

# USE OF E-SOURCES BY THE USERS OF ENGINEERING COLLEGE LIBRARIES IN GUNTUR AND PRAKASAM DISTRICTS OF AP : A STUDY

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## Abstract

Analysis of data collected from a stratified random sample of 1300 users belonging to seven selected engineering college libraries in Acharya Nagarjuna University area, Andhra Pradesh, using a questionnaire reveals that electronic sources are useful for the curriculum needs of the majority of users (77.7%). Majority of the users informed that e-journals (73.5%) e-theses and dissertations (75.8%) and e-books (54.5%) are adequate for their needs. Majority of the users (62.9%) expressed that there is no provision for lending of e-sources. Most of them (97.4%) are utilising Internet facility. Most of them (84.7%) expressed that orientation programme is required in the use of e-sources. Most of them (92%) are facing problems in using e-sources. A few significant differences were found between the responses of students and faculty members of engineering colleges in their replies with regard to the various aspects of electronic sources. Finally, a number of suggestions have been made for the improvement of electronic sources and their utilization in engineering college libraries.

**Keywords:** Engineering College libraries, E- sources' usage, users' survey, Internet, Wi-Fi.

## 1. Introduction

Engineers play a key role in socio-economic development of any nation including India. In India, Engineering education is imparted at various levels namely craftsmanship, diploma, degree, post-graduate and research in specialized fields. Engineering graduates today require not only adequate technological ability and problem solving skills, but also soft skills. Engineering institutions have now a new responsibility to provide opportunities to every student to acquire these abilities and skills. To provide quality education to the students of engineering, the engineering colleges, institutions and universities should have well qualified and experienced faculty, adequate laboratories, ICT facilities, well established library, physical facilities and good management. Among them, libraries play a key role in the provision of quality education in engineering and their contribution in this regard is intangible. The supply of accurate and reliable information at the right time to the students and faculty members of engineering institutions helps to produce quality research and to get quality teaching, education and training.

The various categories of e-sources are e-books, e-journals, online full text databases, online bibliographical databases, e-theses and dissertation, web OPAC, e-magazines, e-news, etc. These are available either as CDs, DVDs, CD-ROMs and blue ray discs or online sources. These e-sources are facilitating information storage, processing and retrieval much faster than the traditional print documents. As a substantial amount of knowledge in various disciplines is published in these documents, libraries are forced to procure these sources by spending a substantial amount to provide exhaustive and up-to-date information to the users and users also unable to utilize e-sources fully due to lack of awareness and inadequate skills to access. It is the responsibility of the librarians to put these sources to maximum use so that they can justify the expenditure made on e-sources. In this context, there is need to examine the present status of e-sources in libraries by conducting a survey on these newly emerged sources with regard to their adequacy, utilization, publicity, and the problems faced by users in handling these sources, so that necessary remedies can be found out for efficient and effective management and utilization of e-sources. Hence, the present study has been undertaken.

## 2. Objectives of the study

The following are the specific objectives of the study:

1. To assess the usefulness and extent of using electronic sources by the users of engineering college libraries;
2. To examine the interest of users in using the e- sources; and frequency of consulting e- sources by the users;
3. To examine the preparation of library catalogue, lending provision and publicity for electronic sources;
4. To know the views of users with regard to the adequacy of various categories of electronic sources for their curriculum needs;
5. To assess the use of Internet, and the problems faced by the users in using electronic sources; the requirement of orientation in the use of electronic sources; and
6. To make suggestions based on the findings of the study for effective usage of electronic sources in engineering college libraries.

## 3. Methodology

The total number of engineering colleges in Guntur and Prakasam districts of Andhra Pradesh was 72 in the year 2016. The total number of students and faculty members of selected engineering colleges were 11,560 and 480 respectively. In other words, the total number of users of these college libraries was 12,040. Due to constraints of time, money and efforts involved, a total of 1300 users were selected out of 12,040 using stratified random sampling method. Out of 1,300 users selected, 1,156 were students and 144 were faculty members.

### 3.1. Data

The required data for the study was collected from the students and faculty members by using a questionnaire tool. Copies of questionnaire were distributed to 1156 students and

144 faculty members of selected engineering college libraries personally and filed-in questionnaires were collected from them. The doubts raised by the respondents were clarified by the investigators. The data was analysed keeping in view the objectives of the study.

#### 4. Review of literature

The significant studies that were conducted on the topic of study were enumerated.

