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USE OF ELECTRONIC RESOURCES AMONG STUDENTS OF SELECTED ENGINEERING COLLEGES IN TIRUNELVELI AND TUTICORIN DISTRICTS: A STUDY

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ABSTRACT

In recent years, the role of the Library and Information Science (LIS) professionals are adapting themselves to changing technologies, information environment, and readers' expectations. Library professionals are increasingly responsible not only to provide traditional library information services according to the needs of the Library users but also provide modern electronic resources and services to them. In the 21st century, everyone is going through many occupational changes to face the future challenges, LIS profession is also not an exceptional one. Information and Communication Technology has transformed the role of not only librarian but also the library collections in the changing environment. Due to the exponential growth of information, the libraries have now metamorphosed into "digital institutions". Specifically Engineering College Libraries are inevitable to implement the e-resources in its collection management. Today, libraries are having data by networked that is connected to a vast ocean of Internet-based service. Moreover, electronic resources relevant to the professions are developing at an unprecedented pace. Purchases of new books, journals, magazines, and abstracting and indexing services are only beginning to become a presence in library collections. Introducing new services in libraries actually means in the first place in implementing electronic services. At present Libraries of all sizes and types are embracing digital collections

Keywords: Electronic Resources, E-Books, E-Journals, E-database and ICT

INTRODUCTION

"Engineering is the profession in which a knowledge of the mathematical and natural sciences gained by study, experience, and practice is applied with judgment to develop ways to utilize economically, the materials and forces of nature for the benefit of mankind". Accreditation Board of Engineering and Technology, They are creating ideas into reality, useful products, and systems with imagination and possibilities. With regard to new technologies applied leading to new connections and outcomes while interacting with the people and environment. In the present days, the role of engineers has been broadened to manage various aspects of organizational competitiveness. With the advent of computers in the digital era, the nature of library services has changed dramatically. Computers are being used in libraries to process, store, retrieve and disseminate information. As a result, the traditional concept of a library is being redefined from a place to access books to one which houses the most advanced media including CD-ROM, Internet, and remote access to a wide range of resources. Libraries have now metamorphosed into "digital institutions". Library collection management has changed dramatically in the past decade. The widespread use of new digital technology in the publication of information through the Internet. This created a massive shift in the generation of information, its publication and dissemination of electronic information. Gradually the concept of a library has changed very fast due to the

impact of information communication technologies. Libraries not only maintained printed collection but also maintained digital collections. They have moved from the print-based environment to a digital environment. As the information environment changed rapidly there is widespread availability of electronic resources in libraries. Dissemination of information at low cost and high speed that could not obtain through paper has been achieved. In this study the researcher has selected 18 Engineering colleges in the two revenue districts of southern part of Tamilnadu to attempt to analyse the use of electronic resources in engineering college libraries, from students of Under Graduate and Post Graduate.

1.1. E-RESOURCES - DEFINITION

"An electronic resource is a publication in digital format which must be stored and read on a computer device". It works which are encoded and made accessible through a computer, online or in a physical format. This category includes an ever-growing array of electronic journals, monographs, reports, articles, databases, digital collections, still and moving images, sound, and interactive resources. E-Resources refer to that kind of documents in digital formats, which are made available to the library users through a computer-based information retrieval system. The electronic resources include CD-ROMs, E-books, e-journals, e-magazines, E-databases (online databases), e-theses, dissertations, and websites, E-Newspapers etc.

1.2. E-RESOURCES COLLECTION:

The library may own the item in print and/or microform. The library may have purchased electronic access to the item, in addition to the print. The library may have purchased access to an aggregated database that includes the full text of the journal that the patron wants. The different electronic formats that communicate information are OPAC, online databases, web-database, e-books, e-journals/ magazines, e-theses, e-dissertations, e-reference sources, e-learning materials, e-research reports, and e-newspapers. Thus, electronic resources have become the vital part of college library collections in the 21st century.

1.2.1. Electronic Book: A book provided in a digital format for checkout or use via an Internet browser, a computer, or another electronic device like an E-Book Reader.

1.2.2. Electronic Journal

A journal provided in a digital format for access via an Internet browser, a computer or other electronic device.

