Assessing User Behavior on Accessing Digital Resources among Engineering Colleges: A Study

K. Poongodi[1] and R. Sarangapani[2]
[1]Research Scholar, [2]Professor & Head,
Department of Library and Information Science,
Bharathiar University, Coimbatore, Tamil Nadu , India.
E.mail:poosivakumar@gmail.com

Abstract - **This paper analyses and evaluate the methods and instruments for user behavior on accessing digital resources and the facilities, available e-resources of the library. In addition user expectation and their preferences are also discussed. The parameters of the problem are analyzed and explained using five-point scale. Statistical package for Social Sciences was used to find the results. Discussions were made to interpret the results.**
Keywords: **Digital library, E- Resources, Five-Point Scale, Assessment, User Behavior**

I. INTRODUCTION

The development of information communication technology leads libraries to become digitized. Again storage of print materials and maintenance were another problem. These issues pushed institutions to go with digital resources. E-resources, a new format of materials are adopted in libraries for maintaining their resources to overcome the problems on using print books such as storage and cost. There were already a number of studies conducted to know the students and faculty members attitudes on e-resources and results in awareness on e-resources was very less to users. Only few studies said that the libraries are still need to understand the actual usability of e-resources. It denotes there must be a user-centered approach to improve e-resources and their use and adoption in academic libraries. Digital materials can access from out of library area, if physical library is not open and it is easy to maintain and save space.

For the past decades many researchers have done their research on electronic resources and how people feel about the digital and print resources of library. Those researches explain many things about the behavior, preferences and expectations of the users, of course sometimes there may be not a clear decision on findings. Using these findings library professionals able to use the information and the inferences. Sometimes it may be difficult to get a conclusion out of plenty of studies somewhat contradictory and which one is good and real findings.

Here the goal of the study was conducted to better understand and find out the challenges faced by the students and staffs by adopting technology, their library

Facilities, especially in engineering colleges and the librarians can use to make important decisions about the development of collection, services and product design.

A. Statement of the Problem

Though all type of libraries ready to accept digital library but many academic institutions don't have digitized materials. Providing digital resources to all staffs and students is because to connect the knowledge and digital services between developed and developing countries, which leads to the development in the resource sharing. This study may help to know that the all engineering colleges in Kanchipuram having digital library, how the users of library i.e. students, staffs, research scholars access the digital library collection, how they assess the resources, does the facilities available in their library are good and how the users assess the services provided by their library.

II. OBJECTIVES

1. To know the user behaviour on accessing digital resources.
2. To know the digital library collection of engineering colleges.
3. To know the facilities available in library.
4. To know how the users assessing e-resources.

III. REVIEW OF LITERATURE

Melone (1990), tried to know the issues on measuring effectiveness and he find out that only user satisfaction is not enough to know assessing effectiveness. It plays in the conversion of input to output. He reviewed in his paper that arguments and information, actions and intentions are the components of attitude. In most of the user satisfaction research attitudes are consider to be more difficult than theorized. The research design of user satisfaction studies itself doesn't recognize the fact that attitudes form and they change in some cases. Finally, he concludes that attitudes influence behaviour.

Justina, Omekwu & Chidinma (2016) conducted a detailed studying MTN library to find out the user perceptions of the library facilities and he found that the users are very

satisfied with the library building facilities like furniture, ventilation and lightning etc, and the users express their dissatisfaction with the storage space, instruction and notice boards and toilet facilities. Of course user having awareness on web and search engines for their research but less aware about online indexes and abstracts and online databases. But comparing with other services online internet search services were supposed to provide at higher extent. At last the facilities, services, collections are generally satisfactory to the users.

Saracevic.T, (2004) tried to analyse the data by evaluating with some parameters like construct, context, criteria and methods used for evaluation. He extends his study based on evaluation and said that evaluation is not growing activity in digital libraries and in fact it is visible by it's absent in both research and practice, and it seems to be an exception only. But in Institutional repository evaluation is rule. It seems that those doing evaluation had no visible impact, evaluation theorists and evaluation practitioners do not communicate well. He extends his study by applying some parameters like Complexity, Premature, Interest, Funding, Culture and Cynical. Evaluation of Digital libraries is based upon assessing transformation of their context and it enhance changes in society.

