Access and Use of Internet by The Students' Community: A Case Study of College of Engineering, Kallooppara, Pathanamthitta, Kerala State

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Abstract *- The present study deals with use of interne by the engineering college students for which the students from College of Engineering, Kallooppara, Pathanamthitta, Kerala are selected. The main objectives are to identify the use of internet services and resources by the students, to know the level of satisfaction, check the impact of the use of internet on the academic efficiency of the students and problems that are faced by the students while accessing and using internet. Survey method with questionnaire and observation was used to collect the data to be analysed. 98.45% of the total population of the college responded to the questionnaire and among the respondents 98.77% use the internet. Since the response rate is high and also a vast majority of them use the internet the study is reliable and revealing. It brings to light the impact of internet over the students undergoing technical education. This also point out the betterment of the facilities and resources provided by the college.*

Introduction

Internet is an unavoidable part of human life. In the academic era, it has got wider and deeper roots in the creation, processing, and dissemination of information and knowledge. One no longer needs to put a lot of effort to find information since the internet has made it available at a single click of our finger. The computer screen has become the prototype of the world. With the emergence of internet in the field of education, the speed became unlimited and also the access became boundless. Today, almost all modern academic and research institutions have internet facilities. But it is not known how far these facilities are being utilized by the students of these types of institutions. The present study will bring out new insights on how the students use the internet facilities.

College of Engineering, Kallooppara (CEK)

College of Engineering, Kallooppara is an Engineering college which was started under the aegis of the Institute of Human Resources Development (IHRD), was established in the year 1999. It is affiliated to APG Abdul Kalam Technological University and approved by All India Council for Technical Education. The college has got 4 departments comprising of an intake of 60 students each and 46 faculty. In the Central Library of the college which was established in 1999 has got 6 staff members including Librarian Gr.1, Gr.2 Gr.3 and library assistants. There are 9538 books in the library besides those kept in department libraries of each departments. The digital library of the college has got 15 computer systems with high speed internet connection. The library subscribes to two online databases besides open source databases.

Review of Literature

Radhakrishnan, Natarajan, J. Arul Mozhi and Chandran Velmurugan(2016)observed the awareness and usage pattern of internet by the post graduate students' community of Periyar University Salem, Tamilnadu. Descriptive research method has been chosen for the study and questionnaire was used for data collection. The total number 200 well-structured questionnaires were distributed and 150 were returned dully filled and response rate was 75%.The main objective was to find out the level of awareness on the usage pattern of internet, analysed the library services, feedback on the services and preference of electronic resources techniques etc. The majority of 91 respondents were male and the rest of 59 were female. Identified 142 respondents were aware of internet connectivity available from the University library and only 8 were not aware offing the internet. 53 respondents spent one hour for accessing internet followed by 50 who spent two hours. Only 20 respondents spent more than three hours for browsing the internet. Majority of them used internet to check mail and for preparing notes. Most of the respondents were satisfied with the collection, timings, online, resources available in the university library.

Soman, V.S., Midhula and Sudhier Pillai K.G.(2015)investigated the awareness and usage of internet resources among visually challenged students in Thiruvananthapuram. The major objectives of the study were to determine the student's awareness and about the internet and electronic resources, to know the usage of internet resources among visually challenged students, to find out the awareness level and use of assistive technologies among students and to find out the popular internet resources among visually challenged students. The study included 74 respondents from 12 government schools, including one special school for blind in Thiruvananthapuram district. Students studying in high school and higher secondary sections are included in the study. A structured questionnaire was designed for the purpose of data collection find out the popular internet resources for the visually challenged students. The analysis revealed that 59.46% students were computer literates and is aware of online resources. However internet usage is very less among the computer literates due to the lack of proper training. Among the respondents, a good number of students are aware of assistive technology is screen reader. It shows that lack of proper training creates a big barrier in using internet. The result of the study would be helpful in getting a fairly good idea of the student's awareness level of internet resources and assistive technologies. The outcome of the study helps the school authorities, librarians and the government to provide adequate services and training to visually challenged students to access information without any barriers.

