



Hyderabad Karnataka Librarians'  
Association

## **Access to Electronic Information Resources and Services in Engineering Colleges in Bangalore City**

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### **ABSTRACT**

The engineering colleges have to race against the time in acquiring state of the art electronic information resources and services in order to fulfill the needs of users of the services. The engineering colleges of Bangalore city are managed in a planned, deliberate and systematic manner in order to provide need based and relevant electronic information resources and services to the users. These engineering institutions have also accorded a high priority for the ICT skill development of LIS professionals. The present study evaluated the access, utility and relevance of electronic information resources and services.

**Keywords:** Electronic Information, Resources & Services, Educational Background, Occupational Status

### **1. INTRODUCTION.**

The electronic resources available in modern virtual library play a prominent role in facilitating access to multi-faceted information to the users in an easy and expeditious manner. The electronic information resources and services can be used by any user through online access via networks or authentication methods at anytime and anywhere. But, the users are required to gain absolute familiarity with the uses and gratifications of electronic resources for various purposes.

The existing literature on use of electronic information sources and services reveals the need for further orientation and some of the studies are reported. Lohornen (2010) described the coverage of the bibliographic databases in mental health research and noted that users preferred to use the health related information resources which were available in print and electronic formats. The scholar suggested that technically trained staff should be appointed to assist the users in accessing and utilizing the electronic information resources and services.

Kaur (2009) conducted the use and impact of electronic resources in engineering and technological institutions in India and noted that online databases were used by all the users in the study area. The scholar suggested that academic libraries should subscribe to subject-specific e-resources on a priority basis and enable the users to gain familiarity with the use of e-resources.

Schrock (2002) identified the management of electronic resources including the websites in modern virtual environment and noted that Web sites extended the resources of educational institutions or public library beyond its four walls. The scholar suggested that scientific measures should be adopted for sharing virtual pathfinders in order to enable the users to make use of the electronic services effectively.

O'Leary (2000) investigated the status of digital libraries which had come into existence mainly to provide the benefit of electronic resources and services to the users all over the world. The scholar suggested that libraries should develop appropriate infrastructural facilities and promote human resources in order to cope with the new electronic environment.

Ravi et.al. (2000) studied the preparedness of Indian libraries for converting traditional libraries into virtual libraries in order to achieve success in electronic information retrieval and dissemination to various end users. The scholars suggested that constant training and orientation for the LIS professionals and other users would facilitate effective management of electronic resources and services.

Taranum (2000) conducted the World Wide Web virtual libraries' architecture and observed that modern virtual libraries provided interactive and cooperative electronic resources to the users. The scholar suggested that service providers should assess the need of the users and facilitate access to information on matters users' consider important in their day to day lives.

## **2. OBJECTIVES:**

The main purpose of the study reported here were in the investigate the views of users on access to Electronic information resources and services in engineering colleges in Bangalore city The other objectives of the study were to explore the use and perceived importance of the Electronic information resources and services (EIRS) among the users, to determine the EIRS and indentify how important they are for their purposes, to understand the barriers facing by the users while using EIRS and to assess the satisfaction level of users regarding infrastructure facilities and other aspects EIRS in Bangalore city.

### 3. RESULT AND DISCUSSION

Table indicates demographic details of the gender-wise distribution of respondents. Out of 480 respondents surveyed, 272 (56.67%) are male and about 208 (43.33%) respondents are female. It can be inferred from table that male respondents dominate over female respondents

#### 4.1 Demographic Details of the Respondents

<b>Independent Variables</b>	<b>Number</b>	<b>Percentage</b>
<b>Gender</b>		
Male	272	56.67%
Female	208	43.33%
<b>Age</b>		
<40 yrs	260	54.17%
>40yrs	220	45.83%
<b>Education</b>		
Graduates	220	45.83%
Post-Graduates	260	54.17%
<b>Occupation</b>		
Teachers	120	25.00%
Researchers	120	25.00%
Students	240	50.00%
<b>Monthly Income</b>		
< Rs.5000/-	208	43.33%
>Rs.5000/-	272	56.67%
<b>Type of Colleges</b>		
Govt. Colleges	72	15.0
Aided Colleges	108	22.50
Private Colleges	300	62.50
<b>Total</b>	<b>480</b>	<b>100%</b>

