collection of electronic journals was highly valued and most users expect to increase their use of them during the next few years. The results also confirmed the importance of discipline and age as explanatory factors of the use of electronic journals. The preference for the electronic format was higher among academic staff in Biomedicine, Engineering and Exact and Natural Sciences.

Similar study By Galyani M.G and Talawar V.G. (2008)<sup>5</sup> studied the scholarly electronic journals at the Indian Institute of Science. The survey method was conducted through the questionnaire. The results showed a growing interest in electronic journals among the users at IISc. Electronic journals were mostly used for research needs and PDF was the most preferred format. The fact that users had free access to electronic journals at all hours from their own computers seems to be the most appealing feature.

### **3. Technical Education in India**

Indian Engineering Education represents one of the largest educational systems in the world. Facilities for education in engineering, technology and management have expanded considerably since Independence. Whereas there were only 44 engineering degree level institutions in the country at the time of Independence with a total intake capacity of 2570, on 31st August 2007 there were 1668 AICTE approved engineering institutions with student annual admission capacity of 6, 53,290. In the last two years the demand situation appears to have gone berserk. AICTE-approved engineering degree level institutions have gone up in 2008-09 by over 40% to 2388 institutions with the annual sanctioned intake capacity going up by more than 25% to over 8,20,000 students, while the new request for the 2009-10 session is reported to be another 880 institutions.

#### **4. Engineering Colleges in Tamilnadu**

Tamilnadu is one of the pioneers of providing engineering education in India. The first and foremost engineering college in Tamilnadu, College of Engineering, Guindy, Chennai (Presently Anna University of Technology, Chennai) was established in 1886. This was followed by a number of colleges established by the state government, government-aided, and self-financing managements. At present, there are about 490 engineering educational institutions in Tamilnadu. There are eight engineering educational institutions exclusively for women.

These institutions can be classified as the Anna University of Technology (5), University Departments (5), University Colleges (11), Government (8), Government Aided (3), Deemed Universities (26) and Self Financing Engineering Colleges (428)

#### **5. Objectives of the Study**

Objectives of the study were

- ◆ To identify the availability of electronic resources in various engineering institutions throughout Tamilnadu
- ◆ To find the significance between the year of establishment of institution and the availability of e-journals
- ◆ To study the level of participation in library consortium
- ◆ Find out the purchasing priority of electronic journals
- ◆ To know the allocation of budget in various e-resources in engineering colleges

#### **6. Methodology**

The main purpose of this study is to find out the present status of availability of electronic journals in engineering institutions of Tamil Nadu. This study is based on questionnaire method. A total of 275 questionnaires were distributed among the library professionals all over the Tamil Nadu, of which 205 filled in questionnaire were received with a response rate of (74.5).

The scope of the study is confined to the librarians of the private engineering colleges in Tamilnadu.

#### **7. Analysis**

The analysis and interpretation of the data collected through questionnaires distributed to engineering college librarians is provided below.

**Table 1: Providing access to E-resources Vs. Respondents Year wise Respondents Distribution**

S.No.	Institute Type	Before 1990	1991-1995	1996-2000	2001-2005	After 2006	Total
1.	Govt. Aided	1(0.5)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	1(0.5)
2.	Minority Self Financing	4(2.0)	6(2.9)	14(6.8)	15(7.3)	4(2.0)	43 (21.0)
3.	Non Minority Self Financing	9(4.4)	15(7.3)	28(13.7)	26(12.7)	15(7.3)	93 (45.4)
4.	Private University	5(2.4)	2(1.0)	0(0.0)	0(0.0)	1(0.5)	8(3.9)
	Total	19(9.3)	23(11.2)	42(20.5)	41(20.0)	20(9.8)	145(70.7)

The above Table 1 indicates that out of 205 engineering institutions, only 145 (70.7%) colleges are providing access to electronic resources. 93 (45.4%) Majority of the Non Minority Self Financing institutions were providing e-resources facility. Most Colleges which are established between the Year 1996 to 2000 having e-resources in their library collections (20.5%) followed by the colleges established between the Year 2001 to 2005. All Private Universities have good collections of electronic resources in their library collection.