1.2.3. Types of E – Resources

Some of the most frequently encountered e-resources types are:

- E – Journals (Full text and Bibliographic)
- E – Books, Online Databases
- Full text (aggregated) databases
- Indexing and abstracting databases
- Reference databases (Biographies, Dictionaries, Directories, Encyclopedias etc.)
- Numeric and Statistical databases
- E – Images, Institutional repositories
- E – Audio/Visual resources

1.2.4 Formats:

The formats of e-resources are document files (.doc), spread sheets (.xls), presentation slides (.ppt), portable document format (.pdf), audios (.mp3), videos (.mpeg, .mp4, etc.) and web pages (.htm, .html, .asp etc.).

1.2.5. E-database

Electronic databases come very handy for searching vast data within a shortest possible time. There are good number of such databases are available on the internet today, which can be accessed free of cost. An e-database is an organized collection of information, of a particular subject or multi-disciplinary subject areas. The information of an e-database can be searched and retrieved electronically. Contents include journal articles, newspaper articles, book reviews and conference proceedings, etc., Usually, e-resources have been updated on a daily, weekly, monthly, and quarterly basis. Full-text databases contain the whole content of an article such as citation information, text, illustrations, diagrams and tables. Bibliographic databases only contain citation information of an article, such as author name, journal title, publication date and page numbers.

1.3. AIM OF THE STUDY

The rate of increase in the costs of print journals and books continues to be higher than the rate of increase in library budgets as such both of them are directly proportional. The internet and digital publishing technology give us the opportunity to

reduce the cost of journals and books. The combinations of institutional repositories, with hard copy, e-journals and e-books are increasing; this will be a change in the mode of communication. Based on the questions and answers between category-wise, e-journals were analyzed with the questionnaires.

1.4.0. OBJECTIVES OF THE STUDY

1.4.1. To know the use of electronic resources by category of students of engineering colleges

1.4.2. To identify the reasons for the use of electronic resources and the level of satisfaction in the library of various institutions.

1.4.3. To identify the problem in using electronic resources in relation to the category of students in the libraries.

1.4.4. To identify the level of satisfaction to use computer and e-resources in various engineering college Libraries.

1.4.5. To assess the benefits of the different types of e-packages, and frequency of use in electronic resources in the libraries, and

1.4.6. To identify the improvement of e-resources through students' feedback in engineering college libraries.

1.5. HYPOTHESES:

In order to fulfill the objectives of the present study, a set of hypotheses have been formulated.

1.5.1. There is no significant relationship between the category of users and Reasons for Using Electronic resource in Libraries under study.

1.5.2. There is a significant relationship between the Level of Satisfaction and Reasons for Using Electronic resources in Libraries under study.

1.5.3. There is a significant relationship between the Problems in Using Electronic resources in Library and Category of users.

1.5.4. There is no significant relationship between the Level of Satisfaction and Reasons for Use of computer in Libraries

1.5.5. There is a significant relationship between the category of users and use of E-packages in engineering college libraries.

1.5.6. There is a significant difference among the category of users and the opinion on Improvement for E-resources in engineering college libraries.

1.6.0. METHODOLOGY

At present in Tirunelveli and Tuticorin districts 30 Engineering Colleges are functioning. But the researcher has selected only 18 Engineering Colleges for his study. He has distributed questionnaires among these selected college's library users of UG and PG students on randomly. The filled up questionnaires have been collected from the respondents for the data analysis and interpretation. Out of 900 questionnaires, 736 (81.77%) questionnaires were recollected and incomplete 8 questionnaires were rejected. For the purpose of convenient research, 728 (80.88%) questionnaires have been selected for analysis. The filled up questionnaires have been arranged for analysis and it was made on the basis of gender and category wise. Simple percentage analysis was made for analysis.

1.7.0. STATEMENT OF THE PROBLEM

All Engineering College Libraries have made significant investments in e-resources and accompanying computer-based technology to ensure access to e-resources. The budget allocated for e-resources in Engineering Colleges is nearly 50% of the total library budget. The budget increased for the past few years, as there was a new subscription for expensive databases, IEEE Explorer and ASME, ASCE, ACM Digital Library and others. Although engineering college Libraries pay for subscriptions or access to e-resources, this cost is hidden from users. Engineering College Libraries spend this money on subscribing and purchasing different types of e-resources that can be measured on-campus.