Sharma and Sharma<sup>1</sup> made a study to examine the perceptions and preferences of e-resources among the faculty members of National Institute of Technology, Kurkshetra, using a questionnaire. Madhuri<sup>2</sup> conducted a study on the use of Internet by collecting data from 100 UG students of University of Dhaka, using a questionnaire. Mina and Ramesh<sup>3</sup> conducted a study on UG and PG medical students of JSS Medical College of Mysore to examine the utilization of e-information resources, using a questionnaire. Ravi and Isthari<sup>4</sup> conducted a study on PG students and research scholars in IGM library, University of Hyderabad, to assess the use of Internet services by using a questionnaire. Kinengyere's<sup>5</sup> survey reveals that the available e-resources in selected academic and research institutions in Uganda, have not been utilized at all. Shuling<sup>6</sup> conducted a study on the current use of electronic resources in University Library at Shaanxi University of Science and Technology. Franklin and Pulm<sup>7</sup> presented results from web-based surveys of more than 15,000 users of networked electronic services at four academic health science libraries and two large main campus libraries in USA. Nafiz Zaman and Rowshon<sup>8</sup> conducted a study on 480 students of Faculty of Arts, University of Dhaka, Bangladesh, to know the usage of Internet, using a questionnaire. As no comprehensive study has been conducted on the use of electronic sources by engineering users in Acharya Nagarjuna University area, the present study has been undertaken.

#### 5. Analysis

The collected data from the users has been analysed and interpreted in the following paragraphs.

##### 5.1. Usefulness of electronic sources

A question has been put to the users of engineering college libraries to specify the usefulness of electronic sources. The users' responses are shown in Table-1.

**Table-1: Distribution of users according to the usefulness of electronic sources**

Responses	Users		Total
	Faculty	Students	
Yes	114 (79.2)	896 (77.5)	1010 (77.7)
No	30 (20.8)	260 (22.5)	290 (22.3)
<b>Total</b>	<b>144</b> <b>(100)</b>	<b>1156</b> <b>(100)</b>	<b>1300</b> <b>(100.00)</b>

**Note:** Figures in brackets indicate percentages.

$\chi^2$ : 0.203      df = 1      TV: 3.841      Not significant at 0.05 level

It can be observed from Table-1 that the majority of users (77.7%) replied that the electronic sources are useful for their curriculum needs and the remaining 22.3% of them replied negatively in this regard. It is evident from the Chi-square test that there is no significant difference between the faculty members and students with regard to the usefulness of electronic sources. The chi-square value is not significant at 0.05 level with one degree of freedom.

## 5.2. Adequacy of e-abstracting and indexing periodicals

A question has been put to the engineering college users, who replied that the electronic sources are useful for their curriculum needs, regarding the extent of adequacy of e-abstracting and indexing periodicals. The users' responses are shown in Table-2.

**Table-2: Distribution of users according to their replies with regard to adequacy of e-abstracting and indexing periodicals**

Reply	Users		Total
	Faculty	Students	
Adequate	30 (26.3)	488 (54.5)	518 (51.3)
Neither adequate nor inadequate	7 (6.1)	124 (13.8)	131 (13.0)
Inadequate	77 (67.5)	284 (31.7)	361 (35.7)
<b>Total</b>	<b>114</b> <b>(100)</b>	<b>896</b> <b>(100)</b>	<b>1010</b> <b>(100.00)</b>

**Note:** Figures in brackets indicate percentages.

$\chi^2$ : 56.606      df = 2      TV: 5.991      Significant at 0.05 level

Table-2 shows, nearly half of users (51.3%) replied that the e-abstracting and indexing periodicals are adequate for their needs. It is also evident from the table that 35.7% of users replied that the e-abstracting and indexing periodicals are inadequate and the remaining 13% of them replied that the e-abstracting and indexing periodicals are neither adequate nor inadequate. There is a significant difference between the faculty members and students with regard to the adequacy of e-abstracting and indexing periodicals as evidenced by the chi-square value which is significant at 0.05 level with 2 degrees of freedom. That means more number of students expressed that e-abstracting and indexing periodicals are adequate for their needs compared to the faculty members. The students generally do not require these periodicals much compared to the faculty members.

### 5.3. Adequacy of e-theses and dissertations

Again a question has been put to the engineering college users, who replied that the electronic sources are useful for their curriculum needs, to specify the extent of adequacy of e-theses and dissertations. The users' responses are shown in Table-3.

