USE OF ELECTRONIC RESOURCES IN LIBRARY BY FACULTY MEMBERS OF ENGINEERING COLLEGES IN TIRUNELVELI DISTRICT : A CASE STUDY

Dr K.Mutharasan,

Librarian, Pope's College,Thoothukudi District, Tamilnadu-628 251

Dr S.HenryPandian,

Associate Professor, P.G.Department and Research Centre in Economics, Pope's College,Thoothukudi District, Tamilnadu-628 251

(Affiliated to Manonmaniam SundaranarUniversity, Tirunelveli, Tamilnadu, India- 627012)

ABSTRACT:

Libraries are transforming from occupying printed collections to digital collections. The present generation enjoys the abundance of information available in varieties of forms and formats. Searching and transferring of information have become an inseparable part of the research and development. Electronic publication is replacing print on paper publication. It offers an alternative medium for readers .As a result of this emerging consortium that enables libraries to have electronic access to professional literature including research journals, abstracts, review publications, databases in science and technology. Online access to databases enables users to retrieve relevant and latest information in a minimum time.The digital and electric Library Resources constitutes digitalized data and information, which gradually replaces paper based document.Today with the advent of computers, the nature of Libraries has changed dramatically. Computers are being used in libraries to process, store, retrieve and disseminate information.. Libraries have now metamorphosed into "digital institutions". These may be delivered on CD ROM, on tapes, via internet and so on. The e-resources on magnetic and optical media have a vast impact on the collections of University Libraries. Electronic Journals are very important source for the scientific research and development. E-journal is becoming vital to carry any meaning full research. Today, electronics resource is an essential part of the students and teachers. The faculties of engineering colleges are extensively using the E-resources. Libraries have to provide the technology necessary for user access to scholarly Information and Communication Technology (ICT) resources and a growing number of electronic databases. The total sample for the present study consists of 560 respondents. The data analysis was carried out by using statistical methods like multiple linear regression ANOVA and chi- square test. This study analyses that in all the categories of Professors, Associate Professors and Assistant Professors in the databases usage at "Adequate" which remains more followed by "Inadequate" at less .This study reveals the difference between the faculty members with regard to CD-ROMS/DVDS. Out of 560 respondents, 81.43 per cent of the CD-ROMMS / DVDS at "Adequate" at the top most level followed by "Inadequate" at 18.58 per cent This analysis reveals that in all the categories of professors, Associate professors and Assistant professors are using the search information from Internet at a higher level followed by "Not Using

Research paper   © 2012 IJFANS. All Rights Reserved,   UGC CARE Listed (Group -I) Journal Volume 11, S Iss 3, Dec 2022

Internet" remains at very low percentage. The mean value of all the variables ranges between 4.02 and 4.64. The standard deviation of opinion ranges between 0.774 and 0.984. Further, in this study, Chi square has been administered to identify the significance. The table value is 15.507 at 5% level of significance, the calculated value of most of the variables were higher than the table value which indicated the variables are significant in their opinion between the respondent categories towards the value importance of the electronic reference services by the users except the variable of 'Web forms'. The user satisfaction is the most important in measuring the quantitative and qualitative strategy to each and every library e resources and e services. Academic libraries are providing resources and services using technologies and tools to maximise the user satisfaction. In these circumstances, library professionals must extract e-resources and e-services among the end users. E-resources and digitization techniques and other resources by e-services to attain the entire satisfaction of academic and research communities. So that, this study concluded that "the awareness and satisfaction of library e-resources and e-services facilities are more satisfactory".

Keywords:

Electronic resources, e-Services, Digitization, Library, Faculty, Engineering Colleges

Introduction:

Libraries are transforming from occupying printed collections to digital collections. They have moved from print-based environment to electronic environment. As the information environment changes rapidly, there is a wide spread availability of electronic resources for Libraries. The present generation enjoys the abundance of information available in varieties of forms and formats. Searching and transferring of information have become an inseparable part of the research and development Electronic publication is replacing print on paper publication. It offers an alternative medium for readers. Dissemination of information at low cost and high speed, which cannot be obtained through paper, has been achieved through electronic means. As a result of this emerging consortium that enables libraries to have electronic access to professional literature including research journals, abstracts, review publications, databases in science and technology. Online access to databases enables users to retrieve relevant and latest information in a minimum time. When total processing and space cost is taken into account, electronic collections will result in overall reductions in library expenditure, engineering college libraries attempt to meet the need of a diverse and complex group of users like research scholar and faculty members. Fundamental aim of engineering college libraries is based on the philosophy of intellectual freedom and providing access to infinite amount information. The digital and electric Library Resources constitutes digitalized data and information, which gradually replaces paper based document.

Today with the advent of computers, the nature of Libraries has changed dramatically. Computers are being used in libraries to process, store, retrieve and disseminate information. As a result, the traditional concept of library is being redefined from a place to access books to one which houses the most advanced media including CD-ROM, Internet access, and remote access to wide range of resources. Libraries have now metamorphosed into "digital institutions". Engineering College Libraries can be treated as academic libraries since, they cater to the information needs of specific professional and academic user community. In the case of Engineering College Libraries, the main focus of the collection will be engineering

and the allied subjects. The primary objective of these Libraries is to support the teaching-learning process of their parent institutions.

Electronic Resources:

An electronic resource is defined as a resource which requires computer access or any electronic product that delivers a collection of data, being text referring to full text bases, electronic journals, image collections, other multimedia products and numerical, graphical or time based, as a commercially available title that has been published with an aim of being marketed. These may be delivered on CD ROM, on tapes, via internet and so on. Over the past few years, a number of techniques and related standards have been developed which allow documents to be created and distributed in electric form. Hence to cope with the present situation, Libraries are shifting towards new media, namely electronic resources for their collection developments that the demands of users are better fulfilled. The e-resources on magnetic and optical media have a vast impact on the collections of University Libraries. These are more useful due to inherent capabilities for manipulation and searching, providing information access is cheaper to acquiring information resources, savings in storage and maintenance etc. and sometimes the electronic form is the only alternative. Electronic Journals are very important source for the scientific research and development. E-journal is becoming vital to carry any meaning full research. This resource is widely used by Student and Faculty and other users of the libraries to carryout day-to-day qualitative research, education and knowledge.