**Table 2: Participation in Library Consortium Vs. Respondents Year wise Respondents Distribution**

S. No.	Institution Type	Before1990 (n=20)	1991-1995 (n=25)	1996-2000 (n=46)	2001-2005 (n=54)	After 2006 (n=60)	Total (n=205)
1.	Govt. Aided	1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.5)
2.	Minority SF	3 (1.5)	6 (2.9)	14 (6.8)	9 (4.4)	1 (0.5)	33 (16.1)
3.	Non Minority Self Finance	10 (4.9)	16 (7.8)	21 (10.2)	20 (9.8)	12 (5.9)	79 (38.5)
4.	Private University	5 (2.4)	2 (1.0)	0 (0.0)	0 (0.0)	1 (0.5)	8 (3.9)
	Total	18 (8.8)	24 (11.7)	35 (17.1)	29 (14.1)	14 (6.8)	120 (58.5)

It is evident from the Table-2 120 (58.5%) engineering institutions in Tamilnadu participated in INDEST-AICTE consortium which is offered by AICTE. Comparing to other states, Tamilnadu was high in number of library consortium. All Private Universities and most 79 (38.5%) of the Non

Minority Colleges are having library consortium. Colleges which were established between the years 1996 to 2000 have high number of participation in library consortium followed by the years 2001 to 2005.

**Table 3: Type of E-Resources Vs. Type of Institution**

S. No.	Type of E-resources	Govt. Aided (n=1)	Minority SF Colleges (n=57)	Non Minority SF Colleges (n=139)	Private University (n=8)	Total (n=205)
1.	Online Journals	1 (0.5)	42 (20.5)	93 (45.4)	8 (3.9)	144 (70.2)
2.	Online Books	1 (0.5)	18 (8.8)	41 (20.0)	7 (3.4)	67 (32.7)
3.	Online Databases	1 (0.5)	23 (11.2)	52 (25.4)	7 (3.4)	83 (40.5)
4.	ETDs	1 (0.5)	9 (4.4)	17 (8.3)	7 (3.4)	34 (16.6)
5.	Others	1 (0.5)	10 (4.9)	(15.6)	3 (1.5)	46 (22.4)

The above Table 3 indicates that availability of various types of e-resources. Overall online journals are highly (45.4%) used by the users followed by the online databases (25.4%). ETDs are used by limited users (8.3%). Government aided colleges have all types of e-resources in their library collections. Most of the respondents from non minority self financing colleges have all types of e-resources, followed by all Private universities.

**Table 4: Type of E-Resources Vs. Establishment Year of Institution**

S.No.	E-resources	Before 1990 (n=20)	1991-1995 (n=25)	1996-2000 (n=46)	2001-2005 (n=54)	After 2006 (n=60)	Total (n=205)
1.	Online Journals	19 (9.3)	23 (11.2)	41 (20.0)	40 (19.5)	21 (10.2)	144 (70.2)
2.	Online Books	17 (8.3)	14 (6.8)	12 (5.9)	17 (8.3)	7 (3.4)	67 (32.7)
3.	Online Databases	17 (8.3)	19 (9.3)	23 (11.2)	19 (9.3)	5 (2.4)	83 (40.5)
4.	ETDs	13 (6.3)	6 (2.9)	6 (2.9)	8 (3.9)	1 (0.5)	34 (16.6)
5.	Others	11 (5.4)	5 (2.4)	11 (5.4)	12 (5.9)	7 (3.4)	46 (22.4)

The Table 4 indicates that availability of various types of e-resources by the establishment year of the institution. Overall online journals are highly (70.2%) used by the users followed by the online databases (40.5%). ETDs are used by the limited users (16.6%). Colleges established between the year 1996 -2000 have all types of e-resources in their library collections followed by the year 2001 – 2005. Colleges which established before 1990 have good number of all e-resources in their collections.

**Table 5: Availability of E-Journals Vs. Type of Institution**

S.No.	Name of the e-Journal	Govt. Aided (n=1)	Minority SF Colleges (n=57)	Non Minority SF Colleges (n=139)	Private University (n=8)	Total (n=205)
1.	IEL online	1 (0.5)	32 (15.6)	66 (32.2)	7 (3.4)	106 (51.7)
2.	ASME/ASCE	1 (0.5)	24 (11.7)	38 (18.5)	6 (2.9)	69 (33.7)
3.	Science Direct	0 (0.0)	8 (3.9)	9 (4.4)	4 (2.0)	21 (10.2)
4.	ACM Online	0 (0.0)	2 (1.0)	8 (3.9)	2 (1.0)	12 (5.9)
5.	Springer link	1 (0.5)	6 (2.9)	13 (6.3)	3 (1.5)	23 (11.2)
6.	Scopus	1 (0.5)	9 (4.4)	14 (6.8)	2 (1.0)	26 (12.7)
7.	Emerald	0 (0.0)	0 (0.0)	1 (0.5)	2 (1.0)	3 (1.5)
8.	Others	0 (0.0)	7 (3.4)	18 (8.8)	1 (0.5)	26 (12.7)

The above Table 5 indicates that half of the respondents 106 (51.7%) Subscribed IEL Online for their users followed by ASME /ASCE Online journals. Government aided college subscribes IEL Online, ASME/ASCE, Springer Link and Scopus. Private Universities provide almost all popular e-journals in the field of Engineering, Technology and Management Studies. Majority of the engineering colleges preferred IEL online and followed by ASME/ASCE. 21 institutions have access to Science Direct and 12 institutions subscribed ACM Online journals.