Objectives

1. To identify the use of internet resources and services by the students in College of Engineering, Kallooppara.
2. To know the level of satisfaction on the availability of internet resources and services.
3. To know the impact of internet on academic efficiency.
4. To identify the problems faced by the students in using internet.

Methodology

The methodology adopted for this study is survey method and it includes the following techniques which are questionnaire and observation. Questionnaires were distributed to all the 579 students of the college and 570 of them returned it having duly filled. Thus the response rate is 98.45%. The questionnaire was self-administered.Two sets of questionnaires were constructed. The first questionnaire was preliminary to know the initial information about the library infrastructure critically required for conducting the study. The second structured questionnaire was designed and distributed to the population of the study. The questionnaire was designed while keeping in mind the objectives of study. Besides, the investigator visited the library of College of Engineering, Kallooppara and observed its functioning, facilities, services and resources etc. It helped the investigator to acquire a clear picture of the library and its service and internet facilities.

4 Analysis of Collected Data

4.1 Use of Internet

Table 1 Use of Internet

Parameters	No. of Respondents	Percentage
Yes	563	98.77%
No	7	1.23%

Table 1 reveals that majority 98.77% of respondents use internet while only 1.23% does not use it.

Table 2 Formal Training to use Internet

Parameters	No. of Respondents	Percentage
Yes	52	9.12%
No	511	89.65%

Table 2 illustrates that majority of the students 89.65% didn't get any formal training to use internet while 9.12% got formal training to use internet and 1.23% not use internet. As 1.23% of respondents are not using internet, only 563 users i.e. 98.77% of respondents are considered for rest of the analysis.

Table 3Experience of Internet Use

Experience	No. of respondents	Percentage
Less than 3 to 6 Months	20	3.55%
6 Months- 1 Year	19	3.37%
1-2 Years	33	5.86%
2-4 Years	98	17.40%
4-6 Years	214	38.01%
More than 6 years	164	29.13%

Table 3 exhibits that 38.01% of respondents had been using internet for 4-6 years. Another 29.13% of respondents had used internet for more than 6 years, 17.40% of respondents indicated having used it for 2-4 years, 5.86% of respondents had used it for 1-2 years, 3.55% of respondents had been using it for less than 3-6 months and 3.37% of respondents had used it for 6 months-1year. Only 2.68% of students not responded to this question.

Table 4 Place of Access to Internet

Place	No. of Respondents	Percentage
Library	45	7.99%
Internet café	21	3.73%
Home	496	88.10%

Table 4 indicates that majority 88.10% of respondent's access internet at home while7.99% of respondents' access internet from library. Only 3.73% of respondents access internet at internet café. Only 0.18% not responded to this question.

Table 5 Time Spend on Internet

Time	No. of Respondents	Percentage
Less than1 hour	61	10.83%
1-2 hours	220	39.08%
3-4 hours	125	22.02%
More than 4 hours	157	27.89%

Table 5 shows that 39.08% of respondents spend 1-2 hours per day on internet, 27.89% of respondents spend more than 4 hours daily on internet, 22.02% of respondents spend 3-4 hours and 10.83% of respondents spend below 1 hour on internet. Only 0.18% not responded to this question.

