

# Information needs and seeking habits of engineering students on the digital environment: a study

Mr. Amiya Kumar Das

Assistant librarian, Bengal Institute of Technology and Management, Bolpur, Santiniketan

---

## ABSTRACT

*Digitized information, e-resources and networks has created a new dimension on Information services on academic libraries. Present time many electronic resources have been made most available in the libraries. The increase in availability of information on the Web has affected information seeking behaviors of the users. This paper take a critical look at information needs and seeking habits of engineering students at Bengal Institute of technology and management (BITM), Bolpur. This survey base study was to explore the use of information technology by the engineering students for seeking information on the digital environment and the study recommends awareness Programme for the students and to provide training on web searching and retrieval skills.*

**Key Words:** *Information seeking habits, engineering students, Digital environment, Information needs*

## 1. Introduction:

Information seeking is a basic activity indulged in by all people and manifested through a particular way of behavior. Information seeking habits involves personal reasons for seeking information, the kinds of information which are being sought, and the ways and sources with which needed information is being sought. Today, the Academic libraries used the latest technology for provision of electronics information through various services and create surrounded networks for information sources accessible to the academic community such as students, research scholars, faculty etc. Electronics environment provide more popular library services then printed materials because of browsing, searching, multi-access capability, 24x7 access, accuracy, etc. Easy and remote access to material turns quantity to quantity. The increase in information on the Web has affected information seeking behavior. Internet and broad spectrum of web based applications have added anew dimension to the technologies and techniques employed for Content Management Systems (CMS) in engineering education. Electronics Information seeking Behaviors,

assessment of user needs, and utility of information resources are various aspects covered in the user studies.

## 2. Review of literature

A number of studies in the recent past were carried out to find out the information seeking behaviors of users in different types of libraries all over the world. Some of the surveys in the context of students are reviewed here.

**Thani, Hashim and Alam, (2011)** investigate the Information needs and Information seeking behaviors of Social Science Graduate Students in Malaysian Public Universities. The findings of survey indicated that Social Science graduate students seek information due to their information needs to solve a problem at hand, the need for new information, the need to expand the information obtained, the need to validate the information presently known, the need to clarify the information obtained, the recognition of the existence of uncertainty, the need to increase the current stage of knowledge, the need to understand meaning of information, the need to fulfill research requirements.

**Bhatia and Rao (2011)** served by 64 students on the Dev Samaj College for Women, Chandigarh, Information Seeking Behavior of Students in Digital Environment. Summarized college library should organize the awareness programmers and seminars to educate the students on seeking information from e-resources and to maximize the use of library resources and services. As there will be growing dependence on the Internet by the students for their information needs, the college library should strive to have the facilities and resources required.

**Adio (2012)** investigate information needs and information-seeking behaviour of Agricultural students AAT LAUTECH, Ogbomosho. Careful analysis and findings shows that most agricultural students in LAUTECH lack basic knowledge on how to use available resources and services in the library especially card catalogue/ Online Public Access Catalogue (OPAC) which are the pointers to location of material in the library.

**Samuel and Richard (2011)** investigate information needs and information seeking behaviors and use of information resources by MBA students at a Nigerian University. Finding in this study was that, MBA students prefer to search the internet first, to acquaint themselves with the range of options that are available to guide them for the work at hand before seeking for other sources of information to leverage on. That is why the level of significance of internet source to these set of students (99.9%) was very high.

**Tahir, Oman, and Shafique (2008)** study of information needs and information-seeking behavior of arts and humanities of the University of the Punjab. These study show that a majority of the humanists do their information-seeking activities at home. Meeting personally was the most-used channel of communication, followed by e-mail. Consulting with the subject experts was the most common method to keep abreast with current developments in their subject fields. Most search for information for their teaching preparation or lecturing, to guide researchers or students, and to support research. Unavailability of required material was the most common problem in information-seeking.

**Majid and Tan (2002)** investigated the information needs and information seeking behaviour of computer engineering undergraduate students at Nanyang Technological University, Singapore. The purpose was to identify the types of

information sources used by the students, their preferred information formats and the use of various electronic information sources. It was found that the use of databases and electronic journals was quite low.