**Table 6: Availability of E-Journals Vs. Establishment Year of Institution**

S. No.	Name of the e-Journal	Before 1990 (n=20)	1991-1995 (n=25)	1996-2000 (n=46)	2001-2005 (n=54)	After 2006 (n=60)	Total (n=205)
1.	IEL Online	18 (8.8)	15 (7.3)	31 (15.1)	33 (16.1)	9 (4.4)	106 (51.7)
2.	ASME/ASCE	14 (6.8)	9 (4.4)	23 (11.2)	18 (8.8)	5 (2.4)	69 (33.7)
3.	Science Direct	5(2.4)	2 (1.0)	7 (3.4)	5 (2.4)	2 (1.0)	21 (10.2)
4.	ACM Online	3(1.5)	0 (0.0)	6 (2.9)	2 (1.0)	1 (0.5)	12 (5.9)
5.	Springer link	6(2.9)	1 (0.5)	9 (4.4)	6 (2.9)	1 (0.5)	23 (11.2)
6.	Scopus	8(3.9)	4 (2.0)	8 (3.9)	3 (1.5)	3 (1.5)	26 (12.7)
7.	Emerald	3(1.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (1.5)
8.	Others	2(1.0)	2 (1.0)	6 (2.9)	9 (4.4)	7 (3.4)	26 (12.7)

Table 6 shows the availability of e-journals by the established year of the institution. Almost all colleges (8.8%) established before 1990 have access to IEL Online followed by ASME/ASCE. Majority of the colleges established between the years 1996 to 2000 have good collection of e-journals followed by the year 2001 to 2005.

**Table 7: Purchasing Priority of E-Resources Vs. Type of Institution**

S. No.	Purchasing Priority	Govt. Aided (n=1)			Minority SF Colleges (n=57)			Non Minority SF Colleges (n=139)			Private University (n=8)		
		H	P	L	H	P	L	H	P	L	H	P	L
1.	Electronic Journals	1 (0.5)	0 (0.0)	0 (0.0)	42 (20.5)	15 (7.3)	0 (0.0)	106 (51.7)	33 (16.1)	0 (0.0)	8 (3.9)	0 (0.0)	0 (0.0)
2.	Electronic Books	0 (0.0)	1 (0.5)	0 (0.0)	5 (2.4)	38 (18.5)	14 (6.8)	9 (4.4)	94 (45.9)	36 (17.6)	4 (2.0)	4 (2.0)	0 (0.0)
3.	Databases	1 (0.5)	0 (0.0)	0 (0.0)	24 (11.7)	26 (12.7)	7 (3.4)	43 (21.0)	69 (33.7)	27 (13.2)	4 (2.0)	3 (1.5)	1 (0.5)
4.	Print Journals	1 (0.5)	0 (0.0)	0 (0.0)	28 (13.7)	25 (12.2)	4 (2.0)	63 (30.7)	70 (34.1)	6 (2.9)	5 (2.4)	3 (1.5)	0 (0.0)
5.	Books	1 (0.5)	0 (0.0)	0 (0.0)	48 (23.4)	9 (4.4)	0 (0.0)	125 (61.0)	11 (5.4)	3 (1.5)	8 (3.9)	0 (0.0)	0 (0.0)

**H- High Priority, P-Priority, L-Low Priority**

**Table 8: Purchasing Priority of E-Resources Vs. Establishment Year of Institution**

S. No.	Purchasing Priority	Before 1990			1991-1995			1996-2000			2001-2005			After 2005		
		H	P	L	H	P	L	H	P	L	H	P	L	H	P	L
1.	Electronic Journals	15 (7.3)	5 (2.4)	0 (0.0)	21 (10.2)	4 (2.0)	0 (0.0)	37 (18.0)	9 (4.4)	0 (0.0)	36 (17.6)	18 (8.8)	0 (0.0)	48 (23.4)	12 (5.9)	0 (0.0)
2.	Electronic Books	4 (2.0)	14 (6.8)	2 (1.0)	1 (0.5)	17 (8.3)	7 (3.4)	5 (2.4)	29 (14.1)	12 (5.9)	3 (1.5)	34 (16.6)	17 (8.3)	5 (2.4)	43 (21.0)	12 (5.9)
3.	Databases	9 (4.4)	10 (4.9)	1 (0.5)	9 (4.4)	13 (6.3)	3 (1.5)	15 (7.3)	23 (11.2)	8 (3.9)	15 (7.3)	30 (14.6)	9 (4.4)	24 (11.7)	22 (10.7)	14 (6.8)
4.	Print Journals	14 (6.8)	6 (2.9)	0 (0.0)	14 (6.8)	11 (5.4)	0 (0.0)	20 (9.8)	23 (11.2)	3 (1.5)	27 (13.2)	23 (11.2)	4 (2.0)	22 (10.7)	35 (17.1)	3 (1.5)
5.	Books	19 (9.3)	1 (0.5)	0 (0.0)	22 (10.7)	2 (1.0)	1 (0.5)	38 (18.5)	8 (3.9)	0 (0.0)	47 (22.9)	5 (2.4)	2 (1.0)	56 (27.3)	4 (2.0)	0 (0.0)