Scope of the study :

The scope of the present study is the use of electronic resources in library by the faculty members of Engineering Colleges in Tirunelveli District. In this study is seekingpattern of information at various level. Today, Electronics resource is an essential part of the students and teachers. Now-a-days, technology plays a significant role in the world. With technology one can achieve more. E-resources to improve the standard of learningand to educate them to handle the technology for various purposes.

Objectives:

The following are the important objectives of the present research study:

1. to find out the use of library by faculty members of engineering colleges in Tirunelveli District;
2. to identify the purpose of use of electronic resources among faculty members of engineering colleges in Tirunelveli District;
3. to investigate the level of use of library services by faculty members of engineering colleges in Tirunelveli District;
4 to access the faculty members of the various opportunities for using library resources.
5. to facilitate an individual and a group of readers in the use of library resources by faculty members with practical demonstration on how to seek the information.
6. to provide necessary electronic resources for faculty members.

Statement of the Problem:

The role of the use of electronic resources in higher education is enormous and growing rapidly that it can hardly be sketched in a brief study. The faculties of engineering colleges are extensively using the E-resources Libraries have undergone considerable changes in the past two decades. With the increasing use of technology to organize and disseminate information, and the computer has become an important tool for accessing information. Libraries have to provide the technology necessary for user access to scholarly Information and Communication Technology (ICT) resources and a growing number of electronic databases. The physical space in libraries has been modified to accommodate the additional technology necessary to provide users with the tools to use Library resources successfully to meet their information needs. The Libraries' and Librarians' roles have been changed rapidly in the recent years, in response to new forms of information and new methods of learning and research.

Methodology:

Sample for the present study consists of 560 faculty members belonging to the discipline of engineering colleges in Tirunelveli District. These respondents were selected by using 'random sampling' technique by giving equal weightage to discipline, type of institutions and gender. Thus, the total sample for the present study consists of 560 respondents. The data analysis was carried out by using statistical methods like multiple linear regression ANOVA and chi- square test.

Chi-Square Test :

To find out the relationship between two groups with reference to selectedvariables, the following Chi-Square test was employed

$$\chi_c^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

With **(c – 1) (y-1)** degrees of freedom

Review of the Study:

Adekunmisi et al., (2013) followed by a study on "Internet Access and Usage by Undergraduate Students: A Case Study of Olabisi Onabanjo University, Nigeria." It is on use of Information and Communication Technologies and its importance role in education. Most of the lectures using the Internet are student review process of 200questionnaires. They conclude that the majority of the respondents are using the internet were reviewing (32.50%), 37.50 % were weekly, fortnightly (13%) and monthly (17%). The result shows that the E-mails, Web-Pages

Rajeev Kumar et al., (2006) investigated a study on "Internet Use by Teachers and Students in Engineering Colleges of Punjab, Haryana, and Himachal Pradesh States of India: An Analysis." The survey study distributed the questionnaire among the 1980teachers and students of all the engineering colleges of the three states of India. The result reveals that the response rate was 80.90 percent and various aspects of Internet use, such as frequency of Internet use, methods used for learning of Internet skill, most frequently used place for

Internet use, purposes for which the Internet is used, use of Internet services, ways to browse the information from the Internet, problems faced by the users and satisfaction level of users with the Internet facilities provided in the college

Rajeev Kumar et al., (2005) surveyed on "Internet and Its Use in the Engineering Colleges of Punjab, India: A Case Study." A well-structured questionnaire was distributed among the 960 teachers and students of all the engineering colleges of Punjab. The response rate was 84.2 per cent. The present study demonstrates and elaborates the various aspects of Internet use such as, frequency of Internet use, most frequently used place for Internet use, purposes for which the Internet is used, use of Internet services, ways to browse the information from the Internet, problems faced by the users and satisfaction level of users with the Internet facilities provided in the colleges. The result of the survey also provided information about the benefits of the Internet over conventional documents. It was found out that the Internet had become a vital instrument for teaching, research and learning process of these respondents. Some suggestions have been set forth to make the service more beneficial for the academic community of the engineering colleges under study.

Pangannaya et al., (2000) presented a paper on "Use of Internet by the Academic Community: A Case Study". The study was conducted in Mysore University Library. The number of academic community belongs to science disciplines are primary users of the internet facility. After the introduction of internet services by Mysore University Library, most of the users started utilizing the facility. Faculty members and research scholars appear to make greater use of Internet than PG student's community. Most of the users are making use of the facility at least once in a week. Majority of the internet users had poor experience in computer operations and users are not satisfied with the number of terminals and they need down loading facility in the form of printing.

Nazir,(2015) studied on "Use and Adequacy of E-Resources by the Research Scholars and Students of the University of Kashmir in Science & Social Science Faculties: a Case Study". The study was an attempt to determine the use and satisfaction level with respect to the electronic resources provided by the University of Kashmir to its users. A total of 200 questionnaires were distributed to collect the primary data from fulltime Research Scholars (M.Phil/Ph.D) and post graduate Students of Science and Social science faculties, University of Kashmir. The findings reveal that Lack of awareness regarding different types of e-resources and Lack of library assistance are the major cause behind low usage of e-resources. The result shows that users of science faculty use e-resources adeptly than Users of social science faculty. The findings could be helpful to know the different challenges and concerns faced by users while accessing and using e-resources. The study also highlights the current scenario of the Science and Social science faculties in University of Kashmir with reference to the awareness and usage of electronic resources.