Valta& Lepisto (2007)evaluated digital resources on five-point scale based on four collection criteria which are disciplines, comprehensiveness, teaching and usability and scores collect separated for e-journals, e-books, databases etc.. Here they used star rating system for analysing the rank. Five star indicate the highest and the star rating system is easy to know the exact status of digital resources. And this system support research and teaching by identifying digital resources.

Zhang, Xi & Marlenn (2017) did a study on assessing e-book and readers to find out the user experience. They found that the e-books are mainly used as extract information they need, there is no more than 30 minutes reading sessions and the users read maximum 5pages and user read complete book was rare, the users were browsing e-books to see their relevant data. The selective pattern of reading was followed, i.e. reading certain pages, some chapters of book, it shows that the users were clear on their information need; they won't read more and collect complete data, but very exact chapters and papers only.

The study further deals with the experience level of user's ability to search for information and e-books and their awareness on various databases and e-books. The study reveals the difference between the beginners and the experienced in e-book readers. Beginners of e-books reader trust on search functions only while experienced were more aware of tables, charts, figures and index. They extended their research the users perception on digital and print books.

IV. DIGITAL LIBRARIES AND ITS SERVICES

Digital library is which having all the documents in format, it started to dominate current generation. Borgman, (1999) used many terms like electronic library, virtual library, gateway library, library of the future, library without walls are used. Bishop et al., (2000) defined digital library as same. Smith (2001) explained digital library as an organized collection of all form of information sources in digital format which can be access, retrieve and select, create, organize, maintain and share. Smith defined digital libraries main objective is on document collection and digitization, he implies the reality that digital libraries are more chance of digital materials by retaining several qualities like user community, focus on collections, long-term availability, possibility of selecting, organizing, preserving and sharing resources of traditional libraries.

Slovney said in 2004 that all kind of libraries including private, public and government agencies and academic institutions have realised that digital libraries are accepted by users and started to use it rapidly. Adams & Blandford (2006) said that one would agree that serving its users is the main aim of a digital library. Digital libraries are used in many ways and to support a mass of user who needs information working in different disciplines such as research, academic, business. Fuhr et al, (2007) said that there are many reasons to develop digital library. When a digital library is designed the starting point proposed usage and the end user. Kesavan (2009) identified some reasons like to develop users access, to encourage the ideas for research, to encourage productivity, to provide higher capacity to maintain the information, to preserve the collections, to develop e-learning, to save time of the users by offering constant access, time flexibility, to develop online research, to provide good service to the users, to make users access simultaneously.

According to Gladney (2009) a digital library services is a collection of computing, storage, machinery worked together to provide information which was collected, stored with the help of software need to recollect, imitate and extend the services to user in the digital form. According to Buckland (2000) digital library services are a kind of service that are delivered through networks. A higher scholarly communication, a development in the field of information science, new role of databases, shared cataloguing, computer networking within library society, online public access, abstracting and indexing services were provided by digital library.

According to Covey (2002) users need privacy and they expect flexible online environment, they need the information and services at any one time. For this he extends his theory with two points, first one is Users want continuous flow of collections and services, irrespective of where, by whom, in what format they managed and the second one is libraries should consider positioning of user-data technologies which was enable users to organize a

networked atmosphere that fulfil their individual needs. According to Hernon and Altman (2006) highlighted excellence, value, conformance of specifications and meeting and exceeding the expectations of library users as the four features of quality services. Knowing library user needs is the best initiation on providing excellent library services.

Devadason and Lingam (2006) introduced information needs identifier (INI) to know the users having various discipline's expectation on information they need. To implement information needs identifier first have to do a detail study of a subject of interest to the organization, then study of the organization and its environment, study of the immediate environment of the clients, study of the clients i.e. user, a formal meeting with user, identification and recording of user expectation and finally analyse with the findings. If you know all these needs would help to give quality library services.

V. METHODOLOGY

Survey method was adopted for data collection. A well-structured questionnaire with five-point scale was prepared for this study. This five-point scale is very useful to find out the level of various issues. Here highly satisfied to highly dissatisfy were used to assess five-point scale from 1 to 5.This pilot study carried out in and around the engineering colleges of Kanchipuram town.Totally 75 questionnaires were distributed, out of them 67 represents (89.3%) were received from the respondents of the library. The collected data from this study was organized and analysed using SPSS.