**H- High Priority, P-Priority, L-Low Priority**

**Table 9: Allocation of Budget for e-resources Vs. Type of Institution**

S. No.	Budget Allocation	Govt Aided (n=1)				Minority SF Colleges (n=57)				Non-Minority SF Colleges (n=139)				Private University (n=8)			
		a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d
1.	Online Journals	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.5)	5 (2.4)	23 (11.2)	22 (0.7)	7 (3.4)	23 (11.2)	57 (27.8)	31 (15.1)	28 (13.7)	0 (0.0)	1 (0.5)	3 (1.5)	4 (2.0)
2.	Online Books	1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	46 (22.4)	11 (5.4)	0 (0.0)	0 (0.0)	119 (58.0)	16 (7.8)	2 (1.0)	2 (1.0)	3 (1.5)	1 (0.5)	0 (0.0)	4 (2.0)
3.	Data-bases	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.5)	32 (15.6)	14 (6.8)	7 (3.4)	4 (2.0)	77 (37.6)	40 (19.5)	10 (4.9)	12 (5.9)	1 (0.5)	0 (0.0)	2 (1.0)	5 (2.4)



**Table 10: Allocation of Budget for e-resources Vs. Establishment Year of Institution**

S. No.	Budget Allocation	Before 1990				1991-1995				1996-2000				2001-2005				After 2006			
		a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d
1.	Online Journals	1 (0.5)	3 (1.5)	2 (1.0)	14 (6.8)	2 (1.0)	9 (4.4)	8 (3.9)	6 (2.9)	5 (2.4)	15 (7.3)	13 (6.3)	13 (6.3)	6 (2.9)	22 (10.7)	19 (9.3)	7 (3.4)	14 (6.8)	32 (15.6)	14 (6.8)	0 (0.0)
2.	Online Books	12 (5.9)	4 (2.0)	0 (0.0)	4 (2.0)	19 (9.3)	6 (2.9)	0 (0.0)	0 (0.0)	38 (18.5)	4 (2.0)	2 (1.0)	2 (1.0)	46 (22.4)	8 (3.9)	0 (0.0)	0 (0.0)	54 (26.3)	6 (2.9)	0 (0.0)	0 (0.0)
3.	Data bases	5 (2.4)	5 (2.4)	2 (1.0)	8 (3.9)	8 (3.9)	9 (4.4)	6 (2.9)	2 (1.0)	21 (10.2)	16 (7.8)	4 (2.0)	5 (2.4)	30 (14.6)	14 (6.8)	3 (1.5)	7 (3.4)	46 (22.4)	10 (4.9)	4 (2.0)	0 (0.0)

## 8. Findings

- 8.1. Out of 205 engineering institutions, 145 (70.7%) colleges are providing access to electronic resources.
- 8.2. Majority of the Non Minority Self Financing institutions are providing e-resources facility.
- 8.3. All Private Universities have good collections of electronic resources in their library.
- 8.4. 120 (58.5%) engineering institutions in Tamilnadu participated in INDEST-AICTE consortium which is offered by AICTE.
- 8.5. All private universities and Most 79 (38.5%) of the Non Minority Colleges are having library consortium.
- 8.6. ETDs (8.3%) are used by limited users.
- 8.7. Government aided colleges have all types of e-resources in their library collections.
- 8.8. Colleges established between the year 1996 -2000 have all types of e-resources in their library collections.
- 8.9. 106 (51.7%) Subscribed IEL Online for their users followed by ASME /ASCE Online journals.
- 8.10. Private universities provide almost all popular e-journals in the field of Engineering, Technology and Management Studies.
- 8.11. 21 institutions have access to Science Direct and 12 institutions subscribed ACM Online journals.
- 8.12. Almost all colleges established before 1990 have access to IEL Online followed by ASME/ ASCE

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