As few studies were focused on information seeking behaviors of students in digital environment, the present survey is an attempt to fill the gap.

### **3. About the Central Library**

BITM, Central Library was established on 20<sup>th</sup> August, in 2001. It is knowledge centre of Bengal Institute of Technology & Management which has rich collection of information resources mainly in Engineering & Management, also Hospitality Management. A partial automated library is on its way to becoming an outstanding learning resource centre catering to the ever growing and uncompromising information and intellectual requirements of the students, faculty, researchers. It is housed in a ground floor A block building having area of 338.518sq. mtrs. The library has a collection of 26365 volumes which include Text Books, References & Books, 1087 CD&DVD, 5 News letter etc. The Library subscribes 34 national and 6 international Journals, 25 Magazine, 7 News paper and AICT mandatory e journals. Library operations have been automated with the help of a Libsys library software package. The book database is accessible through OPAC (Online Public Access Catalogue).

### **4. Objectives of the study:**

The study has been for following objectives to ascertain the information seeking habits of students in the digital environment

- Find out the type of information needs engineering students.
- To determined the engineering students' electronics information seeking behavior.
- Identity the users with the purpose of electronics information seeking.
- Determine the methods used for seeking information.
- Find out problems faced by students while electronics information seeking; and
- To suggest strategies of improving engineering students' information seeking behavior

### **5. Scope of the study:**

In this study the field of thought is information needs and seeking habits of engineering students on BITM. The statement of scope has four components: engineering students, information needs, seeking behaviors and digital environment. There are two ways presents the relationship among this component. First is to see the relation on information needs and seeking behaviors on the digital environment, secondly how to utilized library resources for demand of information.

### **6. Research methodology and design:-**

#### **6.1 Study Population and Sampling Tool**

The population of this study consists of engineering students of BITM, Bolpur (W.B.). As it is not possible to study the entire population, a sample of 400 (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> years) engineering students has been selected by stratified random sampling

method on the academic year 2013-2014. The engineering students covered in the study are from seven engineering subjects. Out of the 400 engineering students thus selected, 240 students returned the questionnaire, with an overall response rate of 60 %. The sample for the present study is composed of 240 students.

## 6.2 Tool for Data Collection

Questionnaires and interview methods were used in this study, with self-administered and hand delivered questionnaires distributed to the student respondents. Semi-structured in-depth face-to-face interviews were used to collect data from their digital information seeking endeavors. As the study population was scattered and , the questionnaire method was adopted for collecting research data keeping in view of the objectives of the study. Under such circumstances, interview schedule was employed in obtaining research data from the engineering students of BITM as a supplement to questionnaire method.

## 6.3 Statistical Inference

The data collected from the respondents of the study was coded and decoded by feeding the independent variable of information seeking behavior in the Microsoft office excel 2007

## 7. Data Analysis

The data collected from the students through the questionnaires were analyzed using simple percentage technique.

### 7.1 Information needs of engineering students

Information need is a situation or task which depends on many factors and changes as the persons goes from one stage of task to the next. Here the information needs of engineering students are various categories. Table 1 showing the information needs of engineering students

**Table No. 1 Information needs of engineering students**

Required information	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	Total Respondents	
	Respondents	Respondents	Respondents	Respondents	Frequency	Percentages
academic assignments	42	35	23	12	112	46.70
Prepare for competitions	9	11	15	14	49	20.30
Keep-up-to-date on subject of interest	7	6	10	16	39	16.30
career development and growth	2	8	12	18	40	16.70
Total					240	100

It is clear from the table table 1 that all the response among them 46.70% responds is information required for academic assignments, 20% Prepare for competitions, 16.30% Keep-up-to-date on subject of interest and 16.70% career development and growth. There are highly responds 1<sup>st</sup> year students for academic assignments and 4<sup>th</sup> year students highly need career development and growth information.

## 7.2 Use of sources of resources on the library

Library collected both printed and electronics resources for the fulfillment of user needs. To check the purpose behind using the library resources by the response, table 2 presents the flowing

**Table no. 2 Use of sources of resources on the library**

Resources	Respondents	Percentage
Print	240	100
Electronics	190	79.20

It is seen from the table 2 that, 100% students are used print materials, 79% ar used both prints an electronics materials.

