Use and Attentiveness of users on the Latest Technologies on Library Sources and Services in Engineering Institution Libraries in Visakhapatnam: A survey

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Abstract:

The purpose of this survey and study is to understand how users perceive the information and communication technology (ICT) resources available at engineering college libraries in Visakhapatnam. Data was collected using a survey method from students enrolled in M.Tech and B.Tech programs. Information and communication technologies have advanced rapidly, transforming traditional perceptions of libraries. Modern academic libraries are now more powerful, dynamic, and diverse, enabling them to reach users regardless of distance. In the digital age, libraries are increasingly transitioning to digital formats, making their resources accessible from anywhere in the world. With the advent of new communication technologies, libraries have updated their services to cater to a global audience and have become pivotal centers of their communities. This survey aims to assess the usage and awareness of the latest technologies in library resources and services at engineering institution libraries in Visakhapatnam.

Keywords: ICT applications, ICT services, Academic Library Resources.

1. Introduction

Information Communication Technology is progressing rapidly. The revolutionary development of ICT has transformed all libraries into library 2.0 as most of them are now implementing ICT for smooth functioning and to facilitate various information services to their patrons. They are also implementing web 2.0 tools and technologies to increase their online visibility and provide remote access (24 x 7 x 365) to their patrons. Their collection, resources, products, and services are available on the web. ICT-enabled information services available on the web are known as web-enabled information services. Due to revolutionary changes in technologies, library and information science professionals are facing the challenge of being equipped with the new technologies and implementing them to provide various innovative services to their patrons sitting at home.

A library is a collection of knowledge; it gathers material from various print, non-print, and electronic sources and makes it available through a variety of channels. The services that libraries

offer Libraries and information systems are significantly impacted by the needs, preferences, and satisfaction levels of users. Any information system's main aim is to deliver knowledge to all its users.

Academic libraries play a significant role in offering their users, who may be students, faculty, or others, beneficial services. To address the needs of their students, colleges, universities, and other institutions spend a lot of money collecting information sources. User studies on the use of libraries and information centres would help to identify the shortcomings of libraries, which would then help to resolve the issues to provide effective and efficient services. User research is largely used in evaluation studies and offers pertinent advice for bringing high-quality collections and services. The library has a variety of items available, including books, theses conference proceedings, research reports, patents, journal standards, maps, electronic journals, electronic books, databases, CDROMs, A-V materials, and other online resources. These items create a big effect on student academics, and faculty. In terms of library infrastructure, collections staff, and other factors, the AICTE created rules and standards for engineering college libraries. Following these criteria would help the library run more smoothly.

A Technical institution's library to cater to the demands of its patrons. High customer satisfaction is another benefit of using a librarian's services. To make sure that users' information needs are satisfied properly and promptly, the librarian should routinely evaluate the satisfaction of its customers with the inputs available in the library and the services provided by it.

Textbooks, journals, theses, dictionaries, reference materials, encyclopedias, bibliographies, conference proceedings, and directories are some of the resources that libraries offer to their patrons. In the information and communication technology (ICT) era. Libraries have initiated a variety of channels to satisfy their customers like subscribing to advanced services and providing different sources of knowledge. Such as Ask a Librarian, Website/Library page of the website, Reference Librarian, Digital Library Institutional Repository, and Web OPAC, to support the general growth of their users.

2.   OBJECTIVES

To study and analyze the awareness of the patrons along with the perception of patrons towards the usefulness of the selected information services.

The following are the study's primary goals.

1. Determine the type, gender, and age of Engineering College Library users.
2. To assess Engineering College library users' perceptions of the library's appeal, environment, and services.
3. Research the users' expectations regarding the quality of the book and journal collection.
4. To comprehend the websites and databases that are the most frequently used e-resources by engineering college library users.
5. Should be aware of the worth of the library's resources and offerings.
6. Research the various types of collections and services used by faculty and students in the library.
7. Recognize how to utilize internet information resources.
8. Understand the provisions using the internet search tools provided by the library.
9. Determine the user's knowledge of various types of library networks and their applications for information exchange.

10. To suggest ways to make library services more effective and efficient.

3. Methodology

Students at the coastal Andhra Pradesh Engineering College's B.Tech. and M.Tech. Libraries provided the study's data. A survey was given out that asked about the facilities, accessibility to computers, satisfaction with the library's resources and services, existing ICT facilities, issues, the amount of training needed to utilize the library, and other topics. The questionnaire was distributed at random to 1280 college students. The researcher received a total of 1178 completed questionnaires. The overall response rate stands at 92%.