The total number of respondents was 480 out of which 56.67% were male and 43.33% female respondents. There were more number of male respondents when compared to female respondents in the study area who have availed educational and employment opportunities in good number in the engineering colleges of Bangalore city. According to the empirical evidence, men (56.67%) outnumbered women since they enjoyed more educational and employment opportunities.

54.17% of the respondents representing the age group of below 40 years and 45.83% of the respondents representing the age group of above 40years respectively. A majority of the respondents (54.17%) belonged to the age group of below 40 years.

54.17% of the respondents representing the category of post graduates and 45.83% of the respondents representing the category of graduates respectively. A majority of the respondents (54.17%) represented the category of post-graduates.

There was even number of respondents (25.0%) representing teachers, researchers (25.0%) and students (50.0%) categories respectively in the engineering colleges of Bangalore city who enjoyed the benefit of new virtual environment. A vast majority of the respondents (75.0%) belonged to the group of students and researchers.

There were 56.67% of the respondents belonging to the monthly income group of more than Rs.25000/- and 43.33% of the respondents with a monthly income of about Rs.5000/- in the study area. A majority of the respondents (56.67%) earned a monthly income of more than Rs.5000/- and represented the category of middle class and high income group.

There were 62.50% of the respondents belonging to the private engineering colleges, 22.50% of the respondents belonging to aided engineering colleges and 15.0% of the respondents belonging to government engineering colleges in Bangalore city. A majority of the respondents (62.50%) belonged to the private engineering colleges in the study area.

A majority of the information users were male respondents (56.67%), belonged to the age group of below 40 years (54.17%), post graduates (54.17%), students and researchers (75.00%), earned a monthly income of more than Rs.5.000/- and belonged to private engineering colleges (62.50%).

Table-1: *Percent of Responses for Accessibility of the Electronic Information Resources*

Sl.No	E -Resources		Responses				X2 & P
			Most of the time	Sometimes	Once in a while	Never	
1	ASTM standards	F	211	152	89	28	X2=156.083 P=.000
		%	44.0	31.7	18.5	5.8	
2	Capitaline	F	153	210	80	37	X2=147.317 P=.000
		%	31.9	43.8	16.7	7.7	
3	CRIS INFAC Ind. Information	F	231	135	79	35	X2=178.767 P=.000
		%	48.1	28.1	16.5	7.3	
4	EBSCO Business Source complete	F	240	180	40	20	X2=286.667 P=.000
		%	50	37.5	8.3	4.2	
5	Elsevier's Science Direct	F	196	189	60	35	X2=178.017 P=.000
		%	40.8	39.4	12.5	7.3	

6	Emerald Management Xtra	F	207	169	70	34	X <sup>2</sup> =165.550 P=.000
		%	43.1	35.2	14.6	7.1	
7	Euromonitor-Passport	F	211	152	89	28	X <sup>2</sup> =156.083 P=.000
		%	44	31.7	18.5	5.8	
8	IEC Standards	F	213	145	80	42	X <sup>2</sup> =141.317 P=.000
		%	44.4	30.2	16.7	8.8	
9	IEEE/IEE Electronic Library Online (IEL)	F	230	151	63	36	X <sup>2</sup> =194.717 P=.000
		%	47.9	31.5	13.1	7.5	
10	INSIGHT	F	197	188	62	33	X <sup>2</sup> =179.050 P=.000
		%	41	39.2	12.9	6.9	
11	Optical Society of America (Optics Infobase)	F	232	134	80	34	X <sup>2</sup> =181.133 P=.000
		%	48.3	27.9	16.7	7.1	
12	Pro Quest Science (Formerly ASTP)	F	201	162	81	36	X <sup>2</sup> =140.850 P=.000
		%	41.9	33.8	16.9	7.5	
13	Springer Link	F	199	207	60	14	X <sup>2</sup> =238.717 P=.000
		%	41.5	43.1	12.5	2.9	
14	MathSciNet	F	189	196	65	30	X <sup>2</sup> =180.517 P=.000
		%	39.4	40.8	13.5	6.3	
15	SciFinder	F	221	145	79	35	X <sup>2</sup> =164.433 P=.000
		%	46	30.2	16.5	7.3	
16	Scopus Database	F	207	178	63	32	X <sup>2</sup> =182.717 P=.000
		%	43.1	37.1	13.1	6.7	
17	Web of Science	F	189	207	54	30	X <sup>2</sup> =206.550 P=.000
		%	39.4	43.1	11.3	6.3	