1.8.0. STATISTICAL TOOLS:

After the completion of the data collection, the filled in questionnaires were edited properly to make them for coding. After coding, the data were fed into computer and database was created. From the database, the required tables were prepared for further analysis using SPSS 22.0. The analysis part employed suitable statistical techniques to the data collected and tabulated. Keeping in mind, the nature of the present study, the following statistical tools such as Simple Percentage Score, Chi-square test, ANOVA test.

1.9.0. LIMITATIONS OF THE STUDY

The study is confined to the eighteen engineering colleges only. These are listed below

Sl.No	Name of the Engineering College	Location
1	SCAD Engineering College	Tirunelveli Dist.
2	SCAD College of Engineering and Technology	Tirunelveli Dist.
3	A.R. College of	Tirunelveli Dist

	Engineering and Technology	
4	J.P College of Engineering	Tirunelveli Dist
5	Sardar Raja College of Engineering	Tirunelveli dist
6	Einstein College of Engineering	Tirunelveli Dist
7	Govt College of Engineering, Tirunelveli	Tirunelveli Dist
8	Anna University Regional Centre, Tirunelveli	Tirunelveli Dist
9	National College of Engineering	Tirunelveli Dist
10	Francis Xavier Engineering College	Tirunelveli Dist
11	PET Engineering College	Tirunelveli Dist
12	S.Veerachamy Chettiar College of Engineering	Tirunelveli Dist
13	National Engineering College	Tuticorin Dist
14	Unnamalai Institute of Engineering and Tech	Tuticorin Dist
15	V. V. College of Engineering	Tuticorin Dist
16	Dr.Sivandhi Aditanar College of Engineering	Tuticorin Dist
17	St. Mother Theresa Engineering College	Tuticorin Dist
18	University VOC College of Engineering	Tuticorin Dist

This study has covered only students those who are studying UG and PG courses in the Engineering Colleges under study.

2.0. REVIEW OF LITERATURE

This chapter presents the related literature to the subject of the study. Any research without literature review is incomplete and not justified in the findings at the end. It is essential to go through the relevant literature so as to know the existing output in the field of our interest. Therefore, literature review forms as an integral part of a thesis. A large number of studies have been conducted by the researchers in different contexts on the topic chosen for the present study. Here a humble attempt is made to review a 104 related literature of them.

3.0. RESUME OF SUCCEEDING CHAPTERS: 3.1. The First chapter deals with the introduction of e-resources, and development of e-journals, content, and meaning of e-resources and engineering college library.

3.2. The second chapter will cover the reviews of relevant literature.

3.3. The Third chapter deals with a brief description of the selected colleges and a detailed profile of the concerned college libraries is described.

3.4. The fourth chapter is about the statistical analysis and interpretation of the data collected.

3.5. The Fifth chapter covers findings, suggestions, and conclusions.

4.0. RESULT ANALYASIS- GENDER WISE DISTRIBUTION OF RESPONDENTS : TABLE 1

Gender	Number of Respondents	Percentage
Male	341	46.8
Female	387	53.2
Total	728	100%

The Table 1 shows that 341 (46.8%) respondents are male and 387 (53.2%) are female.

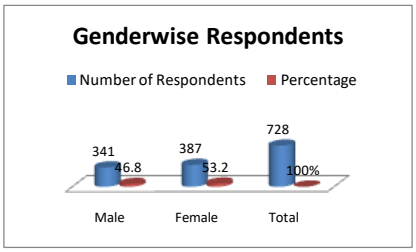

TABLE2: CATEGORY WISE DISTRIBUTION OF RESPONDENTS:

Category	No. of Respondent	Percentage
Under Graduate	**536**	**73.6**
Post Graduate	**192**	**26.4**
Total	**728**	**100**

Table 2 describes that from the total respondents, 536 (73.6%) of the respondents are doing undergraduate, 192 (26.4%) of the respondents are postgraduates

Graph 2 Categorywise respondents .