4.   Review of Literature

Kamani Perera (2010) stated that the traditional idea of libraries has changed as a result of the rapid strides in the advancement of information and communication technologies (ICTs). Academic libraries of the present day are more effective and dynamic, and they can connect with their users anywhere in the world. In the Internet era, libraries are quickly converting to digital formats and are now accessible from anywhere in the world. Libraries transformed their services to serve a borderless globe with the introduction of new communication technology, and they eventually became the centre of their communities. Because it enables interoperability and information exchange, the use of ICTs in libraries has grown to be of major benefit to its users. Users get access to a variety of information resources, including text, sound, photos, and more, all under one roof. Because of this, the use of ICTs significantly affects how libraries interact with their user populations and helps them play a crucial role in the developing information society.

Varadaraju (2018) explored how engineering college libraries support undergraduate and graduate engineering students and researchers with a high-quality education. The reported work assesses the extent to which the library resources and services are utilized by the students and faculty. It also studies the frequency at which the library is visited by customers. The degree of customer satisfaction with the library resources and services as well as any problems the users had using such services is also analyzed. This survey would enable the library to provide the best services to its clients in terms of different resources. Further, it is recommended that the institution's library take a forward step in resolving the issues brought by its users.

Mangayarkkarasi (2020) opinions of library patrons regarding the resources and assistance offered are expressed objectively. He explores that the dominant users are male, with students constituting most of the library visitors. Many of them go to the library and use the internet to prepare for projects and seminars. They enjoy the homely and tidy ambiance of the library. They are impressed with the variety of the book collection in the library setting. For literate search, the Engineering Institution library user "Google" is the most preferred search engine.

Rajni Jindal (2020) surveyed central universities and compared the user awareness of ICT-enabled information services provided by them. The ICT-enabled services facilitated by libraries were discovered through content analysis of the website and structured questionnaires for librarians. The survey was carried out using a structured questionnaire for patrons developed with the assistance of a review of the literature. Universities were chosen for the study through the MHRD's NIRF 2017. Five ICT-enabled services were selected and researched based on their benefits to customers. A review of previous research aided in the selection of services for comparative study.

Chakrapani (2021) emphasized that students, faculty, and other members belonging to the

academic community are expected to use engineering college libraries. Information and communication technology (ICT) has altered how information is stored and retrieved, acquired, catalogued and categorized, circulated, controlled for serials, managed statistically, and handled administratively in libraries. User education, abstracting and indexing services, referral services, inter-library loan/connection services, and circulation services are just a few of the many services offered by engineering college libraries. The collection, storage, and retrieval of information in libraries have undergone a significant transformation thanks to the application of ICT. Particularly, traditional libraries have undergone a complete transformation into digital libraries thanks to the internet. Information can be retrieved online from across the globe.

5. DATA ANALYSIS AND RESULTS

To study and analyze the awareness of the patrons along with the perception of patrons towards the usefulness of the selected information services.

5.1 Frequency of visit made to the College Library.

The frequency of library visits is one metric used to assess library resource utilization. The library is considered to be used more by users who frequent it than by users who only rarely use it.

Table No.1: Frequency of visits to the College Library

S. No.	Frequency of visits to the College Library	Total (N=1178 students)%
i	Daily	183 (15.53%)
ii	Two or three times a week	222 (18.84%)
iii	Once a week	262 (22.24%)
iv	Once every two weeks	236 (20%)
v	Once a month	222 (18.84%)
vi	Less than a month	53 (4.5%)
	Total	1178 (100%)

The majority of users (22.24%) visit the library once a week, while 20% of users visit the library once every two weeks, 18.84% users visit two or three times a week, and once a month, 15.53% daily users and 4.5% users are visiting the library less than a month.
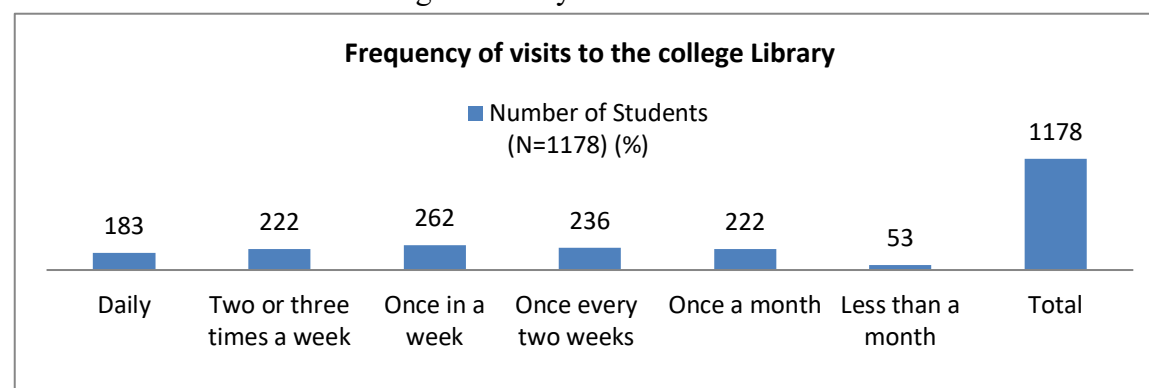

Figure 1: Frequency of visits to the College Library

5.2 Library Facilities

A library is a collection of Textbooks, reference books, documents, and other materials that are made available to a particular community for use as a resource or borrowing. It offers physical or digital access to content, as well as real-world or virtual entry to a structure, a space, or both.