Ekta, (2014) analyzed a study on "Use of E-Resources by Faculty Members and Research Scholars in Indian Institute of Technology, Kanpur." The purpose of study is to find what problems faced by the users, their level of satisfaction with the collection of library and trace out the characteristics for using the e-resources in the library of IIT, Kanpur. To fulfil the objectives of the study questionnaire and interview method was used to check users attitude for e-resources, data was collected directly from the users of the Library both by the faculty members and research scholars. Study deduces that all the respondents are well aware about

e-resources. All the users are using e-resources. Library must enhance their services and motivate the users to spend their time in the library, to utilize e-resources collection for their information needs.

Results and Discussion:

Faculty Members with regard to Electronic Resources Designation.

The Oxford Dictionary of New Words defines electronic as an adjective relating to activities or processes mediated or enabled through the use of the computer, frequently by means of telecommunications links. Internet means a network of network which permits computers to communicate via a variety of languages called protocols. The internet may be used for electronic mail, discussion groups, file transfers, and web services. Protocols include FTP - file transfer protocol, HTTP - for the transfer of webpages from a server to a browser, and SMTP for e-mail transfer. The following table explains the faculty members of engineering college with regard to electronic resources

Table:1   **Faculty Members with regard to Electronic Resources Designation**

Designation	No. of Respondents		Total
	Adequate	**Inadequate**	
Professor	55 (96.49)	2 (3.51)	57 (100.00)
Associate Professor	87 (87.87)	12 (12.13)	99 (100.00)
Assistant Professor	355 (87.87)	49 (12.13)	404 (100.00)
Total	**497** (**88.75**)	**63** (**11.25**)	**560** (**100.00**)

Source: Filed Survey
Note: Figures in parentheses indicate the percentage to total (Row-wise)

Table1.reveals the difference between the faculty members with regard to electronic resources. Out of 560 respondents, 88.75 per cent of electronic resources at "Adequate" at the top most level followed by "Inadequate" at 11.25 per cent. It is seen from the table that in Professor Level, Electronic Resources usage at "Adequate" in the library at 96.50 per cent followed by "Inadequate" at 3.50 per cent. In Assistant Professor and Assistant Professor Level, electronic resources usage at "Adequate" at 87.87 per cent followed by "Inadequate" at 12.13 per cent. It is clearly seen from the above discussion that in all the categories of Professors,Associate Professors and Assistant Professors usage of the Electronic Resources followed by "Inadequate" at less.
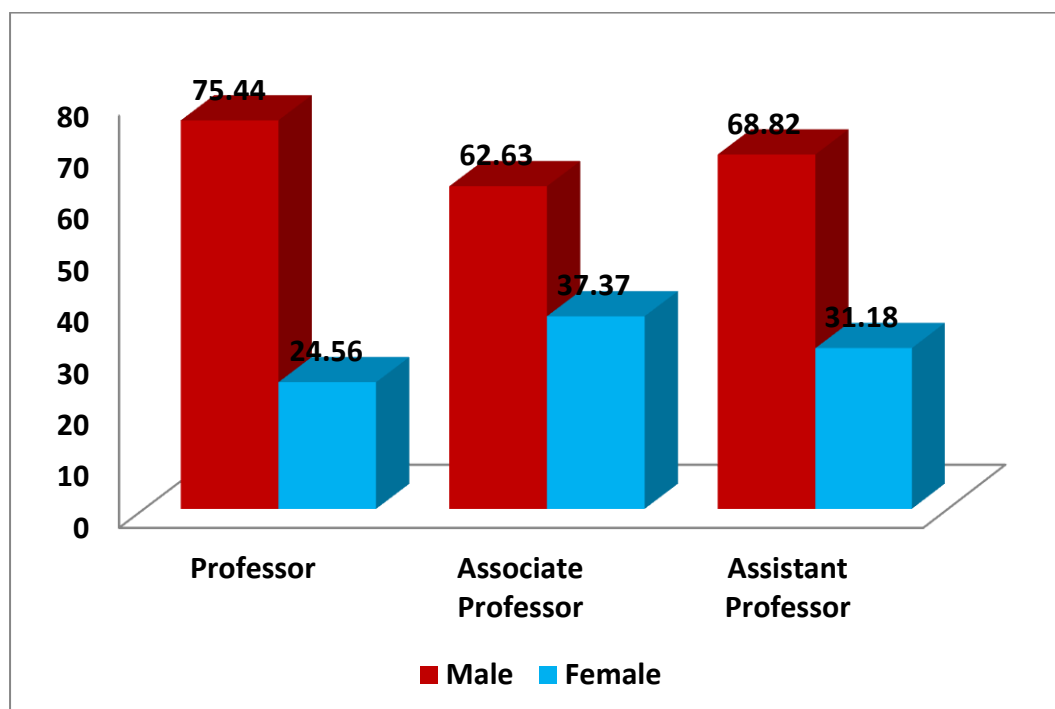
Figure: 1 – Use of Library and Electronic Resources by Faculty Members Gender

Faculty Members with regard to Databases

Table.2 reveals the difference between the faculty members with regard to databases. Out of 560 respondents, 85.71 per cent of data bases at "Adequate" in the library followed by "Inadequate" at 14.29 per cent.

Table: 2 - Faculty Members with regard to Databases

| Designation	No. of Respondents		Total
	Adequate	Inadequate	
Professor	51 (89.47)	6 (10.53)	57 (100.00)
Associate Professor	88 (88.88)	11 (11.12)	99 (100.00)
Assistant Professor	341 (84.40)	63 (15.60)	404 (100.00)
Total	**480 (85.72)**	**80 (14.28)**	**560 (100.00)**

Source: Filed Survey

Note: Figures in parentheses indicate the percentage to total (Row-wise)

It is seen from the table that in Professor Level, Databases at "Adequate" in the college library at 89.47 per cent followed by "Inadequate" at 10.53 per cent. In Associate Professor Level, Databases usage at "Adequate" at the top most level at 88.88 per cent followed by

"Inadequate" at 11.12 per cent.   In Assistant Professor Level, Databases usage at "Adequate" in the college library at 84.40 per cent followed by "Inadequate" 15.60 per cent.