Table No.1 shows that, the accessibility of the electronic information resources was verified for various electronic information resources, following results were obtained. In the case of electronic resources ASTM standards, CRIS INFAC Ind. Information, EBSCO Business Source complete, Elsevier's Science Direct, Emerald Management Xtra, Euromonitor-Passport, IEC Standards, IEEE/IEE Electronic Library Online (IEL), INSIGHT, Optical Society of America (Optics Infobase), Pro Quest Science (Formerly ASTP), Springer Link, SciFinder, Scopus Database more than 40% of the respondents indicated that they access most of the time, where as in the case of Capitaline, Springer Link, MathSciNet, and Web of Science, more than 40% of the respondents indicated they access sometimes. Chi-sqaure tests revealed significant differences for frequencies of access of various resources in terms of categories-most of the time, sometimes, once in a while, and never where most of the responses were found for 'most of the time' and 'sometimes'.

Table-2: Percent of Responses for Usage of the Electronic Information Resources

Sl. No	E –Resources	Responses					X2 & P
			Most Frequently	Frequently	Less Frequently	Do not use	
1	ASTM standards	F	199	188	60	33	X2=183.617 P=.000
		%	41.5	39.2	12.5	6.9	
2	Capitaline	F	210	196	50	24	X2=233.267 P=.000
		%	43.8	40.8	10.4	5	
3	CRIS INFAC Ind. Information	F	199	200	54	27	X2=213.717 P=.000
		%	41.5	41.7	11.3	5.6	
4	EBSCO Business Source complete	F	215	168	65	32	X2=184.150 P=.000
		%	44.8	35	13.5	6.7	
5	Elsevier's Science Direct	F	205	161	74	40	X2=145.183 P=.000
		%	42.7	33.5	15.4	8.3	
6	Emerald Management Xtra	F	212	144	85	39	X2=140.217 P=.000
		%	44.2	30	17.7	8.1	
7	Euromonitor-Passport	F	207	160	74	39	X2=148.717 P=.000
		%	43.1	33.3	15.4	8.1	
8	IEC Standards	F	183	180	80	37	X2=133.817 P=.000
		%	38.1	37.5	16.7	7.7	
9	IEEE/IEE Electronic Library Online (IEL)	F	197	186	62	35	X2=173.950 P=.000
		%	41	38.8	12.9	7.3	
10	INSIGHT	F	231	135	79	35	X2=178.767 P=.000
		%	48.1	28.1	16.5	7.3	
11	Optical Society of America (Optics Infobase)	F	183	181	81	35	X2=136.967 P=.000
		%	38.1	37.7	16.9	7.3	
12	Pro Quest Science (Formerly ASTP)	F	201	160	85	34	X2=139.850 P=.000
		%	41.9	33.3	17.7	7.1	
13	Springer Link	F	191	170	82	37	X2=132.283 P=.000
		%	39.8	35.4	17.1	7.7	
14	MathSciNet	F	221	155	65	39	X2=175.100 P=.000
		%	46	32.3	13.5	8.1	
15	SciFinder	F	196	189	60	35	X2=178.017 P=.000
		%	40.8	39.4	12.5	7.3	
16	Scopus Database	F	189	202	54	35	X2=192.217 P=.000
		%	39.4	42.1	11.3	7.3	