VI. DATA ANALYSIS AND INTERPRETATION

TABLE 1 AGE OF THE RESPONDENTS

Age	Frequency	Percent	Cumulative Percent
18-25	41	61.2	61.2
26-30	10	14.9	76.1
31-35	7	10.4	86.6
36-40	5	7.5	94.0
40 and above	4	6.0	100.0
Total	67	100.0	

The table 1 represents the age group of respondents. 61.2% respondents are falls in 18-25yrs, followed by 14.9% respondents are 26to 30 yrs. And 10.4% respondents are 31-35age group. Only 7.5% and 6.00% respondents are from 36-40 and above 40 age group respectively.

Table 2 deals with distribution of respondents. The data were collected from faculty and students. Among the category 38.8% of respondents were faculty and 61.2% of respondents were students. 50.7% respondents were male

and 49.3% female users. The respondents were 52.2% were qualified with M.E followed by 29.9% were B.E qualification, M.Sc. and Ph.D. qualified respondents are 7.5% and 10.4%.

TABLE 2 RESPONDENTS DISTRIBUTION

Variables	Frequency	Percentage
Category		
Faculty	26	38.8
Students	41	61.2
Gender		
Male	34	50.7
Female	33	49.3
Educational qualification		
B.E	20	29.9
M.E	35	52.2
M.Sc.	5	7.5
Ph.D	7	10.4

TABLE 3 FREQUENCY OF VISIT

Variables	Frequency	Percentage
Regular visits to Library		
Yes	55	82.1
No	12	17.9
Time Spent		
Half an Hour	41	61.2
One Hour	14	20.9
More than one Hour	2	3.0
Preferred format of the source		
Print	43	64.2
Digtial	23	34.3
Both	1	1.5

Table 3 explains the Frequency of library visits, 82.1% of users are regularly visits to library. It indicates that majority of the respondents (61.2%) were spent half an hour, followed by 20.9% were spent one hour and only 3.0% were spent more than one hour in their library. However, most of the respondents (64.2%) were preferred print format only. The digital resource preference is comparatively less than with print resources.

TABLE 4 RESPONDENT'S LIBRARY DIGITIZED OR NOT?

		Frequency	Percent	Cumulative Percent
Valid	Yes	17	25.4	25.4
	No	50	74.6	100.0
	Total	67	100.0	

The above table represents the respondent's library were digitized or not. 25.4% were said that their library was completely digitized and 74.5% were said that their library was not digitized. It reveals that there are many libraries still not digitized.

Table 5 shows whether the respondents are satisfied with the digital library collection. 22.4 % of respondents were satisfied with their library collection and 62.7% of respondents were not satisfied with their library collection and 14.9% were neither satisfied not dissatisfied with their library collections.

TABLE 5 ARE YOU SATISFIED WITH THE DIGITAL LIBRARY COLLECTION?

	Frequency	Percent	Cumulative Percent
Yes	15	22.4	22.4
No	42	62.7	85.1
May be	10	14.9	100.0
Total	67	100.0	

TABLE 6 DIGITAL LIBRARY COLLECTION OF THE RESPONDENTS

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
DVD/VCD	67	3.24	1.169	-.191	.293	-.816	.578
OPAC	67	3.45	1.049	-.345	.293	-.593	.578
e-MAGAZINE	67	3.46	1.105	-.250	.293	-1.094	.578
e-DAILIES	67	3.48	1.119	-.443	.293	-.634	.578
E- BOOKS	67	3.57	1.131	-.366	.293	-.820	.578
INSTITUTIONAL REPOSITORY	67	3.61	.999	-.553	.293	-.012	.578
E-JOURNALS	67	3.61	1.100	-.434	.293	-.620	.578
VALID N (LIST WISE)	67						

With reference to the digital collection of the library, the above table indicates that the respondents were highly satisfied with the E-Journals with the standard deviation value of 1.10, closely followed by Institutional repository with the mean value of 3.61 and E-books with the mean value of 3.57. However, the respondents are marginally satisfied with the e-dailies with the mean value of 3.48, e-magazine with the mean value of 3.46, and OPAC with the mean value of 3.45. The respondents are least satisfied with DVD/VCD collections at the mean value of 3.24.