Table No.2: Library Facilities

S.No.	Library Facilities	Total (N=1178 students)%
i	Books (lending)	995 (84.46%)
ii	CD-ROMs (lending)	26 (2.21%)
iii	Reference books/information	353 (29.97%)
iv	Journals / Magazines	288 (24.45%)
v	Newspapers	458 (38.88%)
vi	Others (please specify	0

According to the table above, the majority of respondents (84.46%) utilized the lending facility, followed by nearly 39% who engaged in newspaper reading. The study found that 30% of them used the reference service, while 24.45% utilized the Journals/Magazines facility, which provides a primary source of information. Additionally, a small percentage (2.21%) made use of the CD-ROM facility in their parent institution's library.
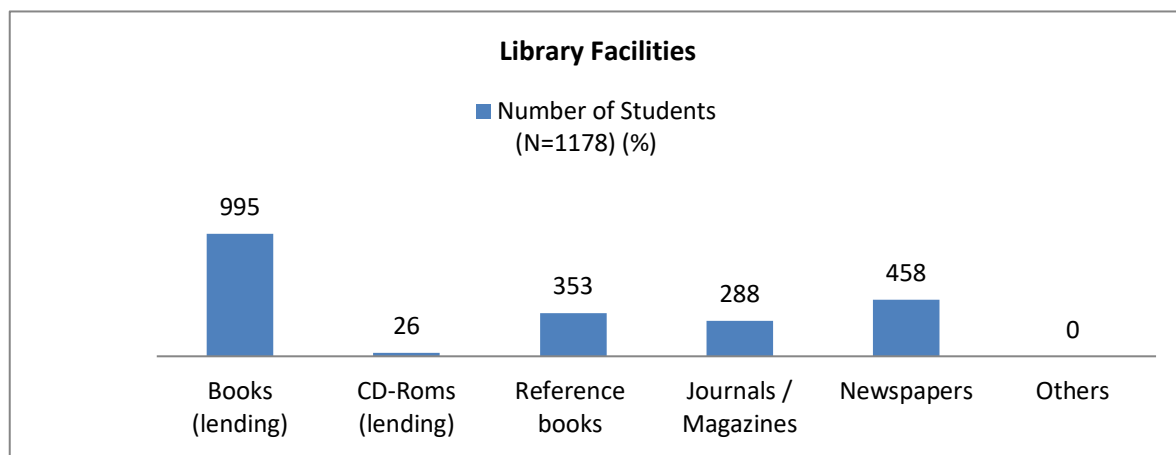

Figure 2: Library Facilities

5.3 The Library's primary function

Libraries can assist students in developing good reading and study habits. The main purpose of a library is to make knowledge and information accessible. Libraries fulfil this mission by preserving a valuable cultural record.

Table No. 3: The Library's Primary Purpose

S.No.	The main use of the Library	Total (N=1178 students)%
i	Reading	537 (45.59%)
ii	Reference	563 (47.79%)
iii	Class assignments	236 (20%)
iv	Use of electronic/online resources	393 (33.36%)
v	Internet access	340 (28.86%)
vi	Any other (Please specify)	0

The above table explains regarding the main use of the library indicates that the maximum users (47.79%) utilize reference books in the library, and followed by the second highest percent of

respondents (45.59%) utilize the library facility for reading purposes, The third majority of the users (33.36%) to make use of electronic resources, and recognisable percent of them (20%) employ the library for completion of their class assignments.
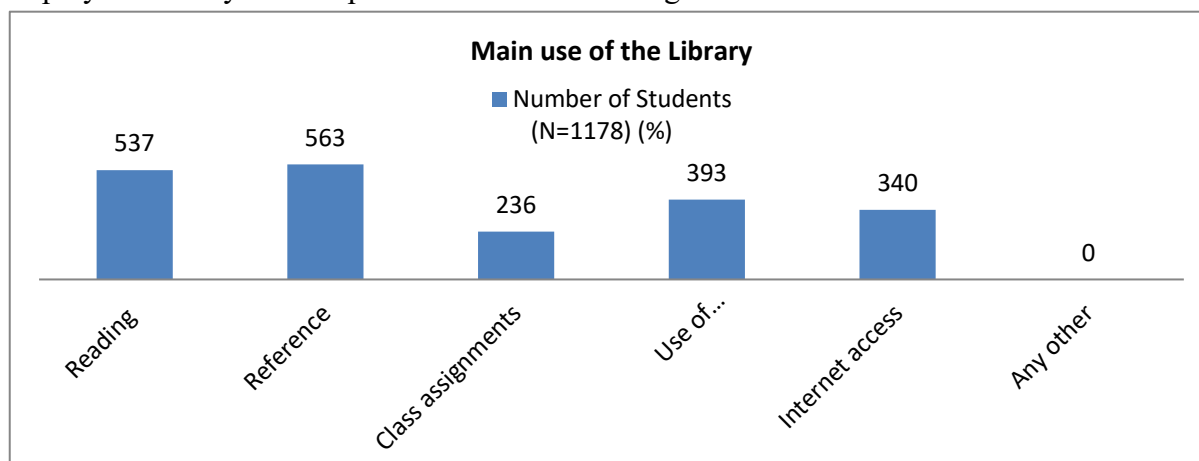