17	Web of Science	F	229	180	40	31	X <sup>2</sup> =248.350 P=.000
		%	47.7	37.5	8.3	6.5	

Table 2 briefs that, the usage of various electronic information resources was verified and following results were obtained. More than 40% of the respondents indicated that they used the following resources more frequently viz. ASTM standards, Capitaline, CRIS INFAC Ind. Information, EBSCO Business Source complete, Elsevier's Science Direct, Emerald Management Xtra, Euromonitor-Passport, IEEE/IEE Electronic Library Online (IEL), INSIGHT, Pro Quest Science (Formerly ASTP), MathSciNet, SciFinder, and Web of Science. More than 40% of the respondents indicated that they used Capitaline, CRIS INFAC Ind. Information, and Scopus Database frequently. Chi-square tests revealed significant differences for frequencies of usage of various electronic information resources, where responses of usage -most frequently and frequently were significantly high.

Table-3: *Percent of Responses for Extent of Usefulness of the Electronic Information Resources*

Sl. No	E –Resources		Responses				X <sup>2</sup> & P
			To great extent	To some extent	To a little extent	Cannot say	
1	ASTM standards	F	191	172	82	35	X <sup>2</sup> =136.783 P=.000
		%	39.8	35.8	17.1	7.3	
2	Capitaline	F	183	180	74	43	X <sup>2</sup> =130.117 P=.000
		%	38.1	37.5	15.4	9	
3	CRIS INFAC Ind. Information	F	199	182	65	34	X <sup>2</sup> =170.883 P=.000
		%	41.5	37.9	13.5	7.1	
4	EBSCO Business Source complete	F	206	156	79	39	X <sup>2</sup> =141.117 P=.000
		%	42.9	32.5	16.5	8.1	
5	Elsevier's Science Direct	F	201	165	86	28	X <sup>2</sup> =151.717 P=.000
		%	41.9	34.4	17.9	5.8	
6	Emerald Management Xtra	F	221	139	80	40	X <sup>2</sup> =154.683 P=.000
		%	46	29	16.7	8.3	
7	Euromonitor-Passport	F	205	169	70	36	X <sup>2</sup> =159.850 P=.000
		%	42.7	35.2	14.6	7.5	
8	IEC Standards	F	211	147	80	42	X <sup>2</sup> =139.117 P=.000
		%	44	30.6	16.7	8.8	
9	IEEE/IEE Electronic Library Online (IEL)	F	221	155	65	39	X <sup>2</sup> =175.100 P=.000
		%	46	32.3	13.5	8.1	
10	INSIGHT	F	231	135	79	35	X <sup>2</sup> =178.767 P=.000
		%	48.1	28.1	16.5	7.3	
11	Optical Society of America (Optics Infobase)	F	196	189	63	32	X <sup>2</sup> =179.417 P=.000
		%	40.8	39.4	13.1	6.7	

12	Pro Quest Science (Formerly ASTP)	F	163	201	81	35	X2=142.967 P=.000
		%	34	41.9	16.9	7.3	
13	Springer Link	F	231	137	77	35	X2=180.700 P=.000
		%	48.1	28.5	16	7.3	
14	MathSciNet	F	197	188	62	33	X2=179.050 P=.000
		%	41	39.2	12.9	6.9	
15	SciFinder	F	222	144	80	34	X2=166.467 P=.000
		%	46.3	30	16.7	7.1	
16	Scopus Database	F	197	199	50	34	X2=203.883 P=.000
		%	41	41.5	10.4	7.1	
17	Web of Science	F	199	207	60	14	X2=238.717 P=.000
		%	41.5	43.1	12.5	2.9	

Table No.3 displays that, CRIS INFAC Ind. Information, EBSCO Business Source complete, Elsevier's Science Direct, Emerald Management Xtra, Euromonitor-Passport, IEC Standards , IEEE/IEE Electronic Library Online (IEL), INSIGHT, Optical Society of America (Optics Infobase), MathSciNet , Springer Link , SciFinder, and Web of Science were used by more than 40% of the respondents to a great extent. In the case of, Pro Quest Science Formerly ASTP) were used by more than 40% of the respondents to some extent. However, the usage of above resources by other respondents to little extent is legible.