## 7.3 Knowledge of e-resources on the engineering students

Knowledge of English, computer and attitudes of users to-words computing are important factor to-words use and non use of e resources, table 3 shows the knowledge of e-resources.

**Table No. 3 Knowledge of e-resources on the engineering students**

Category	Respondents	Percentage
Yes	171	71.25
No	69	28.75
Total	240	100

From the table 3 show that maximum 61.25% students have knowledge of e-resources and 38.75% students are response there are no know lodge of e-resources.

## 7.4 Electronics resources accessed on the library.

Internet came on the library recently, this change the library function and services. Library provided various types of e-resources such as e-books, e-journals, e-magazine, CD-ROM database etc. table no 4 discus about Types of electronics resources accessed on the library.

**Table no. 4 Types of electronics resources accessed on the library.**

Type of e-resources	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	Total Respondents	
	Respondents	Respondents	Respondents	Respondents	Frequency	Percentages

E-Journals	3	6	13	11	33	13.8
E- Books	10	14	16	19	59	24.6
E- News paper	5	8	10	11	34	14.2
E-Magazines	3	7	9	8	27	11.2
CD-Rom database	10	13	7	5	35	14.6
Any other	29	12	5	6	52	21.6
Total					240	100

It is clear from the table 4 that, most of the students use e-book 24.6%, and lowest use of e-magazine otherwise electronics resources used of students are 13.8% e-journals, 14.2% e-newspaper, and 4.6% CD ROM database.

### 7.5 Purpose of use internet for Electronic information gathering

Internet is presumed to be used for academic and research end ever, but besides this purposes, internet may be used for different purpose also. To check the purpose behind using the internet by the respondents, table 5 presents the following.

**Table no. 5 Purpose of use internet for Electronic information gathering**

Purpose	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	Total Respondents	
	Respon- dents	Respon- dents	Respon- dents	Respon- dents	Fre- quency	Percent- ages
Educational	25	22	29	39	115	47.90
Social net- working	11	15	16	11	53	22.10
Entertain- ment	9	12	10	6	37	15.40
Others	15	11	5	4	35	14.60
Total					240	100

It is seen from the table 5, that , quite surprisingly internet is used mainly for educational purpose 47.90% and social networking 22.10%, Entertainment 15.40% this result show fourth year students are mostly use for educational and second year students highly use on Entertainment purpose.

### 7.6 Databases used in engineering students on the library

Data base is a systematically ordered of information, here data is generally structured so that it can be sought retrieve automatically. Here students retrieve online database. The table 6 shows the results.

**Table no. : 6 Databases used in engineering students on the library**

Databases	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	Total Respondents	
	Respon- dents	Respon- dents	Respon- dents	Respon- dents	Frequen- cy	Percent- ages
UGC- Info net	11	27	32	34	104	43.30
Wikipedia	29	19	15	8	71	29.60
Others	20	14	13	18	65	27.10
Total					240	100

It is indicated from table 6 that, most of the students 43.30% are used UGC – INFONET database and Wikipedia used 29.60%, there are 1<sup>st</sup> year students wikipedia, because there are primary stage of information seeking and 4<sup>th</sup> year students mostly use UGC-INFONET.

### 7.7 Use of search Engines for access e-information

Search engine is a web based programs that allows users to search and retrieve specific information from the World Wide Web. Attempt was made to understand the habits of using search engines for collect the e-information. Table 7 showing use of search engines use by students.

**Table no. 7 Use of search Engines for access e-information**

Search Engines	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	Total Respondents	
	Respon- dents	Respon- dents	Respon- dents	Respon- dents	Fre- quency	Percent- ages
Alta vista	4	6	11	13	34	14.20
Google	36	26	23	22	107	44.60
Yahoo	11	12	14	17	54	22.50
Rediff	7	9	8	5	29	12
Other	2	7	4	3	16	6.70
Total					240	100

On the table 7 results show that use of search engines for searching e-information. There are Google is most popular search engines. First year students highly use of Google and 22.85% response yahoo, 14.20% Alta vista and Rediff search engines are 12% lowest use of the students.