Figure -3: The main use of the Library

5.4 Computer Resources

A computer lab is an essential component of any modern library. The computer lab can be used to search the Online Public Access Catalogue (OPAC) for locating books, accessing e-resources, and using word processing software.

Table No.4: Computer Facilities utilization

S.No.	Computer Facilities	Total (N=1178 students)%
i	Word processing	183 (15.53%)
ii	Spreadsheets	105 (8.91%)
iii	Open learning courses	720 (61.12%)
iv	CD-Roms	65 (5.52%)
v	World Wide Web	131 (11.12%)
vi	e-mail	510 (43.3%)
vii	NLIST	157 (13.33%)
viii	SWAYAM	393 (33.36%)
ix	e-Patasala	0
x	other Internet applications	0
xi	others (please specify)	0

The above table shows with regard to use of computer and communication technology facilities and other online related facilities providing their parental library. It is indicating that majority of the users (61.12%) are using open learning courses, followed by the percent of them (43.3%) are using e-mails, SWAYAM lectures (33.36%), word processing, (15.53%) NLIST (13.33%) World Wide Web (11.12%) Spreadsheets (8.91%) and 5.52% are using CD-ROMs in the library with computers.
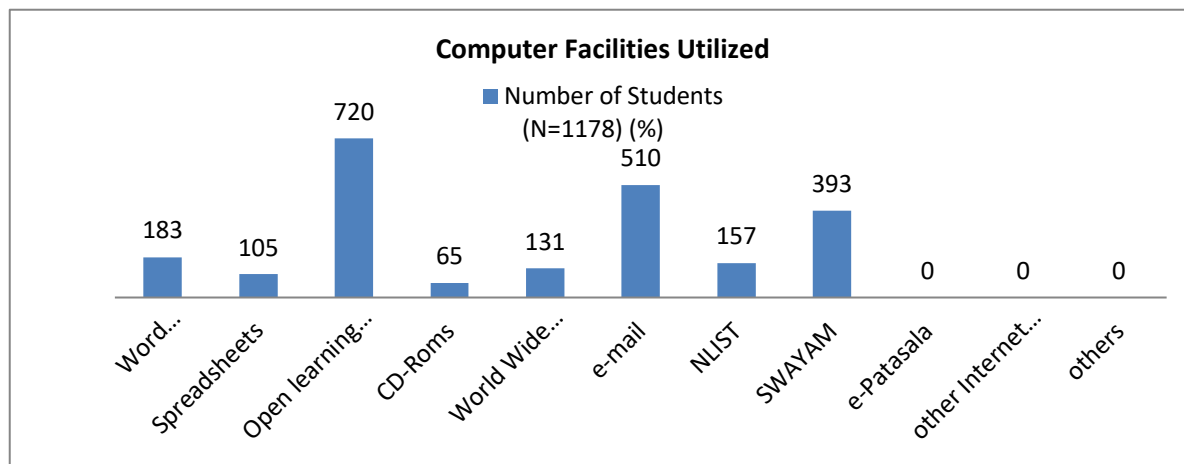
Figure -4 Used the Computer Facilities

5.5 The primary reason for using computer resources

The main uses of computers and other computational resources available in the library are for, academics, and research. On one hand, it improves service effectiveness and library resources' worth. However, it also prevents the repeating record of books and materials, conserving human and material resources and guaranteeing the library's advantages grow. Finally, in today's society, computer technology is seen as high-tech.

