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Information Seeking Behaviour of the Teachers and Students at College of Engineering, King Saud University, Riyadh: A Study

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Abstract – **This study analyzed the information seeking behaviour of the teachers and students at College of Engineering, King Saud University, Riyadh, Kingdom of Saudi Arabia. In this study, data collected from 150 teachers and students by administering questionnaires on their information seeking and requirements of the College of Engineering, indicates that guidance in the use of library resources and services is necessary to help teachers and students to meet their information requirements. Found that journals, textbooks and electronic information sources are the most popular sources of information for the students' course work. Recommends that latest edition of textbooks and reference materials should add to the library collections. Suggests that the CD-ROM databases of journal archives and reference books should be added and users should be guided to use the resources of the library.**

Keyword: **Information Seeking, Information Retrieval, Users Studies, Riyadh, Saudi Arab.**

I. Introduction

The present era is called the "Information era". Information has become the most important element for progress in society. To thrive in this modern era, one needs a variety of information, no matter how well versed one is in a field or profession. Information seeking is a process in which humans engage in order to advance and potentially alter their state of knowledge. It is also an important cognitive function related to learning and problem solving, sometimes thought of as a "higher cognitive process" [1] "Information-seeking" is a term describing the ways individuals seek, evaluate, select, and use information. In the course of seeking new information, the individual may interact with different people, analog tools, and computer-based information systems. "Information-seeking behavior" is different from the actual "information need". The "information need" is a subjective, relative concept in the mind of the experiencing individual [2] and is defined as the "recognition of the existence of uncertainty" [3].

Information seeking behaviour is an area of active interest among librarians, information scientists, communication scientists, sociologists and psychologists. Information seeking behaviour results from the recognition of some need, perceived by the user, who as a consequence makes demands upon formal systems such as libraries, information centers, on-line services or some other person in order to satisfy the perceived need[4]. **"**Information seeking behaviour refers to any activity of an individual that is undertaken to identify a message that satisfies a perceived need" [3].

With information deluge, everyone needs information of increasing variety and diversity of level, frequency, volume and ease. This complex situation appears to be ambiguous and heterogeneous as that information need of particular groups of users and information flow from specific situations in organization are difficult to determine. This situation has given rise to the growth concept of information searching and the manner of determining the pattern of searching has said to be Information Seeking Behaviour [5].

The behavior is one of the most important research areas in library user studies and is affected by different factors. [6]Confirmed that individuals use information through process of awareness, comprehension, evaluation and

assimilation according to their personal histories. This also confirms that such behavior pattern differs from person to person which conditions the information seeking behavior of user. Mickalso states that information behaviour is the product of complex interaction. Interventions aimed at changing behavior should be based on variables that can be controlled, such as a task, job work, role and institutional environment. In such situation, assessing information need is not only difficult to determine but also seems to of least value. According to[7],information seeking mirrors elements of context. Truly, the contextual aspect may bring change in search pattern of the user. Personal characteristics such as subject knowledge, past experience in using libraries, personal attributes of personality such as introvert or extrovert patient or impatient etc. are some of the influencing factors in behavioral studies. Therefore, due to these variations and complexities in information-seeking it cannot be possible to assess the exact information seeking behaviors of an individual or a group of individuals and fit them in a general model or theory.

King Saud University is a public and oldest university located in Riyadh,Kingdom of Saudi Arabia.It was founded in 1957 by King Saud bin Abdul Aziz as 'Riyadh University', as the first university in the kingdom.It was renamed to 'King Saud University' in 1982.The University maintains a number of colleges, such as community colleges, health colleges, humanities colleges, science colleges and female centers. Notably among them, college of engineering is come under the college of science. The College of Engineering was set up as a cooperative project between the Ministry of Education, Kingdom of Saudi Arabia and UNESCO in November 1962. This project lasted until 1969 when the College of Engineering became an official part of King Saud University. The KSU central library present grand seven storied building surrounded by 51400 square meters of land and more than 4000 reading seats,the central library occupies a central location among colleges and facilitiesproviding students, faculties, employees and other members of the community easy access to its location and holdings.Central location of a library promotes the use of library collections and services. The library provides the whole university campus wide access to online journals,catalogs, holding locations, galleries, and electronic databases, along with other different facilities [8], [9].