Figure: 2 - Faculty Members with regard to Project ReportsPercentages
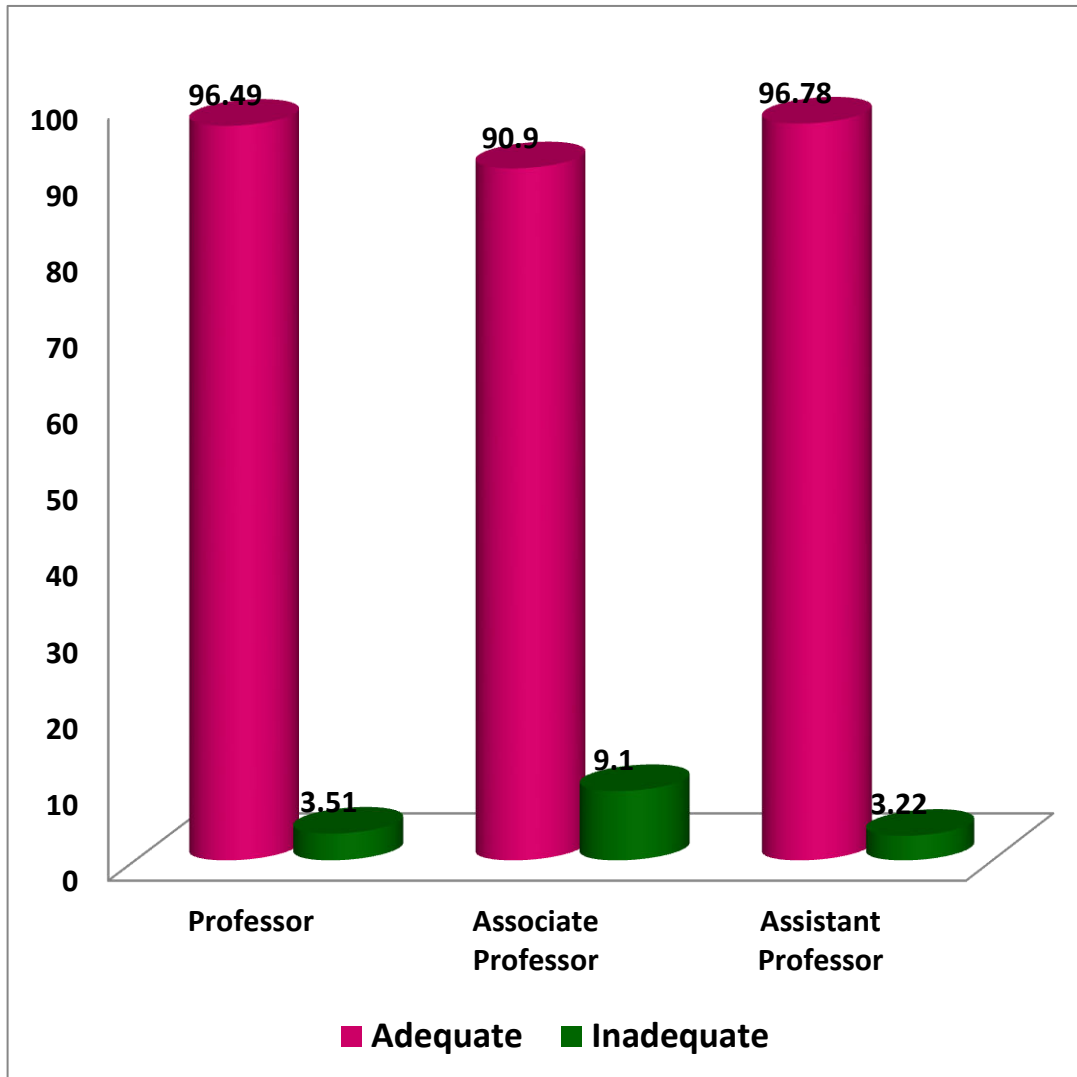
Faculty Members with regard to CD-ROMS / DVDS

Table 3 explains the faculty members adequacy or inadequacy of CD-ROMS / DVDS in engineering college libraries in Tirunelveli district. The table reveals the difference between the faculty members with regard to CD-ROMS/DVDS. Out of 560 respondents, 81.43 per cent of the CD-ROMMS / DVDS at "Adequate" at the top most level followed by "Inadequate" at 18.58 per cent.

Table: 3- Faculty Members with regard to CD-ROMS/DVDS

Designation	No. of Respondents		Total
	Adequate	Inadequate	
Professor	48 (84.21)	9 (15.79)	57 (100.00)
Associate Professor	78 (78.79)	21 (21.21)	99 (100.00)
Assistant Professor	330 (81.69)	74 (18.31)	404 (100.00)
Total	**456 (81.42**)	**104 (18.58**)	**560 (100.00**)

Source: Filed Survey

Note: Figures in parentheses indicate the percentage to total (Row-wise)

It is seen from the table that in Professor Level, CD-ROMS/DVDS usage at "Adequate" at the top most level at 84.21 per cent followed by "Inadequate" at 15.79 per cent. In Associate Professor Level, CD-ROMS/DVDS usage at "Adequate" at the top most level at 78.79 per cent followed by "Inadequate" at 21.21 per cent. In Assistant Professor Level, CD-ROMS/DVDS usage at "Adequate" at the top most level at 81.69 per cent followed by "Inadequate" at 18.31 per cent. It is clearly seen from the above analysis that in all the categories of Professors, Associate Professors and Assistant Professors usage at CD-ROMS/DVDS at "Adequate" which remains more and followed by "Inadequate" at less.

Faculty Members with regard toNon Book Materials

Table.4 shows the difference between the faculty members usage atNon Book Materials. Out of 560 respondents, 85.89 per cent of the non-book materials are "Adequate" at the top most level followed by "Inadequate" at 14.11 per cent.