Table 5: The primary reason for utilizing computer facilities

S.No.	The main reason for using Computer Facilities	Total (N=1178 students)%
i	To support the course of study	890 (75.55%)
ii	Leisure/general enjoyment	0
iii	Independent learning/research	550 (46.69%)
iv	Others (please say what)	0

The reason for using computer resources. The study highlighted that majority of them (75.55%) are using above table indicating that regarding primary computer facilities to support their course of study and (46.69%) are using Independent learning/research in the library.
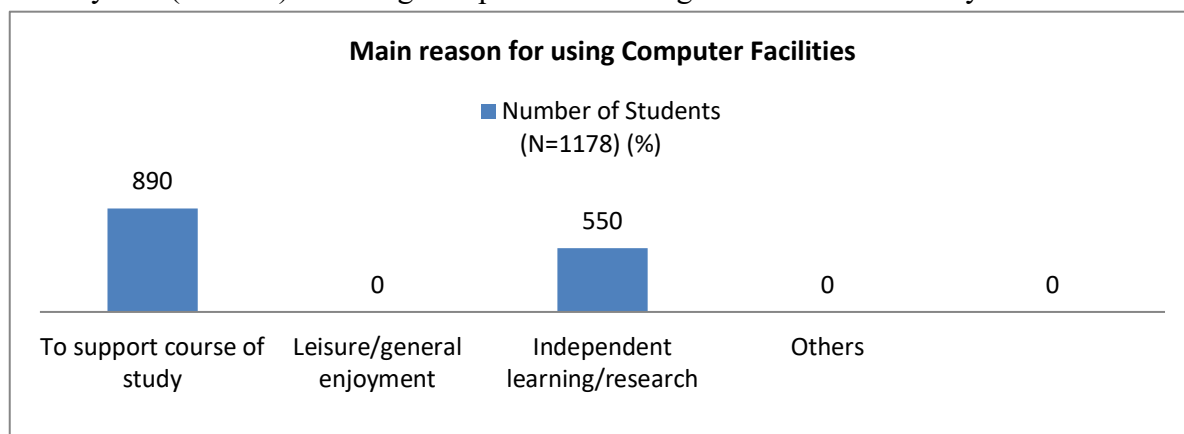

Figure – 5: The primary reason for utilizing computer facilities

5.6 Frequency of visits to the computer facilities in the College Library

Libraries serve as the learning hub for their patrons. The sophistication and pattern of consumers'

information needs have changed as a result of the progress of information and communication technologies (ICTs). These advancements in ICTs have had a significant impact on library collection, storage, retrieval, distribution, and access to information.

Table No.6: Frequency of visits to the College Library's for computer facilities.

S.No.	Frequency of visits	Total (N=1178 students)%
i	Daily	144 (12.22%)
ii	Once or twice a week	471 (39.98%)
iii	Once every two weeks	301 (25.55%)
iv	Once a month	183 (15.53%)
v	Less than once a month	79 (6.7%)
	Total	1178 (100%)

The above table explained about frequency of computers using by the users visit made by the Libraries. It is noticed that (39.98) majority of the users are using computer facilities once or twice a week, followed by the percent (above 25 percent) of them are visiting the libraries with regard to using the computer facilities once in every two weeks. Above 15 percent are using once in a month. The study noticed that above 12 percent are using computers in parental library in the daily basis.
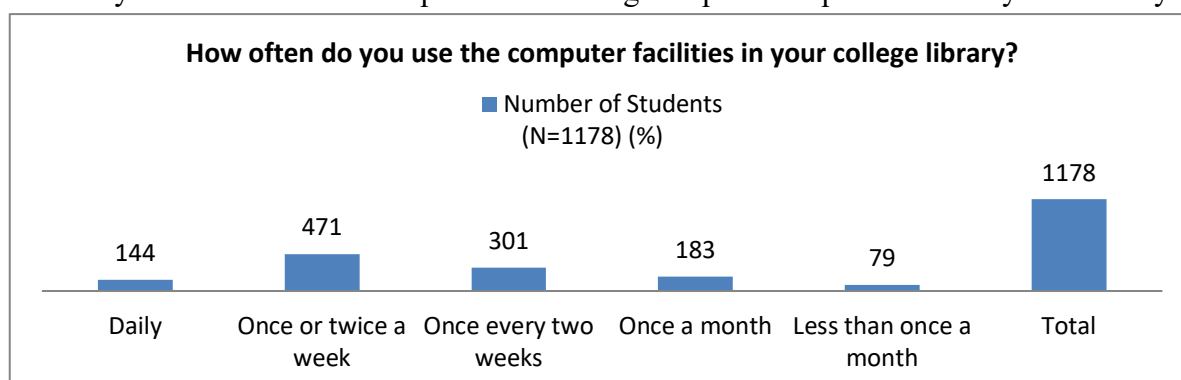

Figure - 6: Frequency of visits to the College Library's computer facilities.

5.7 View of the IT facilities

Technology, such as the usage of tablets, smartphones, laptops, and other devices in education, enables teachers to stay up to date on new methods and help their students stay up to date on the newest technologies. Students can learn new things thanks to information technology, but it also makes it easier for them to leave college.