**Table-3: Distribution of users according to their replies with regard to adequacy of e-theses and dissertations**

Reply	Users		Total
	Faculty	Students	
Adequate	64 (56.1)	701 (78.2)	765 (75.8)
Neither adequate nor inadequate	8 (7.0)	38 (4.2)	46 (4.6)
Inadequate	42 (36.8)	157 (17.5)	199 (19.7)
<b>Total</b>	<b>114</b> <b>(100)</b>	<b>896</b> <b>(100)</b>	<b>1010</b> <b>(100)</b>

**Note:** Figures in brackets indicate percentages.

$\chi^2$ : 27.389

df = 2

TV: 5.991

Significant at 0.05 level

It is evident from Table-3 that the majority of users (75.8%) mentioned that the e-theses and dissertations are adequate for their needs. It is evident from the table that 19.7% of users replied that the e-theses and e-dissertations are inadequate and the remaining 4.6% of them replied that e-theses and dissertations are neither adequate nor inadequate. It is evident from the Chi-square test that there is a significant difference between the faculty members and students with regard to the adequacy of e-theses and dissertations. The chi-square value is significant at 0.05 level with 2 degrees of freedom. That means the students expressed that e-theses and dissertations are more adequate for their needs compared to the faculty members. The faculty members require e-theses / dissertations for their research work, writing research articles and seminar papers. As the available e-theses/dissertations in their respective libraries are not meeting the requirements of faculty members, a high percentage of them replied that these electronic sources are inadequate for their needs compared to the students.

### 5.4. Adequacy of e-books

Again a question has been put to the engineering college users, who replied that the electronic sources are useful for their curriculum needs, regarding the adequacy of e-books. The users' responses are shown in Table-4.

**Table-4: Distribution of users according to their replies with regard to adequacy of e-books**

Reply	Users		Total
	Faculty	Students	
Adequate	51 (44.7)	500 (55.8)	551 (54.5)
Neither adequate nor inadequate	20 (1.8)	138 (15.4)	158 (16.6)
Inadequate	43 (37.7)	258 (28.8)	301 (29.8)
<b>Total</b>	<b>114</b> <b>(100)</b>	<b>896</b> <b>(100)</b>	<b>1010</b> <b>(100)</b>

**Note:** Figures in brackets indicate percentages.

$X^2$ : 5.270       $df = 2$        $TV$ : 5.991      Not significant at 0.05 level

It is evident from Table-4 that the majority of users (54.5%) mentioned that the e-books are adequate for their needs. It is evident from the table that 29.8% of users replied that the e-books are inadequate and the remaining 16.6% of them replied that e-books are neither adequate nor inadequate. It is evident from the Chi-square test that there is no significant difference between the faculty members and students with regard to the adequacy of e-books. The chi-square value is not significant at 0.05 level with 2 degrees of freedom.

### 5.5. Frequency of consulting electronic sources

Again a question has been put to those engineering college users, who replied that they are interested in using electronic resources, to know the frequency of consulting e-resource materials. The users' responses are shown in Table-5.

**Table-5: Distribution of users according to their frequency of consulting electronic sources**

Reply	Users		Total
	Faculty	Students	
Frequently	102 (71.8)	859 (76.5)	961 (75.9)
Occasionally	33 (23.2)	236 (21.0)	269 (21.3)
Rarely	7 (4.9)	28 (2.5)	35 (2.8)
<b>Total</b>	<b>142</b> <b>(100)</b>	<b>1123</b> <b>(100)</b>	<b>1265</b> <b>(100)</b>

**Note:** Figures in brackets indicate percentages.

$\chi^2$ : 3.358       $df = 2$       TV: 5.991      Not significant at 0.05 level

It is evident from Table-5 that the three-fourths of users (75.9%) are consulting electronic resources frequently, 21.3% of them are consulting occasionally and the remaining 2.8% of them are consulting rarely. It is evident from the Chi-square test that there is no significant difference between the faculty members and students with regard to their frequency of consulting electronic sources. The chi-square value is not significant at 0.05 level with 2 degrees of freedom.

### 5.6. Lending provision for electronic sources

A question has been put to the engineering college users to examine whether there is any provision of lending electronic sources. The users' responses are shown in Table-7.