Table-4: *Percent of Responses for Purpose of Use of Electronic Information Resources*

Sl. No	E -Resources	Responses					X2 & P
			academic	Profess	Career Development	Others	
1	ASTM standards	F	201	162	89	28	X2=147.97 P=.000
		%	41.9	33.8	18.5	5.8	
2	Capitaline	F	173	190	80	37	X2=134.983 P=.000
		%	36	39.6	16.7	7.7	
3	CRIS INFAC Ind. Information	F	201	166	80	33	X2=148.717 P=.000
		%	41.9	34.6	16.7	6.9	
4	EBSCO Business Source complete	F	210	196	50	24	X2=233.267 P=.000
		%	43.8	40.8	10.4	5	
5	Elsevier's Science Direct	F	199	189	60	32	X2=186.217 P=.000
		%	41.5	39.4	12.5	6.7	
6	Emerald Management Xtra	F	201	162	81	36	X2=140.850 P=.000
		%	41.9	33.8	16.9	7.5	
7	Euromonitor-Passport	F	189	196	55	40	X2=176.350 P=.000
		%	39.4	40.8	11.5	8.3	
8	IEC Standards	F	199	186	62	33	X2=179.417 P=.000
		%	41.5	38.8	12.9	6.9	
9	IEEE/IEE Electronic	F	231	135	79	35	X2=178.767



	Library Online (IEL)	%	48.1	28.1	16.5	7.3	P=.000
10	INSIGHT	F	199	207	60	14	X2=238.717
		%	41.5	43.1	12.5	2.9	P=.000
11	Optical Society of America (Optics Infobase)	F	210	155	79	36	X2=150.517
		%	43.8	32.3	16.5	7.5	P=.000
12	Pro Quest Science (Formerly ASTP)	F	199	200	54	27	X2=213.717
		%	41.5	41.7	11.3	5.6	P=.000
13	Springer Link	F	201	160	89	30	X2=143.517
		%	41.9	33.3	18.5	6.3	P=.000
14	MathSciNet	F	230	180	40	30	X2=251.667
		%	47.9	37.5	8.3	6.3	P=.000
15	SciFinder	F	222	134	85	39	X2=153.217
		%	46.3	27.9	17.7	8.1	P=.000
16	Scopus Database	F	217	168	63	32	X2=189.217
		%	45.2	35	13.1	6.7	P=.000
17	Web of Science	F	207	161	74	38	X2=150.750
		%	43.1	33.5	15.4	7.9	P=.000

Table No. 4 indicates that, ASTM standards, CRIS INFAC Ind. Information, EBSCO Business Source complete, Elsevier's Science Direct, Emerald Management Xtra, IEC Standards, IEEE/IEE Electronic Library Online (IEL), INSIGHT, Optical Society of America (Optics Infobase), Pro Quest Science (Formerly ASTP), MathSciNet , Springer Link, SciFinder, Scopus Database and Web of Science were used by more than 40% of the respondents for academic purpose. In the case of EBSCO Business Source complete, Euromonitor-Passport, INSIGHT, Pro Quest Science (Formerly ASTP), more than 40% of the respondents indicated that purpose of use was 'professional'. Further, few of the respondents indicated that, they used for career development purposes, which were on lower side.

#### 4. CONCLUSION

The present investigation reveals that electronic information services are not designed and delivered in consultation with the specialists and users. There are certain major constraints of management of electronic information resources and services in the engineering colleges under study. These institutions have to go a long way in facilitating meaningful infrastructure development, human resources development, ICT skill development, personality development, leadership development, technological advancement, application of new technologies, delivery of need based services and scientific evaluation of electronic information management in the new era. The future agenda must deal with the relationship between engineering college libraries and customer relationship management.

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