Table No.7: View of the IT facilities

S.No.	View of the IT facilities	Total (N=1178 students)%
i	A vital service	602 (51.1%)
ii	An add-on service, secondary to other library services	576 (48.9%)
iii	An unnecessary expense	0
	Total	1178 (100%)

The above table indicates that above half of the percent of them (51.1) are told that a vital service about IT facilities and the percent (48.9%) of users are told an add-on service, secondary to other
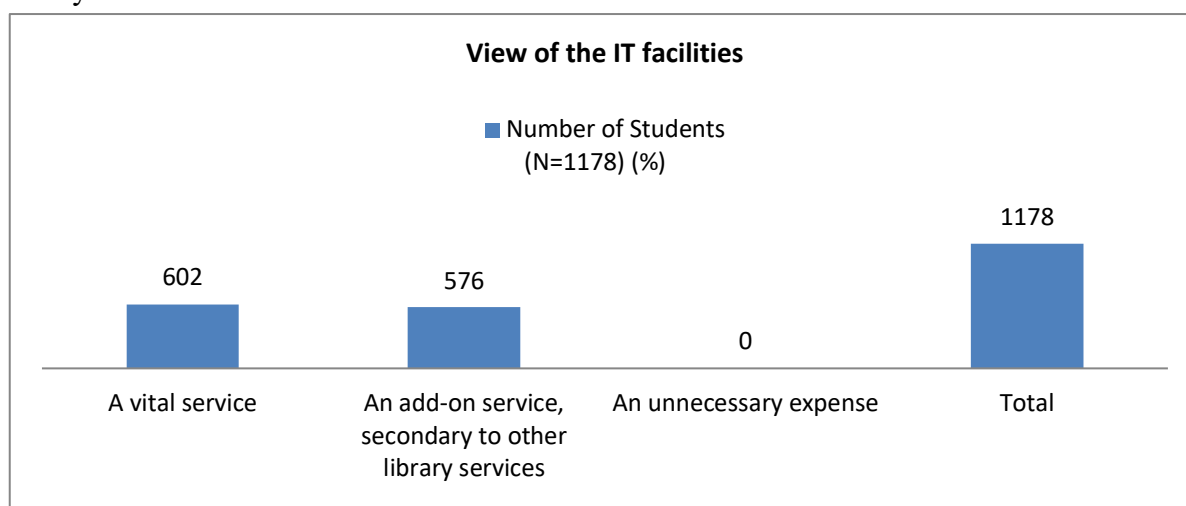
library services.

View of the IT facilities

■ Number of Students (N=1178) (%)

| A vital service: 602 | An add-on service, secondary to other library services: 576 | An unnecessary expense: 0 | Total: 1178 |

Figure - 7: View of the IT facilities

5.8 Computer training programs

According to Fleming (1990), user education refers to "a range of instruction, education, and exploration programs provided by libraries to users to enable them to make more effective, efficient, and independent use of information sources and services to which these libraries provide access." In terms of teaching and research, academic libraries support the needs of the institutions they work with. User education programs are necessary because libraries must make sure that their users make the best use possible of their information sources, resources, and services.

Table No.8: Computer training programs

S.No.	Computer training programs	Total (N=1178 students)%
i	Needed	576 (48.9%)
ii	Improves the use of library resources/ facilities in the library	327 (27.76%)
iii	Helps in student class work/project work	301 (25.55%)
iv	Training is required on different course-oriented software packages	262 (22.24%)
v	Any other	0

The table presented above pertains to computer training programs. It reveals that almost 49 percent of users believe that computer training programs are essential, while 27.76 percent of respondents indicated that such training enhances the utilization of library resources and facilities. The findings of the study reveal that over one-quarter (25.55%) of users stated that it assists students with their coursework and project work. Additionally, 22.24 percent of respondents shared their views regarding the necessity for training on various course-specific software packages available in the library.
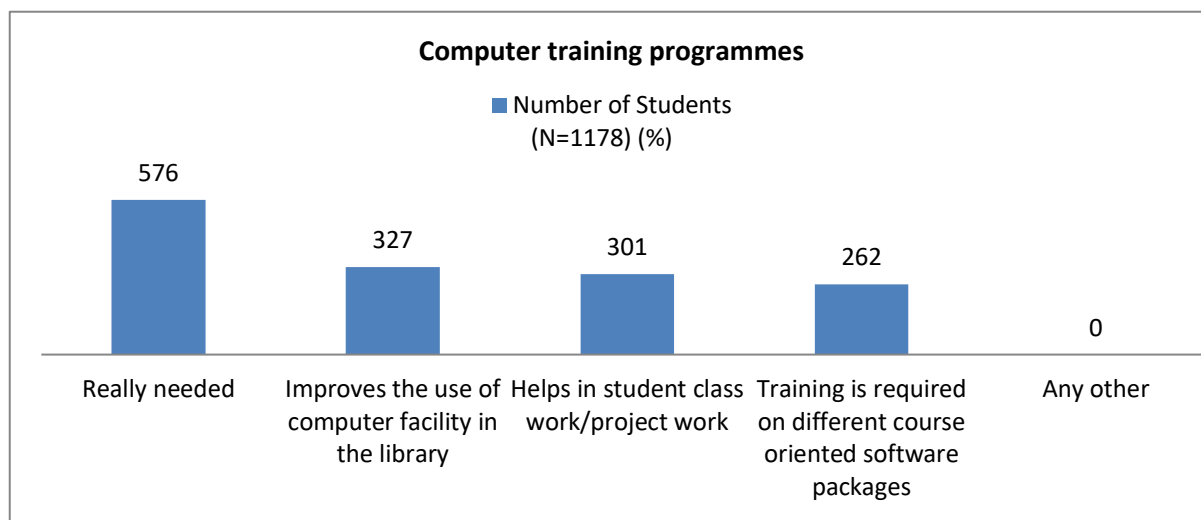
Computer training programmes