**Table-6: Distribution of users according to their responses with regard to the lending of electronic sources**

Responses	Users		Total
	Faculty	Students	
Yes	54 (37.5)	428 (37.0)	482 (37.1)
No	90 (62.5)	728 (63.0)	818 (62.9)
<b>Total</b>	<b>144</b> <b>(100)</b>	<b>1156</b> <b>(100)</b>	<b>1300</b> <b>(100.00)</b>

**Note:** Figures in brackets indicate percentages.

$\chi^2$ : 0.012       $df = 1$       TV: 3.841      Not significant at 0.05 level

It is observed from Table-6 that the majority of users (62.9%) mentioned that there is no provision for lending of electronic sources in their libraries and the remaining 37.1% of them replied positively in this regard. It is evident from the Chi-square test that there is no significant difference between the faculty members and students in their responses with regard to the lending of electronic sources in their libraries. The chi-square value is not significant at 0.05 level with one degree of freedom.

### 5.7. Publicity for electronic sources

The libraries should create awareness among their users with regard to electronic sources available in order to maximize the use of these sources. Hence, a question has been put to the engineering college users to examine whether their libraries publicise about the electronic sources. The users' responses are shown in Table-7.

**Table-7: Distribution of users according to their responses with regard to publicity of electronic sources**

Responses	Users		Total
	Faculty	Students	
Yes	82 (56.9)	714 (61.9)	796 (61.3)
No	62 (43.1)	442 (38.2)	504 (38.7)
<b>Total</b>	<b>144</b> <b>(100)</b>	<b>1156</b> <b>(100)</b>	<b>1300</b> <b>(100.00)</b>

**Note:** Figures in brackets indicate percentages.

$\chi^2$ : 1.253       $df = 1$       TV: 3.841      Not significant at 0.05 level

It is observed from Table-7 that the majority of users (61.3%) mentioned that their libraries publicise about electronic sources and the remaining 38.7% of them replied negatively in this regard. It is evident from the Chi-square test that there is no significant difference between the faculty members and students in their responses with regard to publicity of electronic sources. The chi-square value is not significant at 0.05 level with one degree of freedom.

### 5.8. Internet facility in library

A question has been put to the engineering college users to examine whether their respective libraries have Internet facility. The users' responses are shown in Table-8.

**Table-8: Distribution of users according to their responses with regard to having of Internet facility in their libraries**

Responses	Users		Total
	Faculty	Students	
Yes	138 (95.8)	1129 (97.7)	1267 (97.5)
No	6 (4.2)	27 (2.3)	33 (2.5)
<b>Total</b>	<b>144</b> <b>(100)</b>	<b>1156</b> <b>(100)</b>	<b>1300</b> <b>(100)</b>

**Note:** Figures in brackets indicate percentages.

$\chi^2$ : 1.735       $df = 1$       TV: 3.841      Not significant at 0.05 level

It is observed from Table-8 that most of the users (97.5%) replied that their libraries have Internet facility. The remaining 2.5% of them replied negatively in this regard. It is evident from the Chi-square test that there is no significant difference between the faculty

and students in their responses with regard to having of Internet facility in their libraries. The chi-square value is not significant at 0.05 level with one degree of freedom.

### 5.8.1. Wi-Fi facility

Wi-Fi is the name of a popular wireless networking technology. A question is posed to the users to know whether their colleges have Wi-Fi facility. The analysis of their responses indicates that 99% of the users replied that their colleges have Wi-Fi facility and the remaining 1% of them replied negatively in this regard.

It can be concluded that almost all respondents replied that (99%) their colleges have Wi-Fi facility.

### 5.9. Utilization of Internet facility

Again a question has been put to the users, who replied that their libraries have Internet facility, to find out whether they are utilizing Internet facility available in their libraries. The users' responses are shown in Table-9.

**Table-9: Distribution of users according to their responses with regard to utilizing of Internet facility in their libraries**

Responses	Users		Total
	Faculty	Students	
Yes	134 (97.1)	1100 (97.4)	1234 (97.4)
No	4 (2.9)	29 (2.6)	33 (2.6)
<b>Total</b>	<b>138</b> <b>(100)</b>	<b>1129</b> <b>(100)</b>	<b>1267</b> <b>(100)</b>

**Note:** Figures in brackets indicate percentages.

$\chi^2$ : 0.053      df = 1      TV: 3.841      Not significant at 0.05 level

It is observed from Table-9 that most of the users (97.4%) replied that they are utilizing Internet facility in their libraries and the remaining 2.6% of them replied negatively in this regard. These 2.6% of the users may be using Internet at their own home. It is evident from the Chi-square test that there is no significant difference between the faculty and students in their responses with regard to utilizing Internet facility in their libraries. The chi-square value is not significant at 0.05 level with one degree of freedom.