Table 6 Purpose of Internet Use

Purposes	Order of Preference						
	1	2	3	4	5	6	7
	No. of respondents and percentage						
For updating knowledge	146 (25.93%)	119 (21.14%)	118 (20.96%)	48 (8.53%)	27 (4.80%)	10 (1.78%)	3 (0.53%)
Preparing for class assignments	187 (33.21%)	89 (15.81%)	68 (12.08%)	55 (9.77%)	16 (2.84%)	5 (0.89%)	24 (4.26%)
For communication	134 (23.80%)	134 (23.80%)	134 (23.80%)	69 (12.26%)	17 (3.02%)	12 (2.13%)	2 (0.36%)
For research project	14 (2.49%)	26 (4.62%)	26 (4.62%)	61 (10.83%)	73 (12.97%)	78 (13.85%)	76 (13.50%)
For entertainment	64 (11.37%)	93 (16.52%)	110 (19.54%)	101 (17.94%)	82 (14.56%)	26 (4.62%)	9 (1.60%)
For career development	0	12 (2.13%)	7 (1.24%)	31 (5.51%)	52 (9.24%)	144 (25.58%)	82 (14.56%)
For specific subject information	23 (4.09%)	31 (5.51%)	27 (4.80%)	57 (10.12%)	107 (19.01%)	53 (9.41%)	77 (13.68%)

Most number of respondents (33.21%) selected preparing for class as the first preferred use of internet while as the second preference most of them (25.93%) choose communication. As the third preference also communication was chosen by many (23.80%). Entertainment was

the main reason for preference (chosen by 17.94%) in the fourth rank.As the last preference most of them choose getting specific subject information as their reason for using internet.

Table 7 Methods Used for Learning Internet Skills

Methods	Order of Preference				
	1	2	3	4	5
	No. of respondents and percentage				
Self – learning	474 (84.19%)	51 (9.06%)	20 (3.55%)	1 (0.18%)	4 (0.71%)
Assistance from friends/colleagues	56 (9.95%)	299 (53.11%)	44 (7.82%)	14 (2.49%)	5 (0.89%)
Assistance from Teachers/Librarian	10 (1.78%)	39 (6.93%)	168 (29.84%)	52 (9.24%)	24 (4.26%)
Assistance from staff (Internet café)	3 (0.53%)	14 (2.49%)	48 8.53%)	108 (19.18%)	48 (8.53%)
Through training programs	10 (1.78%)	14 (2.49%)	34 (6.04%)	43 (7.64%)	118 (20.96%)

As the first preference self-learning was the method used by majority (84.19%) for learning internet skills. More than half of the respondents (53.11%) resorted to assistance form friends or librarian to learn the same as their second preference. As the third preference also the same method was adopted by respondents (29.84%) for acquiring the internet skills. 19.18% of respondents gave fourth preference to assistance from cafe staff while 20.96% had training programmes as their fifth preference.

Table 8Ways to Browse Information from Internet

Ways	No. of respondents	Percentage
By typing web address directly	127	22.56%
Use of search engines	436	77.44%

Table 8 shows that a majority of the respondents with 76.44% of responses browse the required information from the internet by using Internet search engines. 22.56% of respondents admit that they type the web address directly for browsing information from internet.

Table 9 Use of Search Engine

Search Engine	Order of preference					
	1	2	3	4	5	6
	No. of Respondents and Percentage					
Google	559 (99.29%)	1 (0.18%)	0	0	0	0
Yahoo	1 (0.18%)	92 (16.34%)	37 (6.57%)	8 (1.42%)	4 (0.71%)	1 (0.18%)
MSN	0	4 (0.71%)	17 (3.02%)	13 (2.31%)	25 (4.44%)	1 (0.18%)
Google Scholar	1 (0.18%)	53 (9.41%)	18 (3.20%)	22 (3.91%)	6 (1.07%)	5 (0.89%)

Hot bot	0	1 (0.18%)	0	6 (1.07%)	11 (1.95%)	33 (5.86%)
Bing	1 (0.18%)	31 (5.51%)	42 (7.46%)	15 (2.66%)	10 (1.78%)	10 (1.78%)

It is clear form table 9 that almost all (99.29%) of the respondents gave first preference for Google and the use of other search engine is very nominal when comparing to Google.