Table: 4- Faculty Members with regard toNon Book Materials

Designation	No. of Respondents		Total
	Adequate	Inadequate	
Professor	51 (89.47)	6 (10.53)	57 (100.00)
Associate Professor	87 (87.87)	12 (12.13)	99 (100.00)
Assistant Professor	(342) (84.65)	62 (15.35)	404 (100.00)
Total	**481 (85.89**)	**79 (14.11**)	**560 (100.00**)

Source: Filed Survey

Note: Figures in parentheses indicate the percentage to total (Row-wise)

It is seen from the table that in Professor Level, Non Book Materials usage are "Adequate" at the top most level at 89.47 per cent and followed by "Inadequate" at 10.53 per cent. In Associate Professor Level,Non Book Materials usages are "Adequate" at the top most level at 87.87 per cent followed by "Inadequate" at 12.13 per cent.   In Assistant Professor Level, Non Book Materials usages are "Adequate" at the top most level at 84.65 per cent followed by "Inadequate" at 15.35 per cent.

Faculty Members with regard to Search Information from an Internet

Table.5 shows the difference between the faculty members and search information from Internet.Out of 560 respondents, 97.50 per cent of the faculty members search information from internet and 2.50 per cent of the faculty members do not use the internet.

Table: 5- Faculty Members with regard to Search Information

from an Internet

Designation	No. of Respondents		Total
	Using Internet	Not using Internet	
Professor	54 (94.73)	3 (5.27)	57 (100.00)
Associate Professor	99 (100.00)	0 (0.00)	99 (100.00)
Assistant Professor	393 (97.27)	11 (2.73)	404 (100.00)
Total	**546** **(97.50)**	**14** **(2.50)**	**560** **(100.00)**

Source: Filed Survey

Note: Figures in parentheses indicate the percentage to total (Row-wise)

Table 5 shows that in Professor Category, 94.73 per cent of the faculty members are using search information from internet followed by 5.27 per unit of the faculty members do not use internet. In Associate Professor Category, 100 per cent of the faculty members are using the Search Information from Internet.In Assistant Professor Category, 97.27 per cent of the faculty members are using the search information from internet followed by not using the internet at 2.73 per cent. It is clearly seen from the above analysis that in all the categories of professors, Associate professors and Assistant professors are using the search information from Internet at a higher level followed by "Not Using Internet" remains at very low percentage.

Faculty Members with regard to often using the Internet

Table.6 shows the difference between the faculty members and often using the Internet. Out of 560 respondents, 62.14 per cent of the faculty members are using internet "Twice a day" which is at top most level followed by "Daily" using is 23.57 per cent, Thrice a day is 5.71 per cent, Weekly at 3.75 per cent, Monthly using internet at 2.51 per cent and rarely at 2.32 per cent respectively.

Table: 6 - Faculty Members with regard to often using the Internet

Designation	No. of Respondents						Total
	Daily	Twice a day	Thrice a day	Weekly	Monthly	Rarely	
Professor	18 (31.57)	29 (50.87)	3 (5.26)	2 (3.52)	3 (5.26)	2 (3.52)	57 (100.00)
Associate Professor	13 (13.13)	68 (68.68)	3 (3.03)	13 (13.13)	0 (0.00)	2 (2.03)	99 (100.00)
Assistant Professor	87 (21.53)	212 (52.47)	30 (7.42)	59 (14.63)	9 (2.22)	7 (1.73)	404 (100.00)
Total	**132 (23.57)**	**348 (62.14)**	**32 (5.71)**	**21 (3.75)**	**14 (2.51)**	**13 (2.32)**	**560 (100.00)**

Source: Filed Survey

Note: Figures in parentheses indicate the percentage to total (Row-wise)

Table 6 shows that in Professor Level, often using the internet "Twice a day" are at the top most level at 50.87 per cent and followed by "Weekly and Rarely" using the internet at 3.52 per cent. In Associate Professor Level,Often using the Internet "Twice a day which is at top most level at 68.68 per cent and followed by "Rarely" using is 2.03 per cent. In Assistant Professor, Often using the Internet using are "Twice a day" at 52.47 per cent and followed by "rarely" using internet is 1.73 per cent. It is clearly seen from the above analysis that in all the categories of Professors, Associate Professors and Assistant Professors who often using the Internet "Twice a day" which is seen more followed by "rarely" using at less.

Faculty Members with regard toPurpose of Using Internet

Table.7 explains the difference between the faculty members and Purpose of Internet. Out of 560 respondents, 83.75 per cent of the faculty members are using the

"Communications" followed by the purpose of the internet "To Collect Notes" at 4.28 per cent, "To Entertainments" 3.57 per cent, "To Download e resources" 3.23 per cent and others 2.85 per cent and "To Prepare articles" 2.32 per cent respectively.

Table: 7 - Difference between the Faculty Members with regard to Purpose of Using Internet

Designation	No. of Respondents						Total
	Communications	To Collect Notes	To Entertainments	To Prepare articles	To Download e resources	Others	
Professor	44 (77.19)	5 (8.77)	2 (3.53)	1 (1.75)	1 (1.75)	4 (7.01)	57 (100.00)
Associate Professor	87 (87.87)	1 (1.01)	4 (4.05)	3 (3.03)	1 (1.01)	3 (3.03)	99 (100.00)
Assistant Professor	338 (83.66)	18 (4.45)	14 (3.49)	9 (2.22)	16 (3.96)	9 (2.22)	404 (100.00)
Total	**469** (**83.75**)	**24** (**4.28**)	**20** (**3.57**)	**13** (**2.32**)	**18** (**3.23**)	**16** (**2.85**)	**560** (**100.00**)

Source: Filed Survey

Note: Figures in parentheses indicate the percentage to total (Row-wise)

It is seen from the table that in Professor category, 77.19 per cent of the faculty members are for the Purpose of Internet using for "Communications" followed by the purpose of the internet "To Download e resources" and "To Prepare articles" are 1.75 per cent. In Associate Professor category, Purpose of Internet using for "Communications" at 87.87 per cent followed by "To Collect Notes" and "To Download e resources" at 1.01 per cent. In Assistant Professor category, Purpose of Internet using for "Communications" at 83.66 per cent followed by "To Prepare articles" and "others" at 2.22 per cent respectively. It is clearly seen from the above analysis that in all the categories of Professors, Associate Professors and Assistant Professors, the Purpose of Internet using for "Communications" are seen more followed by "To Prepare articles".