### 5.10. Orientation in the use of electronic sources

Users of engineering college libraries require training in the use of electronic sources. Hence, a question has been put to them to examine whether they require orientation in the use of electronic sources in their respective libraries. The users' responses are shown in Table-10.

**Table-10: Distribution of users according to their responses with regard to requirement of orientation programme in the use of electronic sources**

Responses	Users		Total
	Faculty	Students	
Yes	109 (75.7)	991 (85.9)	1100 (84.7)
No	35 (24.3)	165 (14.2)	200 (15.4)
<b>Total</b>	<b>144</b> <b>(100)</b>	<b>1156</b> <b>(100)</b>	<b>1300</b> <b>(100.00)</b>

**Note:** Figures in brackets indicate percentages.

$\chi^2$ : 9.900       $df = 1$        $TV: 3.841$       Significant at 0.05 level

It is evident from Table-10 that most of the users (84.7%) replied that orientation programme is required in the use of electronic sources and the remaining 15.4% of them replied negatively in this regard. It is evident from the Chi-square test that there is a significant difference between the faculty members and students in their responses with regard to the requirement of orientation programme in the use of electronic sources in their respective libraries. The chi-square value is significant at 0.05 level with one degree of freedom. That means more number of students are of the opinion that orientation programme is required in their libraries with regard to the use of electronic sources compared to the faculty members.

### 5.11. Facing of problems in using of electronic sources

A question has been put to the engineering college users to examine whether they faced any problem in using electronic sources. The users' responses are shown in Table-11.

**Table-11: Distribution of users according to their responses with regard to facing of problems in using electronic sources**

Responses	Users		Total
	Faculty	Students	
Yes	121 (84)	1076 (93.1)	1197 (92.1)
No	23 (16)	80 (6.9)	103 (7.9)
<b>Total</b>	<b>144</b> <b>(100)</b>	<b>1156</b> <b>(100)</b>	<b>1300</b> <b>(100.00)</b>

**Note:** Figures in brackets indicate percentages.

$\chi^2$ : 14.381       $df = 1$        $TV: 3.841$       Significant at 0.05 level

It is observed from Table-11 that most of the users (92.1%) replied that they faced problems in using electronic sources and the remaining 7.9% of them replied negatively

in this regard. It is evident from the Chi-square test that there is a significant difference between the faculty and students in their responses with regard to facing of problems in using electronic sources in their libraries. The chi-square value is significant at 0.05 level with one degree of freedom. That means more number of students admitted that they faced problems in using electronic sources in their libraries compared to the faculty members.

## 6. Findings

The following are the findings drawn from the analysis of the data collected from the users.

1. Majority of the users (77.7%) expressed that electronic sources are useful for their curriculum needs.
2. Nearly half of users (51.3%) replied that the e-abstracting and indexing periodicals are adequate for their needs; high percentage of users e-theses and dissertations (75.8%), e-books (54.5%) are adequate for their curriculum needs.
3. Three-fourths of them (75.9%) are consulting electronic sources frequently.
4. Majority of them (62.9%) informed that there is no provision for lending of electronic sources in their libraries.
5. Majority of them (61.3%) replied that their libraries publicise about electronic sources.
6. Most of them (97.5%) admitted that their libraries have Internet facility and almost all respondents replied that (99%) their colleges have Wi-Fi facility.
7. Most of them (97.4%) are utilizing Internet facility in their libraries.
8. Most of them (84.7%) asserted that orientation programme is required in the use of electronic sources.
9. Most of them (92.1%) faced problems in using electronic sources. A high percentage of users (40.8 %) said that they faced the problem of 'electrical power cuts and unairconditioning' of the library.
10. There are significant differences between students and faculty members in their responses with regard to adequacy of e-theses and dissertations; requirement of orientation in the use of e-resources; and facing of problems in the use of e-sources.
11. There are no significant difference between student and faculty members in their responses with regard to usefulness of e-sources; extent of using e-sources; adequacy of e-journals and e-books; frequency of consulting e-sources; lending of e-sources; publicity of e-sources; having Internet facility and its utilization; and problems in using e-sources.

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