Table 10Use of Search Facilities or Search Methods

Search Facilities / Search Methods	Often	Sometimes	Rarely	Never
Simple search	349 (61.99%)	106 (18.83%)	43 (7.64%)	2 (0.36%)
Boolean Operators	67 (11.90%)	172 (30.55%)	96 (17.05%)	100 (17.76%)
Truncation of search terms	128 (22.74%)	146 (25.93%)	135 (23.98%)	64 (11.37%)
Field searching	99 (17.58%)	156 (27.71%)	125 (22.20%)	40 (7.10%)
Phrase search & Keyword search	150 (26.64%)	170 (30.20%)	85 (15.10%)	31 (5.51%)

Simple search was often used by 61.99% or respondents and 18.83% use it sometimes. 7. 64% rarely use it while 0.36% have never used it. Boolean operators are used often by 11.90% while 30.55% use it only sometimes and 17.05% use it rarely. 17.76% have never used the same. Truncation of search terms are often used by 22.74%, 25.93% use it sometimes, 23.98% use it rarely and 11.37% never used it. Field searching was the method used by 17.58% often. 27.71% use it only sometimes and 22.20% use it rarely while 7.10% have never used it.Phrase search & Keyword search are adopted by 26.64% often and 30.20% sometimes, 15.10% rarely and 5.51% have never adopted the same.

Table 11 Use of Internet Resources

Internet Resources	Order of Preference								
	1	2	3	4	5	6	7	8	9
	No. of Respondents & Percentage								
E-Journals	115 (20.43%)	73 (12.97%)	101 (17.94%)	36 (6.39%)	21 (3.73%)	26 (4.62%)	18 (3.20%)	9 (1.60%)	20 (3.55%)
E-Archives	14 (2.49%)	20 (3.55%)	22 (3.91%)	12 (2.13%)	23 (4.09%)	42 (7.46%)	65 (11.55%)	75 (13.32%)	34 (6.04%)
E-Maps	71 (12.61%)	55 (9.77%)	24 (4.26%)	41 (7.28%)	69 (12.26%)	53 (9.41%)	35 (6.22%)	12 (2.13%)	11 (1.95%)
E-Books	108 (19.18%)	116 (20.60%)	70 (12.43%)	60 (10.66%)	30 (5.33%)	27 (4.80%)	10 (1.78%)	14 (2.49%)	1 (0.18%)
E-Magazine/News papers	94 (16.70%)	84 (14.92%)	94 (16.70%)	65 (11.55%)	43 (7.64%)	23 (4.09%)	28 (4.97%)	15 (2.66%)	7 (1.24%)
E-Theses	9 (1.60%)	4 (0.71%)	7 (1.24%)	13 (2.31%)	15 (2.66%)	49 (8.70%)	36 (6.39%)	75 (13.32%)	86 (15.28%)
E-Research papers	17 (3.02%)	33 (5.86%)	36 (6.39%)	33 (5.86%)	71 (12.61%)	42 (7.46%)	61 (10.83%)	35 (6.22%)	23 (4.09%)
E-Dictionaries/E-Encyclopedia	78 (13.85%)	85 (15.10%)	75 (13.32%)	108 (19.18%)	29 (5.15%)	15 (2.66%)	17 (3.02%)	26 (4.62%)	12 (2.13%)
E-Seminar report/Conference proceedings	47 (8.35%)	24 (4.26%)	33 (5.86%)	42 (7.46%)	50 (8.88%)	39 (6.93%)	25 (4.44%)	24 (4.26%)	81 (14.38%)

Among the internet resources those used by most number of respondents in each preference are the following, 20.43% of respondents gave first preference to E-Journal, 20.60%of respondents gave second preference to E-Books, 7.94%of respondents gave third preference to E-Journal, 19.18% of respondents gave fourth preference to E-Dictionaries/E-

Encyclopedias, 12.61% of respondents gave fifth preference to E-Research papers, 9.41% of respondents gave sixth preference to E-Maps and 11.55% of respondents gave seventh preference to E-Archives.