### 7.8 Location of maximum electronics activation on the students

In this table no 8 above indicates the participants where there are maximum activation of electronics information gathering.

**Table no. 8 Location of maximum electronics activation on the students**

Purpose	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	Total Respondents	
	Respondents	Respondents	Respondents	Respondents	Frequency	Percentages
At Home	5	14	16	19	54	22.50
At central library	16	22	24	22	84	35
Cyber cafe	27	11	9	7	54	22.50
Internet center	12	13	11	12	48	20
Total					240	100

It is clear from the table 8 that, 35% students highly use of central library on the gathering maximum e-information, home and cyber café are use same 22.50%. The fourth year students mostly use library and first year student's lowest use of home.

### 7.9 Time for using accessing electronics resources

Library and information centre is a knowledge bank considered to be the heart of institute enriched variety of information sources and services. Attempts were made to understand the habits of Time for using searching e-resources on the library.

**Table no.9 Time for using accessing electronics resources**

Purpose	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	Total Respondents	
	Respondents	Respondents	Respondents	Respondents	Frequency	Percentages
Daily	9	24	28	49	110	45.80
Weekly	22	18	15	5	60	25
Alternate	12	10	11	4	37	15.40
Sometime	17	8	6	2	33	13.80
Total					240	100

It is found from the table 9 that, all the respondent of engineering students habits of using the library. Among them about 45.80% of response visits the library daily, 15.40 % responds visits the library every alternate day, 25% visits weekly and 13% some time use library for use of e-information.

## 7.10 Problems in accessing Electronic Resources on digital environment

The students are facing the many problems on retrieved e-information on the library. It is very clear from the table no. 10

**Table no. 10 Problems in accessing Electronic Resources on digital environment**

Purpose	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	Total Respondents	
	Respon- dents	Respon- dents	Respon- dents	Respon- dents	Fre- quency	Per- centag- es
Lack of IT knowledge and skill	23	18	15	13	69	28.80
Information explosion	16	14	17	11	58	24.20
Limited access to computer	7	10	9	17	43	17.90
Internet speed is slow	9	12	11	16	48	20
Technical support unwilling to assist	5	6	8	3	22	9.10
Total					240	100

It is indicated from table 10 that, 28.80% of the response facing lack of IT knowledge, 24.20% responses show the information explosion, 20% show that internet speed slow and 17% students felt that due to limited access of computer.

## 8. Summary of Findings:

The significant findings of the study are given below:

- Majority of the respondents are needs of information for academic assignment and fourth year students preferable for career development and growth.
- Library collected both print and electronics resources, students prefer print resources and use of electronics resources lower the print resources.
- Majority of the student's response there have no knowledge of using e resources.
- Eighty percentage respondents use electronics resources, there are highly

access e-books on the library and almost use other e-resources such as E-Journals, E- News paper, E-Magazines, CD-Rom database, etc.

- Half of the respondents of the study undertake purpose of e-information searching or gathering on their educational needs.
- Almost all the respondents use database for access e-information most of the people use UGC- INFONET.
- Google are the most preferred search engines for Browsing e-resources, almost use of other search engines such as Alta vista, Yahoo, Rediff, etc.
- More than one-third of the respondents maximum time spend library for using electronics resources. At home and Cyber café both using electronics resources above twenty percentages.
- All the respondents are using the library for seeking of electronics resources. More than forty-five percentages of them visit the library everyday and one-fourth visit the library weekly and fifteen percentage visit the library every alternate day a very negligible portion thirteen percentage sometime use the library.
- Major reasons for accessing problems of electronics resources are mainly lack of IT knowledge and skill and Information explosion on the digital environment.