■ Number of Students
(N=1178) (%)

- 576 — Really needed
- 327 — Improves the use of computer facility in the library
- 301 — Helps in student class work/project work
- 262 — Training is required on different course oriented software packages
- 0 — Any other

Figure- 8: Computer training programs

5.9 Opinion on the existing ICT facilities

A better understanding of how and why students use academic libraries would be beneficial. Beyond the book collections, they value how focused study and research are supported.

Table No. 9: Opinion on the existing ICT facilities

S.No.	Opinion on the existing ICT facilities	Total (N=1178 students)%
i	Inadequate computers	170 (14.43%)
ii	Outdated systems	327 (27.76%)
iii	No network connectivity	79 (6.7%)
iv	Slow internet speed	406 (34.46%)
v	No Wi-Fi facility	471 (39.98%)
vi	Good network facility	236 (20%)
vii	A sufficient number of the latest computers	92 (7.81%)
viii	Effective Wi-Fi facility	39 (3.31%)
ix	Any other	0

The table displays that nearly 40 percent of users report a lack of Wi-Fi access, followed by the percent (nearly 35%) of users experience slow internet speeds, and followed by the percent of them (27.76%) mention having outdated systems. The study indicates that 20 percent indicate that the network facility is satisfactory, 14.43% report insufficient computers, 7.81% note that there is an adequate number of newer computers, 6.7% are encountering connectivity issues, and 3.31% state that the Wi-Fi service in the library is effective.

Opinion on the existing ICT facilities

■ Number of…

- 170 — Inadequate…
- 327 — Outdated…
- 79 — No network…
- 406 — Slow internet…
- 471 — No Wi-Fi…
- 236 — Good…
- 92 — Sufficient…
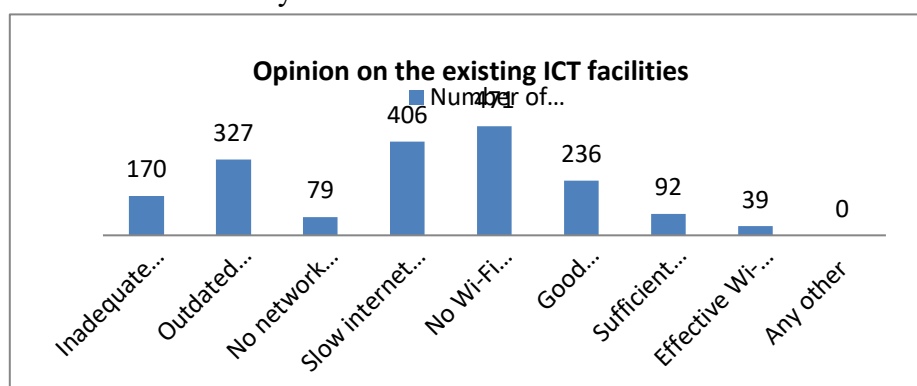- 39 — Effective Wi-…
- 0 — Any other

Figure - 9: Opinion on the existing ICT facilities

5.10 Satisfied with the existing ICT facilities

The user is the most important person in a company, institution, or organization's services. As a result, it is critical to focus on the library's users and do everything possible to satisfy them. Understanding the needs of the users is half the battle won when it comes to providing information services in an academic library.