Faculty Members with regard toUse of E-Resources Change the InformationSeeking Pattern

Table.8reveals the difference between the faculty memberswith regard to use of e-resources change the information seeking pattern. Out of 560 respondents, e-resources change in information seeking pattern at 81.07 per cent followed by 18.93 per cent of the faculty members are using the E-resources.

Table 8 - Faculty Members with regard to Use of E-resources Change the Information Seeking Pattern

Designation	No. of Respondents		Total
	Using	Not using	
Professor	45 (78.95)	12 (21.05)	57 (100.00)
Associate Professor	58 (58.58)	41 (41.42)	99 (100.00)
Assistant Professor	317 (78.46)	87 (21.54)	404 (100.00)
Total	**454** **(81.07)**	**106** **(18.93)**	**560** **(100.00)**

Source: Filed Survey

Note: Figures in parentheses indicate the percentage to total (Row-wise)

The table 8 shows that in Professor category, use of E- resources Change the Information Seeking Pattern usage at the top most level at 78.95 per cent followed by not using at 21.05 per cent. In Associate Professor category, use of e-resources change in information seeking pattern using at 58.58 per cent and followed by not using at 41.42 per cent. In Assistant Professor category, use of e-resources change in information Seeking pattern using at 78.46 per cent more followed by not using at 21.54 per cent. It is clearly seen from the above analysis that in all the categories of Professors, Associate Professors and Assistant Professors are used the e- resources change in information seeking pattern usage remains more

Faculty Members with regard to Use of Electronic Resources

Scholarly communication is significantly affected by the instantaneous development in communication technologies. Information can be communicated vastly without geographical barriers, in turn saves the time. Libraries are changing with expeditious change in information technology and academic community pattern. Libraries are introducing the information technology in information processing thus brought new products and services. Table 5.48 explain the faculty members and use of electronic resources.

Table: 9 Faculty Members with regard toUse of Electronic Resources

Designation	No. of Respondents							Total
	IEEE	J-GATE	Elsevier	ASME	ASCE	DELNET	Others	
Professor	48 (84.22)	1 (1.75)	0 (0.00)	0 (0.00)	0 (0.00)	8 (14.03)	0 (0.00)	57 (100.00)
Associate Professor	79 (79.79)	2 (2.03)	1 (1.01)	1 (1.01)	1 (1.01)	12 (12.12)	3 (3.03)	99 (100.00)
Assistant Professor	321 (79.47)	5 (1.23)	5 (1.23)	7 (1.73)	6 (1.48)	57 (14.12)	3 (0.74)	404 (100.00)
Total	**448 (80)**	**8 (1.44)**	**6 (1.07)**	**8 (1.42)**	**7 (1.25)**	**77 (13.75)**	**6 (1.07)**	**560 (100.00)**

Source: Filed Survey

Note: Figures in parentheses indicate the percentage to total (Row-wise)

Table.9 shows the difference between the faculty members and use of electronic resources. Out of 560 respondents, 23.57 per cent of the faculty members are using the electronic resources are "Access online resources" and followed by "IEEE" is 80 per cent DELNET at 17.50 per cent, Elsevier and others at 1.07 per cent, J-GATE and ASME at 1.42 per cent and ASCE at 1.25 per cent respectively. It is seen from the table, in Professor Category, at 84.22 per cent of the faculty members are using of Electronic resources in "IEEE" in the top most level and followed by J-GATE is 1.75 per cent. In Associate Professor Category, 79.79 per cent of the faculty members are using electronic resources in "IEEE" and "Writing Journals" at the top most level followed by Elsevier, ASME and ASCE are 1.01 per cent respectively. In Assistant Professor Category, 79.75 per cent of the faculty members are using the electronic resources of "IEEE" at top most and level followed by "Research work" and "others "are 0.74 per cent. It is clearly seen from the above analysis that in all the categories of Professors, Associate Professors and Assistant Professors in the purpose of use of electronic resources are "IEEE" which is seen more followed by "ASCE" at very less.

 Value and Importance of the Electronic Reference Services

The study has been further extended to respondent category for the Value/ importance of the electronic reference services by the users in engineering college s library. The mean, standard deviation and their rank for the Value/ importance of the electronic reference services have been calculated and it is shown in the table 10

Table: 10 - Value and Importance of the Electronic Reference Services

Description	Professors			Associate Professor			Assistant Professor			Chi-Square
	X	Std. Dev.	R	X	Std.Dev.	R	X	Std. Dev	R	
E-mail Reference	4.66	1.114	1	4.49	0.992	1	4.64	0.984	1	18.354
Web forms	4.32	0.987	2	4.29	0.869	3	4.19	0.874	4	7.864
Ask-A Librarian Service	4.09	0.864	5	3.88	0.779	5	4.02	0.774	5	23.458
Online Chat Reference	4.24	0.810	3	4.19	0.987	4	4.39	0.969	3	15.814
Social Media	4.18	0.926	4	4.34	0.948	2	4.58	0.951	2	17.648

Source : Field Survey.

Note   : M-Mean, SD-Standard Deviation, R-Rank, df. 8, Table Value - 15.507.