II. Review of Related Literature

This article briefly reviews few studies conducted abroad as well as in kingdom of Saudi Arabia on users' studies of information seeking behavior in chronological order. [10] Examined the use of electronic information resources and service(EIRS) among the teachers and students of Sir Chhotu Ram Institute of Engineering and Technology, Meerut (UP) India.The major findings of this study are: majority of teachers and students have been aware about electronic information resources and services.Majority of users, that is, 20(50%) of the teachers and 30(50%) of the students use EIRS for study and more than 60% of users in the library were using e-journals simultaneously. The information display on the computer screen and printed form of document is found to be the most preferred for reading articles.Nearly half of the respondents are satisfied or quite satisfied with available resources of the library [11] Conducted a study of the information seeking behaviour of faculty members of BPS Women University. The author found majority of respondents faced the common problem while seeking information that was unavailability of information. Significant findings were reported with the biggest changes because of increased utilization of electronic methods for searching, sharing, and storing scholarly content, as well as for utilizing library services. [12]Carried out a survey on the utilization of CD-ROM databases by the users of NISCAIR, New Delhi. The major findings of the studywere: observed that all the user communities use CD-ROM databases as a useful source of information to satisfy their information needs.The frequency of using CD-ROM databases as a useful on the work situation of users. It has also found that e-journals were the most popular online resources among users.22% users were facing problems while using CD-ROM databases unaware of computer technology or lack of computer handling skills. [13] Attemptedthe impact of internet search engine usage with specialreference to OPAC searches in the Punjabi University Library, Patiala, Punjab (India). The consequences of the study revealed that the information-searching behaviour of academicians was changing significantly in the web environment. A large number of users explored the web to garner relevant information for academic purposes. The majority were influenced by search engines because

they also used OPAC, like the search engines. It is also clear from the study that internet search engines not only affected OPAC users in developed countries, but also impacted upon the less developed countries like India. [14] Fashioned a questionnaire to determine information needs and information-seeking behavior among rural and urban primary health care physicians in Riyadh region. The study found that the physicians in rural areas were less likely to have access to medical and health information than their equivalents in urban areas, particularly for modern sources such as online databases, medical journals and the Internet websites. Further study found, acquiring primary care physicians, particularly in rural areas with access to medical and health information was very vital in the provision of primary health services. [15] In his paper "Chatbots in the library: is it time?" depicted a pilot at the University of Nebraska-Lincoln for a chatbot that answers questions about the library and library resources.Thechatbot answers questions from a variety of users from around the world. It hasattracted an unexpected number of social chatters, which required some additional metadata to accommodate personal chatting and to guide questions back to the intent of the project. The majority of questions are directional or factual questions that Pixel can handle. The database proved to be practical to build and revise as library resources and personnel changed. [16] Revealed the four major information seeking modes adopted by social library system users,that is, the searching, browsing, encountering, and monitoring. The majority of the users tend to combine two or more modes, but each user has a dominating one that helps define him/her as a searcher, browser, encountered, or monitor. Whilst searching is the most widely adopted mode, browsers are the most prevalent type of information seekers. [17] Analyzed "modeling information-seeking behaviour of graduate students atKuwait University". The author revealed that significant factors influencing students' information-seeking behaviour were to be related to library awareness, information literacy, organizational and environmental issues, source characteristics, and demographics. [18] Investigated information needs and information-seeking behaviour of such non-library users, so that the libraries could redesign their services to attract them.The study found that the lack of time, distance to the library and inadequate relevance of the libraryresources and services to the activities and the respondents were engaged in seemed to be the main barriers to library use. The study was also found that the respondents often needed information on current affairs, education, business and agriculture, and they used radio, newspapers, friends, work supervisors and personal experience to meet their needs. [19]Conducted a studyto develop a valid and reliable measurement instrument for information-seeking behaviour of undergraduate students during study assignments.The study were found four scales within a 46-item survey on information-seeking behavior, that is, a ten-item scale for applying search strategies (alpha 0.68), a 14-item scale for evaluating information (alpha 0.74), a six-item scale for referring to information (alpha 0.81) and a12-item scale for regulation activities (alpha 0.75). [20]Surveyed to examine and predict users' information-seeking intention regarding academic digital library services, using the theory of reasoned action (TRA) and the theory of planned behavior (TPB). Particularly, the empirical results indicated that perceived behavioral control is a better predictor of behavioral intention than is attitude or subjective norm. [21]Reportedabout his study: Only 70% of the physicians were aware of theexistence of Drug Information Centers (DICs) in KSA and 33.9% have used this service before with request rate of 0.3/month during the last 6 months prior to survey. Physicians relied heavily on books (79%), periodicals (59.2%), symposia (55.1%) and pharmacists (35.3%). Further, he found Physicians searched for information 17.5 times during the last 6 months and only 57.3% were using computers and 40% had no access to the Internet at work.