TABLE 7 INDICATES LIBRARY FACILITIES FOR DIGITAL RESOURCES

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Time limit to access digital library	67	3.64	.949	-.203	.293	-.821	.578
High Speed Internet Connectivity	67	3.58	1.130	-.210	.293	-1.339	.578
Number of Computer systems in the library	67	3.54	1.146	-.188	.293	-1.398	.578
Wifi Connectivity	67	3.46	1.146	-.061	.293	-1.432	.578
Valid N (listwise)	67						

With the reference to the facilities of the library for digital resources, the above table indicates that the users were highly satisfied with the time limit to access digital library with the mean value of 3.64, closely followed by high speed internet facility with the mean value of 3.58. However, the respondents are marginally satisfied with the number of computer systems in the library with the mean value of 3.54 and respondents were least satisfied with wifi connectivity with the mean value of 3.46.

TABLE 8 ASSESSING E-RESOURCES

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
How easy it is to download and print e-books?	67	3.58	1.233	-.495	.293	-.629	.578
Finding E-books via the library website is	66	3.56	1.178	-.295	.295	-.811	.582
Is it easy to read e-books for you?	67	3.48	1.235	-.345	.293	-.789	.578
Is it easy to search an digitized materials what you need?	67	3.45	1.210	-.086	.293	-1.029	.578
Valid N (listwise)	66						

With the reference to the e-resources of the library, the above table represents that the respondents felt very easy to download and print e-books with the mean value of 3.58, closely followed by finding e-books via library website with the mean value of 3.56. However the users were felt somewhat easy to read e-books with the mean value of 3.48 and the respondents felt very difficult to search an digitized materials what they need with the mean value of 3.45.

TABLE 9 ABOUT LIBRARY STAFF

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Time manner of the library staff	67	3.10	1.116	.462	.293	-1.215	.578
Interest on giving information about the needs	67	2.85	.957	.735	.293	-.643	.578
Quality of Service Provided by library staff	67	2.82	.999	.937	.293	-.306	.578
Staff's behavior to students	67	2.75	.823	.844	.293	-.028	.578
Library Staff Approach	67	2.73	.978	1.171	.293	.260	.578
Valid N (listwise)	67						

With the reference to the library staff attitude, the above table represents that the respondents were highly satisfied with the time manner of the library staff with the mean value of 3.10, closely followed by the interest on giving information about the needs. However, the respondents were marginally satisfied with the quality of service provided by library staff with the mean value of 2.82 and staff's behaviour to the students with the mean value of 2.75. The respondents were highly dissatisfied with library staff approach with the mean value of 2.73.

VII. DISCUSSIONS AND FINDINGS

A. The satisfaction level of the digital library collections

From this study it was find that the users were interested in accepting the technology as well as gaining knowledge by accessing e-resources. The study found that users were generally satisfied with their library digital collections like e-books, e-journals, institutional repositories, e-magazines and e-dailies. At the same the study observed that the respondents are least satisfied with library OPAC and DVD/CDs. This study recommending that, the engineering colleges should improve their audio visual collections as like print materials and make the OPAC should be in user friendly.

B. The satisfaction level on the facilities

Results of this survey revealed that the respondents were highly satisfied with the time limit to access digital library, respondents were satisfied with high speed internet connectivity. However, the respondents show their dissatisfaction level on wifi connectivity and they expecting more number of computers need to be placed in the library. About the Wifi connectivity in library premises. This study recommending that, it's good for library culture. If wifi connection will provide in library premises, its affect users reading habits and library culture too.

C. Assessing on accessing e-resources

The study reveals that the users felt very easy to download and print e-books, the respondents felt easy to finding e-books through library website, the users felt difficult to read e-books because some may felt irritation on their eyes, head-ache by seeing monitor continuously and the respondents felt very difficult to search a digitized material whatever they need, because the information overload, sometimes other website may open which is not relevant makes users felt very difficult.

D. About Library Staff

Based on the survey the respondents felt highly satisfied with the time manner of the library staff, the users shows their satisfaction level on interest on giving information about the user's need, somewhat they showed their dissatisfaction level quality of service provided by library staff, staff's behaviour to the students and at last they felt highly dissatisfied on approach of the library staff.

VIII. CONCLUSION

This study has serious implication for libraries of engineering colleges in Kanchipuram don't have the knowledge on using digital libraries. But the user's shows their interest in accessing e-resources, with their own interest the users learn how to access digitized materials. With the minimum facilities of internet and wifi, the users expecting more e-resources and digital collections to access at any time. While using e-books many users may felt difficult to read, Reading physical book may gave some satisfaction to readers and they believe that nothing can replace a physical book. An information is more valid when it gets at right time, so the users' expect the library staff should be more interest on giving the information about their needs and approach must be good.

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