It can be analysed from Table 10 shows that the respondents in the category of 'Professors' have given first priority for the electronic reference services of 'E-mail Reference'. 'web forms' and 'Online Chat Reference' are the second and third preferences given by the respondents. The least preference was given for the type of 'Ask-A Librarian Service'. The mean value of all the variables ranges between 4.09 and 4.66. It can be inferred that all the five variables lies between 'Important' and 'Very Important'. The standard deviation of opinion ranges between 0.810 and 1.114.

The respondents in the category of 'Associate Professors' have given first priority for the electronic reference services of 'E-mail Reference'. 'Social Media' and 'Web forms' are the second and third preferences given by the respondents. The least preference was given for the type of 'Ask-A Librarian Service'. The mean value of all the variables ranges between 3.88 and 4.49. It can be inferred that all the five variables lies between 'Important' and 'Very Important'. The standard deviation of opinion ranges between 0.779 and 0.992.

The respondents in the category of 'Assistant Professors' have given first priority for the electronic reference services of 'E-mail Reference'. 'Social Media' and 'Online Chat Reference are the second and third preferences given by the respondents. The least preference was given for the type of 'Ask-A Librarian Service'. The mean value of all the variables ranges between 4.02 and 4.64. It can be inferred that all the five variables lies between 'Important' and 'Very Important'. The standard deviation of opinion ranges between 0.774 and 0.984.

Further, Chi square has been administered to identify the significance. The calculated value has been shown in table 10. The table value is 15.507 at 5% level of significance, the calculated value of most of the variables were higher than the table value which indicated the variables are significant in their opinion between the respondent categories towards the value/ importance of the electronic reference services by the users except the variable of 'Web forms'.

Therefore the hypothesis namely "There is no significance difference between the respondent categories towards the value/ importance of the electronic reference services by the users" is invalid and rejected towards the E-mail reference, Ask-A librarian service, online chat reference and social media. Hence, there is a significance difference between the respondent categories towards the value/ importance of the electronic reference services by the users.

Findings :

- ➢ From the survey, 90.17 per cent of the respondents the usage of the resource materials are "Adequate" at the top most level followed by "Inadequate" at 9.83per cent.
- ➢ The findings of the study related to the faculty members with regard to project reports are "Adequate" at the top most level at 95.72 per cent followed by "Inadequate" at 4.28 per cent.
- ➢ From the survey, 88.75 per cent of the respondent's usages of resource materials are "Adequate" at the top most level followed by "Inadequate" at 11.25 per cent.
- ➢ The findings of the study related to the faculty members with regard to database resource materials are "Adequate" at the top most level at 85.72 per cent followed by "Inadequate" at 14.28 per cent.
- ➢ From the survey, 81.42 per cent of the respondents usage of CD-ROMs/DVDs are "Adequate" at the top most level followed by "Inadequate" at 18.58 per cent.at 98.57 per cent and followed by "Inadequate" at 1.43 per cent.
- ➢ 38. The finding of the study related to the faculty members with regard to search information from internet are "Adequate" at the top most level at 97.50 per cent followed by "Inadequate" at 2.50 per cent.
- ➢ From the survey, the faculty members with regard to often using the internet in "Twice a day" (62.14%) and followed by "Daily" (23.57%), "Thrice a day"(5.71%), "Weekly" (3.75%), "Monthly" (2.51%) and rarely (2.32%).
- ➢ The finding of the study related to the faculty members with regard to be spent no time using internet is "1 Hour – 2 Hours" at (43.03%) and followed by 1 Hour(34.82%), 2 Hours – 3 Hours (13.23%) and more than 3 Hours (8.92%).
- ➢ From the survey, out of 560 respondents (83.75%) respondents are using the purpose of internet in "Communications" followed by "To collect notes"(4.28%), "To entertainments" (3.57%) ,"To download e resources" (3.21%),others are (2.85%) and "To prepare articles" (2.32%).
- ➢ The study reveals that the related to the faculty members with regard to use of E-resources change an information seeking pattern is 81.07 per cent and followed by "not use of E-resource" at 18.93 per cent.
- ➢ The study shows that the respondents in the category of 'Professors' have given first priority for the electronic reference services of 'E-mail Reference', 'Webforms' and 'Online Chat Reference' are the second and third preferences given bythe respondents. The least preference was given for the type of 'Ask –A Librarian Services'. The mean value of all the variables ranges between 4.09 and4.66.It can be inferred that all the five variables lies between 'Important' and 'Very Important'. The standard deviation of opinion ranges between 0.810 and1.114.
- ➢ The respondents in the category of 'Associate Professors' have given first priority for the electronic reference service of 'E-mail Reference'. 'Social Media 'and 'Web forms' are the second and third preferences given by the respondents. The least preference was given for the type of 'Ask-A Librarian Service'. The mean value of all

the variables ranges between 3.88 and 4.49. It can be inferred that all the five variables lies between 'Important' and 'Very Important'. The standard deviation of opinion ranges between 0.779 and 0.992.

➢ The respondents in the category of 'Assistant Professors' have given first priority for the electronic reference services of 'E-mail Reference'. 'Social Media' and 'Online Chat Reference' are the second and third preferences given by the respondent. The least preference was given for the type of 'Ask-A Librarian Service'. The mean value of all the variables ranges between 4.02 and 4.64. It can be inferred that all the five variables lies between 'Important' and 'Very Important'. The standard deviation of opinion ranges between 0.774 and 0.984.

➢ The finding of the study, use of electronic resources are "Access online resources" at (23.57%) followed by "IEEE" (80%) followed by DELNET(17.50%), Elsevier and others (1.07%), J-GATE and ASME (1.42%) and ASCE is1.25 per cent.