III. Objectives of The Study

This study was designed and carried out to achieve the following objectives:

1. To determine the awareness and uses of library resources by the users.
2. To know the purpose and frequency of users regarding library visit
3. To find out kinds of information sources used by the users.
4. To reveal users' opinion regarding usefulness and adequacy of information sources and services.

5. To find out the barriers in using library resources and services.

6. To determine the user satisfaction with information and services facilities provided in the college of engineering

IV. Methodology

This study used questionnaire-based survey method, as many similar studies conducted earlier, have also used this method for data collection. This method is also preferred as it was less time consuming and economical for a scattered population. The questionnaires were personally distributed to the teachers and students of College of Engineering, King Saud University. The researchers distributed 200 questionnaires to the randomly selected sample. In that 175 filled in questionnaires were received from the teachers as well as students. Out of 175 questionnaires, only 150(85.72%) questionnaire methods were selected for examining the data and 25(14.28%) questionnaires were rejected because of incomplete response from the respondents.

V. Data Analysis and Interpretations

The data collected by various research methods were examined and interpreted here in tables and figures.

A. The sample

There are large numbers of users and they range from students to teachers. A sample from all categories of users was taken to find out their opinion about the information seeking behavior and services provided by the library. The table below gives the categories of users and the size of sample of the study.

The table I shows that 50(33%) of the total population under study consists of teachers and 100(67%) students. The size of the sample has chosen for the study.

Table I Size of The Sample

Status	No. of Respondents	Percentage
Teachers	50	33
Students	100	67
Total	150	100

Abbreviations: T=Teacher, S=Student

B. Frequency of visit to the library

In order to assess the frequency of teachers and students to visit the library, the time gap has classified into four categories as shown in Table II. A good majority of users i.e. 82 (54.67%) of users are visiting the library daily, followed by 2-3 times in week i.e. 36 (24.00%). The result shows that the majority of the teachers and students are visiting the library daily.

Table II Frequency of Visit to The Library

Frequency	T	%age	S	%age	Total	%age
Daily	20	40	62	62	82	54.67
2-3 times in a week	10	20	26	26	36	24
Weekly	10	20	10	10	20	13.33
Monthly	10	20	2	2	12	8
Total	50	100	100	100	150	100

C. Purpose of visit to the Library

The table 3shows that the maximum percentage of users both teachers and students are visit to the library for study purpose while teachers and students were go to the library for read newspapers and magazines. This table further reveals that 94(62.66%) respondent use the library for guide to subject literature, followed by 84(56%) users for borrow books in the library, further followed by 78(52.90%) for to read journals, 69(46%) to collect course material, 65(43.33%) to use e-resources and services etc. Only 48(32%) users go to the library to know the latest arrivals of information.