Table No.10: Impressed with the ICT resources currently available

S.No.	Satisfied with the ICT resources currently available	Total (N=1178 students)%
i	Satisfied	393 (33.36%)
ii	Not satisfied	196 (16.64%)
iii	Partially satisfied	589 (50%)
	Total	1178 (100%)

The above table shows that 50% of users are partially satisfied with their library facilities, 33.36% of users are satisfied, and 16.64% of users are not satisfied with their ICT facilities.
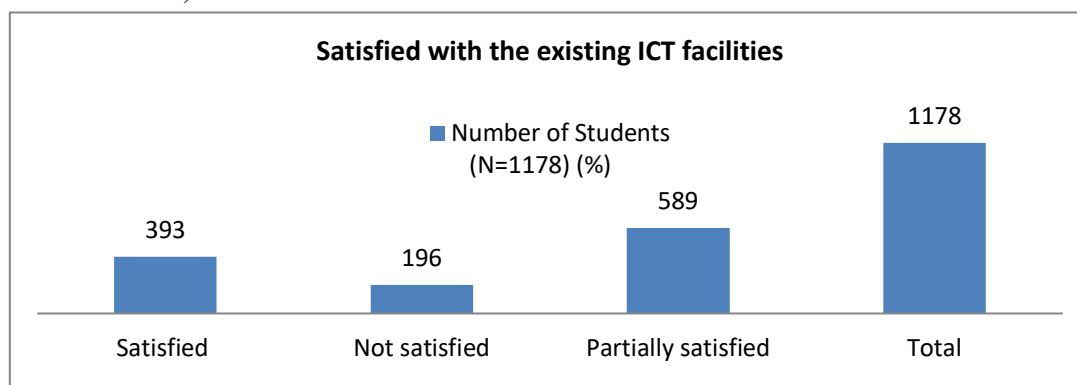

Figure – 10: Satisfied with the existing ICT facilities

Findings and discussions

The study findings revealed that below one fourth of them visit made the engineering college libraries in a once a week followed by the one fifth of the respondents visiting the libraries for their information usage purpose once in every two weeks. The investigation noticed that less than one out of seven responded that they are visiting the college library on regular basis towards meets their educational requirements.

Generally Library and Information Centres provides several sources and services for their users. Proper educational resources are being offered by the parent organization for their potential users. The study found that highest percent of the respondents utilized the lending facility which is very important service among the users. The analysis found that second highest percent of the users who affianced in newspaper reading. The study found that below one third of them used the reference facility, whereas one fourth of the users utilized the Journals/Magazines facility, which provides a primary source of information. Moreover, a insignificant percentage of respondents made use of the CD-ROM facility in their knowledge resource centres.

The study findings concluded the results regarding the primary uses of the library resource. It shows that the nearly half of the respondents utilize the reference books. Following nearly the same percent of the users use the library for reading purposes. Additionally, nearly one third of the users take advantage of electronic resources, while a notable (one fifth) of them use the library to complete their class assignments.

The study finding shows with regard to use of computer and communication technology facilities and other online related facilities providing their parental library. It is indicating that majority of the users are using open learning courses, followed by the second highest percent of them are using e-mails, and above one third of them are being used SWAYAM online platform for their class lectures and also considerable percent of them using word processing, NLIST, World Wide Web and Spreadsheets last but not least very lowest percent of them are using CD-ROMs in the library with computers.

The study highlighted that majority of them are using regarding primary computer facilities to support their course of study and nearly below half of them are using Independent learning/research in the library.

The study examines how often library visitors use computer facilities. It reveals that most users access these computers once or twice a week. Additionally, more than a quarter of the users visit the libraries to use computers every two weeks. Over one-seventh of them access computers once a month, while more than one-eighth of respondents use the computers at the library on a daily basis.

The study analysed that above half of the percent of them are told that a vital service about IT facilities and the followed by nearly the same percent of users are told that an add-on service, secondary to other library services.

The findings reveal that with regard to computer training programs, it is indicating that nearly half of the percent of respondents stated that computer training programs are necessary, while above one/fourth of respondents indicated that such training enhances the utilization of library resources and facilities. The findings of the study reveal that over one-quarter of users opined that it helps to students with their educational cater needs, moreover; above one/fifth percent of respondents shared their views regarding the necessity for training on various course-specific software packages available in the library.

The study also recognized that the considerable percent of them report a lack of Wi-Fi access, followed by above one/third of them experience slow internet speeds, and followed by above one/fourth of them mention having outdated systems. The study indicates that one/fifth percent responses indicate that the network facility is satisfactory,

The study shows that half of the respondents are partially satisfied with their library facilities, and followed by one/third of them are satisfied on the one hand, and one/sixth of them not satisfied with their current facilities provided by the parent intuitional library on the other hand.

Conclusions: Engineering college libraries in Visakhapatnam provide necessary facilities among the users. However, latest technological facilities not updated periodically. For example with regard to Wi-Fi facility and speed of Internet very low. This is the important areas which are not satisfactory level expressed by the users. The users are also not satisfied with the adequacy of computers and update versions. This is the core problem immediately need to be rectify and enable to the users for better usage of library resources and services offered by the engineering college libraries.

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