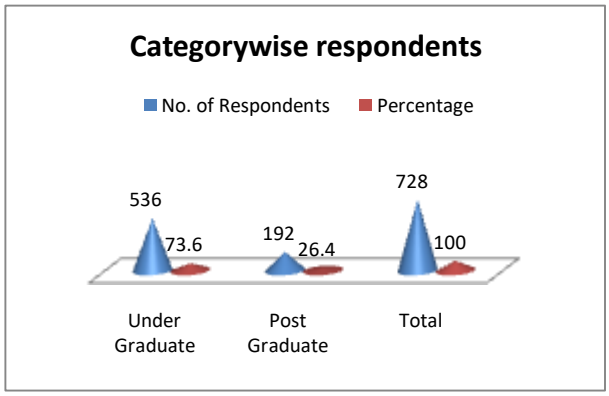

TABLE 3. BRANCH WISE DISTRIBUTION OF RESPONDENTS

Branch wise	Frequency	Percent	Cumulative Percent
civil	98	13.5	13.5
mech	122	16.8	30.2
eee	142	19.5	49.7
ece	170	23.4	73.1
cse	166	22.8	95.9
IT	19	2.6	98.5
other	11	1.5	100.0
Total	728	100.0	

It is evident from the table 3
department wise
(or) branchwise analysis of the e-resource users as, 98(13.5%) of the respondents belongs to the Civil engineering department,122(16.8%) of the respondents belongs to Mechanical engineering department, 142 (19.5%) of the respondents belongs to the EEE department, 170 (23.4%) of the respondents belongs to the ECE department,166 (22.8%) of the respondents belong to the CSE department,19 (2.6%) of the respondents belong to the IT department,11(1.5%) of the respondents belongs to Other departments.

Graph 3 Branchwise respondents:

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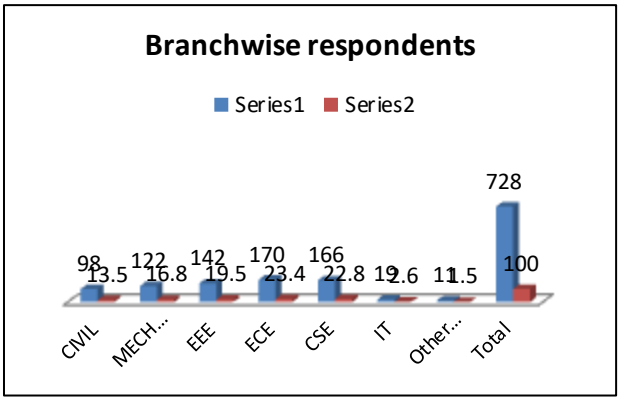

4.1 FINDINGS OF THE STUDY:

4.1.1 Almost all the Engineering colleges under study spend more than 5 lakh of rupees for the purchase of books and journals and on the electronic resources.

4.1.2. Nearly 50% of the total library budget has been allotted for the materials pertaining to electronic resources.

4.1.3. Most of the Engineering colleges kept open their libraries a minimum of 10 hours per day and few of them 12 hours per day.

4.1.4. The 60% of the library users visit the library regularly.

4.1.5. The majority of libraries have automated their functions and the remaining libraries are partially automated. The availability of the software and hardware in these libraries is also encouraging.

4.1.6. The Engineering College Libraries under the study are interconnected with LAN services. Few colleges are having Wi-Fi facilities also.

4.1.7. In all the engineering college libraries the OPAC has been successfully organized and functioned effectively.

4.1.8. Regarding the e-journals, a majority of the readers are having the opinion that it will reduce their search time. They can do their access at any time with minimum searching time.

4.1.9. All the engineering colleges are having Internet facilities in their libraries, but due to the lack of technological advancement, the speed of the Internet varies from college to college. When we browse the internet, if the speed is very high, it will save the time of the reader.

5.0. FINDINGS FROM TABLE ANALYSIS

5.1. It is found from the analysis that the gender wise respondents response the questionnaire. Male respondents are 341(46.8%) and Female respondents are 387(53.2%). Female respondents response just 6 % more than male respondents.

5.2. The analysis shows that 02 shows the category wise, means UG students and PG students of the respondents are in two categories. They are 536, 192 respondents. In percentage 73.6% of UG students and 26.4% of PG students are respondents.

5.3. It is observed that the frequency of users use of e-resources daily and more than one times used are 296 respondents (40.7%). And sometimes, it is once in daily or once in twice a day uses by 406 respondents (55.8%). Never use the e-resources are only 26 respondents (3.6%).