Table III Purpose of Visit to The Library

Purpose	T	%age	S	%age	Total	%age
To study	25	50	72	72	97	64.66
To borrow books	23	46	61	61	84	56
To collect course material	21	42	48	48	69	46
Books shelves browsing	23	66	37	37	60	40
To read journals	28	56	50	50	78	52.9

(Multiple answers were permitted)

D.Users' awareness of library resources and services

To know the awareness of library resources and services teachers and students were asked about the awareness of the services. Table IV shows that 120(80%) of respondent are aware of issue/return of the books i.e. 40(80%) teachers and 80(80%) students .While majority of the respondents like 138(92%)were aware of reference service. The table also indicates that 130(86.67%) were aware of books and journals in available in the library. The small numbers of users wereaware of indexing service, abstracting service, translation service and CAS.

Table Ivusers Awareness of Library Resources and Services

Services	T	%age	S	%age	Total	%age
Circulation service	40	80	80	80	120	80
Reference service	35	70	93	93	138	92
Books and journals	48	96	82	82	130	86.67
Seminar/conference proceedings	30	60	56	56	86	57.33
Indexing service	22	44	10	10	32	21.33
Abstracting service	15	30	20	20	35	23.33
Translation service	25	50	28	28	53	35.33
Bibliography service	22	44	10	10	32	21.33
Newspaper Service	15	30	10	10	25	16.66
Inter Library Loan	8	16	4	4	12	8
CAS	10	20	4	4	14	9.33
SDI	4	8	10	10	14	9.33

(Multiple answers were permitted)

E.Use and awareness of formal sources of information

Table V shows that 140(93.33%) most respondents are used journals as a formal sources of information whereas 125(83.3%) of respondents used text books, 166(77.33%) thesis/dissertation, 126(84%) yearbooks, 116(77.33%) dictionary, 128(85.33%) encyclopedia, 123(82%)manual/hand books, 129(86%) indexing/abstracting journals proceedings of conferences/seminars similarly. This table also depicts that 114(76%) used standards, 97(64.66%) used technical report and 121(80.66%) used bibliographies as a primary and secondary sources of information.

F. Use and awareness of informal sources of information

The table VI shows that 122(81.33%) users are use and awareness of informal sources of information like university library whereas 121(80.66%) users are use and awareness of informal sources of information like attains the international as well as national seminar/conferences, workshop etc. The table also deals with the use and awareness of informal information sources such as 119(79.33%) Scanning of abstracting & indexing Journals, 117(78.00%) Telephones, 110(73.33%) discussion with colleagues and low percentage of informal sources of information like visiting exhibitions, conversation, scanning literature etc.

Table V Use and Awareness of Formal Sources of Information

Information Sources	T	%age	S	%age	Total	%age
Text books	45	90	80	80	125	83.33
Journals	48	96	92	92	140	93.33
Year books	36	72	90	90	126	84
Thesis /dissertation	42	84	74	74	116	77.33
Dictionaries	34	68	82	82	116	77.33
Conference proceeding/Seminars	40	80	70	70	110	73.33
Manual/hand book	38	76	85	85	123	82
Encyclopedias	41	82	87	87	128	85.33
Technical reports	37	74	60	60	97	64.66
Patents	25	50	54	54	79	52.66
Standards	43	86	71	71	114	76
Indexing	47	94	82	82	129	86
Bibliographies	30	60	91	91	121	80.66

(Multiple answers were permitted)