## 9. Recommendations

On the basis of acquired results, following recommendations are made for the improvement of students for information seeking habits on the digital environment on the college library at BITM

- Respondents' demands for information sources must be given importance in order to improve existing services of the library.
- Developed a new pedagogical culture, which is supported by technology, has to be carefully designed and put to use for developing students' information skills, do not become an unmanageable additional cognitive load.
- There is organize user-workshops in educating and training regarding the various e-information sources available that includes primary, secondary and tertiary information sources both print and e-format.
- Not only library, but at the same time, the teacher plays a significant role in promoting the coordinating and scaffolding students' better use of e-information sources and services for learning activities towards a comprehensive inquiry process.
- Librarians / library staff should make more effort to reach out to students; this would not only draw the students closer to them, but also encourage students to heir help while seeking for information.
- Libraries should be provided with proper hardware & software and online access to e-resources

## Conclusion:

This study was designed to access the information needs, seeking habits and use of digital information resources on the Engineering students of BITM. The Internet has attracted the attention of the students as an easy source of accessing information and e-resources as is evident from the above study. Yet, only a sizeable number of students could frequently seek information from e-resources. Most of the students access e-resources for academic assignments. A majority of the students found that limited access to computers because there are not appears about using the Internet and e-resources. Libraries should organized library orientation programs, to improve awareness level of students, increase computers and Internet use, availability of e-resources and increased financial budget for electronic resources in libraries and fulfill the future engineer's desires.

## References

- Ajiboye, J. O. (2007). University undergraduate student's information seeking behaviours: implications for quality in higher education in Africa. *The Turkish Online Journal of Educational Technology*, 6(1), 1-13
- Akanu Ibiam, A. and Jimoh, M. A. (2012). Information Seeking Behaviour of Polytechnic Students: The Case of Akanu Ibiam Federal Polytechnic.
- Bhatia, J. K. and Rao, V. (2011). Information Seeking Behaviour of Students in Digital Environment: A Case Study. 8th International CALIBER, (437-444).
- BITSO, (2012). An Analysis of the Information Behavior of Geography Teachers in a Developing African Country—Lesotho. *Review of International Geographical Education Online*, 2(2), 192-218.
- Gboyega A. & G. Arinola, A.A. (2012). Information Needs and Information-Seeking Behaviour of Agricultural Students. *The Pacific Northwest Library Association*, 2(4), 1-8.
- Khan, S. A. and Shafique, F. (2011) Information Needs and Information-Seeking Behavior: A Survey of College Faculty at Bahawalpur. *Library Philosophy and Practice*,
- Onuoha, U. D. and Awoniyi, A.A. (2011). Comparative Analysis of Students' Information Seeking Behaviour in Adventist Universities: A Survey of Babcock and Solusi Universities. *Library Philosophy and Practice*.
- Premssmit, P. (1990). Information needs of academic medical scientists at Chulalongkorn University. *Bulletin of Medical Library Association*, 78(4), 383-387.
- Salariana, M, Ibrahim, R & Nematic, K. (2012). The Relationship between Users Cognitive Style and Information Seeking Behavior among Postgraduate Engineering Students. *ICTHLE*: 1-13
- Samuel, E.O. (2011). Information Needs and Information Seeking Behaviour and Use of Information Resources by Mba Students at a Nigerian University. *An International Multidisciplinary Journal*, 5(21), 250-264.

- Tahir, M. and Oman, M. & Shafique, F. (2008). Information Needs and Information-Seeking Behavior of Arts and Humanities Teachers: A Survey of the University of the Punjab. *Library Philosophy and Practice*.
- Tahira, M. and Ameen, K Information Needs and Seeking Behavior of Science & Technology Teachers of the University of the Punjab.
- Thani, R.A. and Alam, U. S. (2011). Information needs and Information seeking behaviors of Social Science Graduate Students in Malaysian Public Universities. *International Journal of Business and Social Science*, 2(4), 1-8.
- Yasmeen Zia, Y. and Tehseen, S. (2012). Electronic Information Seeking Behaviour of Engineering Students of Selected Engineering Colleges of Bhopal and Raipur Districts of Madhya Pradesh : A Survey. *Research Scapes*, 1(2), 1-8.
- Zawawi, S & Majid, S. (2001). The information needs and seeking behaviour of the IMR biomedical scientist. *Malaysian Journal of Library & Information Science*, 5(1), 25-41.