5.4. It shows that the Students are using the computer in a library for the following purpose. Study purpose 509 students (69.9%). For browsing by120 students only (16.5%), Research purpose by 96 students, (13.2%). For preparing an assignment by one student only (0.1%) and for entertainment only two students (0.3%).

5.5. The analysis shows that students are using computer 630(86.5%). Using scanner by 64(8.8%). Using Printer 3 (0.4%) and using DVD by 21(2.9%) students and using USB devices by 10(1.4%) respondents.

6.0. BASED ON USER'S OPINION, CHALLENGES ARE LISTED

6.1. Subscription or renewal policy is necessary for the e-journals.

6.2. Lack of fund is possible in private engineering colleges for subscribing e-journals, but most of the respondents are in need of more computer, more e-resources for bringing to the library.

6.3. Implementation of ICT infrastructure is needed for using e-resources.

6.4. Therefore, all institutions must implement ICT, E-resource facility.

6.5. Most of the respondents felt it was possible to motivate e-journals usage by library staff and faculty members.

6.6. Most of the users' opinion that the Institutions need to subscribe more number of e-packages and e-resources in Library.

7.0. SUGGESTIONS

7.1. The E-journal is fairly good for UG students and more useful for PG students to prepare notes, assignments, publishing paper in journals and conferences.

7.2. The major problem is being faced by Self-financing colleges in actively participating in e-journal movement is lack of fund. Fiscal supplies are needed to meet operating cost involved in self-financing institutional repositories, adequate ICT Infrastructure and subscribing to a sufficient bandwidth.

7.3 Now-a-days e-Resources are the major source of library collecting and all the libraries are concentrating to support the e-resources activities. Based on the e-resources collection the library can satisfy the present and future need of user communities. Libraries are spending huge amount to acquire the e-resources collection on continues basis at the same time it should conduct the user survey, online feedback, reviews and meetings to know the resources utilization for the support of management and know user needs.

7.4. There is a need to conduct special training program and workshops among the students and faculty members of engineering colleges with respect to how to utilize the ICT based resources and services. The authority must conduct training programs for users regarding how to use e-journals and online databases. There is a need to include more number of e-journals in various engineering branches.

7.5. More computer terminals should be installed in the library for the benefit of users. More funds should be given to developing the library with ICT based modern trend and especially to subscribe more engineering databases.

7.6 In India, aware of e-journals and education has an edge over the traditional method of learning or students still prefer classroom teaching which is more useful in this growing competitive world. Government-funded institution, and Self-financing Institutions have inadequate human resource facilities and maintain the quality.

8.0. AREA OF FURTHER RESEARCH

The present study on "Use of Electronic resources among students of selected engineering colleges in Tirunelveli and Tuticorin district: A study" is based on resources, and services in engineering college libraries only for UG and PG students. This type of studies may conduct in other Arts and Science colleges and Universities including students of UG, PG, Research Scholars, and faculty members of all disciplines.

9.0. CONCLUSION

Now, E-resources have become the popular one, which is on the one hand development and impact of the technologies on libraries whereas on the other hand, pose new challenges for library professionals to manage the electronic information resources properly. The rapid growth of e-resources and the complexity in managing these resources has posed new challenges for the library professionals. Now we are living in the digital environment and obviously, it is with changing nature of all the three elements of library i.e. collection, users, and staff in every library. To grow forward to the time of this electronics age, at first effect on entire user community who are giving the more preference than a traditional print collection to e-resources. E-resources are the most innovative of different ideas, ways of thinking may prove valuable to access the journals and e-resources are important to information revolution and innovative knowledge society. In future, sustainable growth of e-Journals will be shown growing and developing in India. Users are familiar with AICTE INDEST, IEEE Explorer, DELNET, and NPTEL. Access to a wide range of information is the main factor which influences the use of ICT based resources and services among the users. Hence, Building consortiums and Institutional subscriptions for e-resources have to be increased by the libraries. The libraries should concentrate on sending e-mail alerts not only to save the time of the users but also to motivate them to browse or read more articles. In the present digital era, the responsibility of the librarians does not stop by just subscribing to e-resources but they should also identify the problems in information retrieval. There are many websites, which are not indexed; hence they are not accessible in online journals. To retrieve exhaustive relevant information on any particular topic it is necessary to have a good understanding of the topic and choose the right search term and solve the problem in information retrieval.

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