Table VI Use Andawareness of Informal Sources of Information

Information Sources	T	%age	S	%age	Total	%age
Discussion with colleagues	45	90	75	75	110	73.33
Scanning of abstracting & Indexing journal	47	94	72	72	119	79.33
Attaint the seminar/conference, workshop etc.	43	86	78	78	121	80.66
Author for reprint papers	36	72	65	65	101	67.33
Through Telephone query	32	64	85	85	117	78
Through Fax	34	68	62	62	96	64
Personal collections	36	72	68	68	104	69.33
University library	42	84	80	80	122	81.33
Personal visit to the subject specialists	37	74	58	58	95	63.33
Writing letters	30	60	56	56	86	57.33
Exhibitions visit	25	50	52	52	77	51.33
Through conversation/discussion	28	56	60	60	88	58.66
Through scanning literature	30	60	57	57	87	58

(Multiple answers were permitted)

G. Use and awareness of electronic information resources

The table VII reveals 137(91.33%) of electronic information resources used by the teachers and students whereas 111(74.66%) used by the teachers and students email and e-books as a similar basis. The table also deals with 105(70.00%) online databases used by users as followed by 100(66.66%)CD-ROM databases used by the teachers and students. The least numbers of users used electronic information resources such as 94(62.66%)E-thesis as well 81(54.00%) of e-books.

Table VII Use and Awareness of Electronic Information Resources

Information Sources	T	%age	S	%age	Total	%age
Internet based resources	45	90	92	92	137	91.33
E-Journals	31	62	80	80	111	74
E-Book	22	44	59	59	81	54
E- Thesis	15	30	79	79	94	62.66
E-Mail	30	60	82	82	112	74.66
Online database	20	40	85	85	105	70
CD-ROM databases	25	50	75	75	100	66.66

(Multiple answers were permitted)

H. Information seeking through current contents\ developments service

Table VIII shows methods used for information seeking abreast of current contents\developments services in the library. It is found that 115(76.66%) users used information through library catalogues whereas 108(72.00%) service used for Online Public Access Catalogues (OPACs). The KSU library provided 100(66.66%) service through Internet search methods. The least numbers of users used current contents\developments services.

Table VIII Information Seeking Through Current Contents\Developments Service

Details	T	%age	S	%age	Total	%age
Internet search	34	72	66	66	100	66.66
E-Journals	32	64	45	45	77	51.33
E-Mail	22	44	42	42	64	42.66
Subject gateways	4	8	10	10	14	9.33
Scanning of contentsof current published journals	20	40	70	70	40	26.66
Scanning of abstracting & indexing journals	22	44	35	35	57	38
Conferences/symposia/ workshops etc.	22	44	32	32	54	36
Library catalogues	30	60	85	85	115	76.66
OPACs	30	60	78	78	108	72
Bibliographies index and abstracters	35	70	60	60	95	63.33
By personal correspondence/ communications	15	30	10	10	25	16.66
Books review	18	36	68	68	86	57.33
By friend/supervisor/personal contents	17	34	28	28	45	30
By library staffs	10	20	4	4	14	9.33

(Multiple answers were permitted)

I. Information seeking through journals\periodicals

The table IX shows that the majority of respondents i.e. 96(64%) who were seeking Information through journals\ periodicals subscribed by the library as well as personal. The table also shows that 60(40%) respondents who are seeking information through journals\periodicals by Xerox copy of subject related information from library. This was the best way to information seeking through open access journals as well as to present research paper in seminar\ conference\symposia etc. i.e. 53(35.33%) similarly. The least number of respondents who were seeking information through personal communication, journals subscription, retrospective searching of indexing/abstracting periodicals, Inter Library Loan etc.