4.2 Satisfaction Level

Table 12 Satisfaction Level of Internet Resources

Internet Resources	Fully Satisfied	Partially Satisfied	Not Satisfied	Not Available
E-Journals	138 (24.51%)	220 (39.08%)	18 (3.19%)	42 (7.46%)
E-Archives	48 (8.53%)	214 (38.01%)	38 (6.75%)	35 (6.22%)
E-Maps	331 (58.79%)	134 (23.80%)	14 (2.49%)	3 (0.53%)
E-Books	316 (56.13%)	127 (22.56%)	23 (4.09%)	4 (0.71%)
E-Magazine/News papers	324 (57.55%)	135 (23.98%)	16 (2.84%)	0
E-Theses	62 (11.01%)	20 (3.55%)	34 (6.04%)	201 (35.70%)
E-Research papers	54 (9.59%)	16 (2.84%)	130 (23.09%)	293 (52.04%)
E-Dictionaries/E-Encyclopedia	368 (65.36%)	106 (18.83%)	13 (2.31%)	25 (4.44%)
E-Seminar report/Conference proceedings	98 (17.41%)	62 (11.01%)	135 (23.98%)	184 (32.68%)

It can be noted that the internet resource with which most number of respondents (65.36%) are satisfied is E-Dictionaries/E-Encyclopedia while that which caused partial satisfaction to most number of respondents (39.08%) is E-Journals. 23.98% respondents (the top preference in the section) are not satisfied with E-Seminar report/Conference proceedings.

Table 13 Satisfaction of Internet Services

Services	Fully Satisfied	Partially Satisfied	Not Satisfied	Not Available
E-mail	485 (86.15%)	66 (11.72%)	1 (0.18%)	2 (0.36%)
WWW	424 (75.31%)	108 (19.18%)	9 (1.60%)	2 (0.36%)
FAQ	62 (11.01%)	190 (33.75%)	45 (7.99%)	9 (1.60%)
Chat	415 (73.71%)	84 (14.92%)	19 (3.37%)	4 (0.71%)
Internet telephone	264 (46.89%)	115 (20.43%)	23 (4.09%)	25 (4.44%)
Blogs	179 (31.79%)	160 (28.42%)	24 (4.26%)	12 (2.13%)
Archives	54 (9.59%)	175 (31.08%)	32 (5.68%)	15 (2.66%)
Bulletin Board Services(BBS)	36 (6.39%)	155 (27.53%)	45 (7.99%)	30 (5.33%)

4.3 Impact of Internet on Academic Efficiency

Table 14 Impact of Internet on Academic Efficiency

Parameters	No. of Respondents	Percentage
Yes	541	96.09%
No	22	3.91%

It is clear from the above table that majority 96.09% of students reported positively to the Impact on Academic Efficiency whereas only 3.91% of students reported negatively to the Impact on Academic Efficiency.

Table 15 Mode of Impact of Internet on Academic Efficiency

Mode of Impact	Order of Preference			
	1	2	3	4
	No. of Respondents & Percentage			
Ease in research process	157 (27.89%)	107 (19.01%)	84 (14.92%)	111 (19.72%)
Exposure to global events	67 (11.90%)	216 (38.37%)	150 (26.64%)	44 (7.82%)
Exposure to scholarship	41 (7.28%)	91 (16.16%)	151 (26.82%)	154 (27.35%)
Increased access to current information	280 (49.73%)	72 (12.79%)	60 (10.66%)	83 (14.74%)

Table 16 Quality of Information Retrieved through Internet search

Quality	No. of Respondents	Percentage
Excellent	199	35.35%
Good	274	48.67%
Average	85	15.10%
Poor	3	0.53%

The table16 discloses that 48.67% of students' rated the quality of information retrieved was good whereas 35.35% of students rated excellent followed by 15.10% of students rated average and only 0.53% of students' rated the quality of information retrieved through internet is poor.