Conclusion:

The university libraries have adopted all the new Information and Communication technologies and electronic resources are efficiently used by the academic faculties. Most of the institutions are provided with the advanced technologies in the departments which make the effective teaching and research usage. Now, the government has initiatives to take several steps to improve the digital library infrastructure. The information seeking pattern in library by faculties of engineering colleges in Tirunelveli district used for the purpose of the easiest accessibility and its relevancy.The user satisfaction is the most important in measuring the quantitative and qualitative strategy to each and every library e resources and e services. Academic libraries are providing resources and services using technologies and tools to maximise the user satisfaction. In these circumstances, library professionals must extract e-resources and e-services among the end users. E-resources and digitization techniques and other resources by e-services to attain the entire satisfaction of academic and research communities. The electronic resources as well as the digital resources are more important for the academic and research activities hence, efforts should be made to develop and extract the access modes to the end users. Presently, all are living in a digital and paperless society. Hence, there is a need to increase the web based services in library activities. So that, this study concluded that the awareness and satisfaction of library e-resources and e-services facilities are more satisfactory. The engineering college should concentrate on resources as well as services like colleges in western countries. So, the authority of institutions should provide more priorities to develop infrastructural facilities in such libraries.

Bibliography :

1. Ali, N. (2005). Use of electronic resources at IIT Delhi library: a study of research behaviors. Electronic library, 23(6), 691-700.

2. Akinola, Sarah, F. (2009). Information seeking Behaviour of lecturers in Faculties of Education in Obafemi Awolowo University, Ile Ife and University of Ibadan,Samaru Journal of Information Studies,.9 (2),23-32.

3. Bajpai, Ekta. (2014).Use of E-Resources by Faculty Members and ResearchScholars in Indian Institute of Technology, Kanpur. Journal of Advances in Library and Information Science, 3(3), 169-178.

4. Dhanavandan, S. (2012). Use of electronic resources at Krishnasamy College of Engineering and Technology Library. Cuddalore, 26 (3), 369-386.

5. Murugan, K. (2015).Utilization of E- Resources by Faculty and Students of Universal College of Engineering and Technology, Vallioor, Tamil Nadu: A Study.Journal of Advances in Library and Information Science, Vol. 4. No.1, pp. 73-76

6. Kumar, Anil. (2013). Use of e-journals in the disciplines of life science in K.U.K:an analytical study. IJRCM, 3(10).

7. Shreedhar, S. (2016). Use of E-Journals by Bio-Science Students at Kuvempu University: A Study. International Journal of Academic Library and Information Science, 4(6), 148-153.

8. Rogers, S.A. (2001). Electronic journal usage at Ohio State University. College and Research libraries, 62(1), 25-34.

9. Tawfeeq Nazir. (2015). Use and adequacy of e-resources by the research scholarsand students of the University of Kashmir in Science and Social science faculties: Acase study. Brazilian Journal of Information Science, 9(1).

10.Xiaoying Dong. (2003). Searching Information and Evaluation of Internet: AChinese Academic User Survey, International Information and Library Review,35(2-4), 163-187.

11. Zhang, W. (1998). Analyzing faculty and staff's information needs and use ofelectronic technologies: A liberal arts college's experience. Journal of Education Media and Library Sciences, 35(3), 218-241.

12. Zhang, Yin. (2001). Scholarly Use of Internet-based Electronic Resources. Journa lof the American society for Information Science and Technology, 52 (8), 628-664.

13. Dalgleish, A & Hall, R. (2000).Uses and Perceptions of the World Wide Web inInformation - seeking environment. Journal of Librarianship and Information

14. Elavazhagan, K and Udayakumar, M. S. (2013). Use of e-resources in the BITS,Pilani Hyderabad Campus: A study. International Research: Journal of Library &Information Science, 3(3), 470-479.

15. Eyaufe, O, Golley, J and Brume-Ezewu, S. (2013). Awareness and Use of e-journals by Medical Students of Delta State University, Abraka (DELSU) and University of Benin, Benin City (UNIBEN) in Nigeria. Journal of Research in Education and Society, 4(3), 46-53.

16.Eyaufe, O, Golley, J and Brume-Ezewu, S. (2013). Awareness and Use of ejournalsby Medical Students of Delta State University, Abraka (DELSU) andUniversity of Benin, BeninCity (UNIBEN) in Nigeria. Journal of Research in Education and Society, 4(3), 46-53.

17. Jayanthi, G and Saravanan.T. (2013). Utilization of Electronic Resources by the Students of Engineering Colleges in Kanchipuram District: A Study. Journal of Advances in Library and Information Science, 2(4), 209-213.

18. Jia Tina Du and Niña Evans. (2011).Academic Users' Information Searching on Research Topics: Characteristics of Research Tasks and Search Strategies. The Journal of Academic Librarianship, 37(4), 299-306

19. Sandra L. De Groote and Josephine. (2003). Measuring use patterns of online journals and databases, Journal of Medical Library Association, 91(2), 231–241.

20. Sunil Bhatt and Madan Singh Rana. (2011). E-information usage among engineering academics in India with special reference to Rajasthan State", LibraryHi Tech, 29(3), 496 – 511.

21.Amjid Khan, Rubina Bhatti and Asad Khan. (2016). E-books usage by agricultural ,engineering, and social science students in selected universities of Pakistan: an empirical assessment. The Electronic Library, 34(6).

22.Gangadhar K.C., Ningappa, Yekanath and Nagaraja A.N. (2012). Open Access E-Resources in Engineering and Technology. International Journal of Professional Development, 1(1), 46-58.

23.Hanauer D, Dibble E, Fortin, J and Col, NF. (2004). Internet use among community college students: Implications in designing healthcare interventions. Journal of American College Health,52(5), 197-202.

24. Okon E. Ani, Patrick Ngulube and Bosire Onyancha (2014).Accessibility and Utilization of Electronic Information Resources for Research by Academic Staff at Selected Nigerian Universities Between 2005 and 2012, International Information &Library Review, 46:1-2, 51-60.

25.Zhang, Xiangmin, Anghelescu, Hermina G. B, Yuan & Xiaojun.(2005).Domain Knowledge, Search Behaviour, and Search Effectiveness of Engineering and Science Students: An Exploratory Study, Information Research: An International Electronic Journal, 10 (2) .