Table IX Information Seeking Through Journals/Periodicals

Details	T	% age	S	% age	Total	% age
Library subscriptions	30	60	66	66	96	64
Personal subscriptions	30	60	66	66	96	64
Journal articles Xerox from library	25	50	35	35	60	40
E-Journal subscriptions	20	40	15	15	35	23.33
Open access journals	32	64	21	21	53	35.33
Inter Library Loan	8	16	4	4	12	8
Document Delivery Service	12	24	10	10	22	14.6
To present research paper in seminar/conference/symposia	24	48	29	29	53	35.33
Citation at end of book chapters	12	24	15	15	27	18
Retrospective searching of indexing/abstracting periodicals	14	28	17	17	31	20.66
Personal communication	18	36	19	19	37	24. 66
Browsing back volumes	15	30	18	18	33	22
Others	2	4	4	4	6	4

(Multiple answers were permitted)

J.Barriers of information seeking behavior

The table X shows 88(58.66%) teacher and students who was facing problems of information seeking due to lack of time for searching, while 74(49.33%) users have lack of access in reading materials to the library. In this table also deals with the 62(41.33%) users felt to lack of access the seeking of information whereas 44(29.33%) users say due to lack of knowledge for information seeking behaviour.The very low percentage of users were facing the problems of information seeking behavior such as lack of organizational information, lack of knowledge for uses of the library resource and services and lack of support from library staffs.

Table X Barriers of Information Seek

Details	T	%age	S	%age	Total	%age
Lack of time for searching	30	60	58	58	88	58.66
Lack of access to all information	26	52	36	36	62	41.33
Lack of reading materials	18	36	56	56	74	49.33
Lack of knowledge information	15	30	29	29	44	29.33
Lack of organization information	16	32	25	25	41	27.33
Lack of knowledge for uses of the library resource and services	10	20	15	15	25	16.67
Lack of support from library staffs	9	18	0	0	9	6

K. Purpose of seeking information

The table XI indicates that the purpose of information seeking i.e. 131(87.33%) teachers and students who was the most preferred response to solve immediate practical problem. It followed by the reasons that include seeking information for career development, keeping up-to-date and the being to write articles and research papers.

L.Satisfaction with overall functions of the library

The table XII shows that maximum percentage of users has rated the library as 'good', that is 54.66%, while 36(24%) of users have rated the library as 'fair' and 20(13.34%) as 'excellent'. Further followed by, 12(8%) users who have rated overall function of the library as 'poor' category

Table XI Purpose of Seeking Information

Purpose	T	%age	S	%age	Total	%age
For career development	32	64	28	28	60	40
To solve immediate practical problem	39	78	92	92	131	87.33
To keep up to date	22	44	22	22	44	29.33
To write an article and research paper	15	30	33	33	58	38.66

(Multiple answers were permitted)

Table XII Satisfaction With Overall Functions of The Library

Satisfaction	T	%age	S	%age	Total	%age
Excellent	10	20	10	10	20	13.34
Good	20	40	62	62	82	54.66
Fair	10	20	26	26	36	24
Poor	10	20	2	2	12	8
Total	50	100	100	100	150	100

VI. Findings And Conclusion

The analysis and interpretation of data is revealed that characteristics of the information need and information seeking behaviour of the teachers and students. The findings evolved out of this study provide sufficient scope of the study of the two groups, while students are using libraries more whereas the reverse affects for teachers whose understanding of Electronic Information Services (EIS) and IT very widely as observed.

The present study revealed that the teachers and students visit the library to borrow books. However, it was observed that the majority of the teachers and students are visiting library daily. It is recorded that maximum percentage of users both teachers and students are visit to the library for study while teachers and students go to the library to read newspapers and magazines. The teachers and scholars visit the library generally for reference sources and specific information depending upon their needs. Hence, the purpose of users visit to the library largely depends on the free time available to them to know the development in their respective fields.

It has been found that majority of respondents used journals as formal sources of information while most of the respondents used text books as a second preference. It has also found that majority of users used central library after that attaining seminar, conference, symposia, workshop national as well as international that comes under the informal information sources. Most respondents prefer "internet services/resources". Other electronic information resources mentioned were electronic mail and e-journals for use and awareness of e-information resources respectively. Library catalogues services were the most important for current contents\development services. The majority of users used information through library subscription as well as personal subscriptions of journals\periodicals and most preferred response to solve immediate practical problem. It has been noticed that majority of the users were facing a problem for lack of time for searching of information. It is found that the satisfaction with overall functions of the library is good as well as fair as most of the users gave response in this regard.