Table 17 Benefits of Internet over Printed Documents

Benefits	Order of Preference				
	1	2	3	4	5
	No. of Respondents & Percentage				
Time saving	258 (45.83%)	82 (14.56%)	83 (14.74%)	67 (11.90%)	32 (5.68%)
Various searching tools	18 (3.20%)	58 (10.30%)	41 (7.28%)	74 (13.14%)	206 (36.59%)
Downloading Facility	79 (14.03%)	126 (22.38%)	152 (27%)	100 (17.76%)	38 (6.75%)

Easy access	148 (26.29%)	160 (28.42%)	99 (17.58%)	86 (15.28%)	24 (4.26%)
Easy to store	57 (10.12%)	101 (17.94%)	128 (22.74%)	121 (21.49%)	84 (14.92%)

Among the five preferences provided to user for choosing as the benefit of internet over print resources the benefits that are most selected by the respondents are time saving (by 26.29%) in the first preference list, easy access(by 28.42%) in the second preference, downloading facility (by 27%) of students in thethird preference , easy to store (by 21.49%) of students in the fourth preference and various searching tools (by 36.59%) of students in the firth preference.

4.4 Problems Faced While Using Internet

Table 18 Problems faced while using Internet

Sl. No.	Problems	No. of Respondents	Percentage
1	Difficulty in finding relevant information	289	51.33%
2	Overload of information on internet	122	21.66%
3	Slow internet speed	280	49.73%
4	Privacy problem	25	4.44%
5	Delay in connectivity	36	6.39%
6	Inadequate browsing skills	14	2.49%

Table 18 reveals that multiple responses were received for this question. More than half 51.33% of respondents indicated Difficulty in finding relevant information is their problem while using internet whereas 49.73% indicated Slow internet speed followed by Overload of information on internet 21.66%, Delay in connectivity 6.39% and Privacy problem 4.44%. Only 2.49% indicated Inadequate browsing skills is their main problem while using internet.

5 Suggestions

Respondents gave the following suggestions to improve the use of internet. They are

1. Free internet facility should provide to all students.
2. More computers with the latest specifications and multimedia kit should be installed so that the users can use Internet telephony, video-conferencing, chatting and other useful services of the Internet.
3. There should be complete campus networking with the Internet browsing facility.
4. Printing facility should be provided in the Internet Sections of the colleges so that the users can get printouts of their study material and other important documents at nominal rates.
5. All the academic news should be provided at the college Website and it should be regularly updated.

6 Findings

Findings derived from the analysis of the data are the following.

1. Almost all the students use internet and majority have 4-6 years of experience. It is further analysed that some students have more than 6 years of experience in using internet.

2. Majority of the users developed internet skills through self-learning and training programs are least preferred by them.
3. Though they are familiar with number of search engines they give first priority to Google and least priority goes to Hotspot and MSN and it is evident from the analysis that the students are familiar with advanced search methods. Majority of them often use simple search, Phrase search and keyword search. Boolean operators and Field searching are not used much compared to other methods.
4. Analysis regarding their satisfaction on internet resources indicates that they are fully satisfied with majority of E-Resources. And it is evident from the analysis that important databases/E-journals such as IJEEE and IJOE not available or never being used by the majority of students. Among the available databases Science Direct and IEEE are daily used by majority of students.
5. Analysis revealed that increased access to current information is the major impact of internet on academic efficiency of students. It is further analysed that Impact of Exposure to scholarship is minimal.
6. Difficulty in finding relevant information and slow internet speed are the major problems faced by the students while using internet.

7 Conclusion

Almost all the students are aware of the internet facilities and use some orientation/ training programs should be organized by the colleges at regular intervals so that the maximum users can improve their excellence or proficiency in the use of the Internet for academic purposes. Librarian has a major role in this that the librarian is one who is entrusted with the duty of proving the right information to the right user. Hence, the librarian has to assist the users to develop adequate search strategies as well as to find out relevant websites. Moreover, he/she has to encourage the users to evaluate online information before using it. It would be good if information regarding the popular and the latest Websites with their addresses are displayed on the Notice Board in the Computer Centre. It is of utmost importance that the students are to be trained and be aware of the effective and ethical use of internet for academic as well as other purposes.

Reference

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