This study is an effort to fill a gap in understanding the information needs and information-seeking behavior of teachers and Students of college of engineering, King Saud University. The engineering college user's information needs are diverse and they rely heavily on books and older material, so the lack of availability of required material in libraries is a major problem in information seeking. Information professionals can analyze the findings of the study and design, develop, and introduce new library and information services for Information management and technology institute. Library and information science professionals, especially in Kingdom of Saudi Arabia, should conduct further studies on user information needs to provide more suitable resources and services to different user groups.

References

[1] Marchionini G,*InformationSeeking in Electronic Environments*, (Cambridge University Press, Cambridge), (1995).

[2] Wilson TD and Streatfield DR, Structured observation in the investigation of information needs,*Social Science Information Studies*, (1)(1981)173-84.

[3] Krikelas J, Information-Seeking Behavior: Patterns and Concepts. *Drexel Library Quarterly*, 19(5) (1981)5-20.

[4] Wilson TD, Information behaviour: an interdisciplinary perspective. *Information Processing and Management*, 33 (4) (1997), 551-72.

[5] Kumar D and Hussain A, *Information seeking behaviour: a study of faculty members of K.N.G.D. Modi Engineering College, Modinaga*r, India (LAP Lambert Academic Pub.; Germany), 2012, p.7-21.

[6] MickCK, Towards usable user studies,*JALIS*,31(5) (1980)347-350.

[7] Dervin B, *Proceduring peace: guidelines in progress*.Paper presented at a non-divisional workshop, May, (International Communication Association, Chicago), 1996 Available at: http://communication.sbs.ohio-state.edu/sense making/meet/1996/meet96Aicadervessay.html

[8] Hussain A and Abalkhail A M, Determinants of Library Use, Collections and Services among the Students of Engineering: A Case Study of King Saud University, *Collection Building,* 32(3) (2013).

[9] King Saud University (KSU), *Riyadh, KSA*. Available at: www.ksu.edu.sa (12 March 2013)

[10] Hussain A, Use of Electronic Information Resources and Services among the Teachers and Students Institute of Engineering & Technology, CCSU, Meerut. *Pearl: A Journal of Library and Information Science*, 7(1) (2013)50-56.

[11] Parveen K, Information Seeking Behaviour of Faculty Members at BPS Mahila Vishwavidyalaya, KhanpurKalan (Sonipat) India, *Pearl: A Journal of Library and Information Science,* 7(1)(2013)1-4.

[12] Hussain Aand others, *Utilization of CD-ROM Database by the Users of NISCAIR, New Delhi: A Survey Report*. *In:* Satpathy, K.C. and Ramachandran R. *Ed*. ICT applications in Library & Information Centre: issues & challenges. National Library, Kolkata,(Jain And Sons, Jaipur),2012.

[13] Shiv Kumar, Impact of internet search engines on OPAC users: a study of Punjabi University, Patiala (India), *Program: electronic library and information systems*, 46(1)(2012)56-70.

[14] Alghanim S A,Information needs and seeking behavior among primary care physicians in Saudi Arabia: Implications for policy and practice, *Scientific Research and Essays*,6(8)(2011)1849-1855.Available at:http://www.academicjournals.org/sre/pdf/pdf2011/18Apr/Alghanim.pdf (Accessed on 11 May 2013).

[15] Allison DeeAnn, Chatbots in the library: is it time, *Library Hi Tech*, 30(1) (2011) 95-107.

[16] Jiang T, An exploratory study on social library system users' information seeking modes, *Journal of Documentation,* 69(1) (2011)6-26.

[17] Al-MuomenN,MorrisA and MaynardS, Modeling information-seeking behaviour of graduate students at Kuwait University, *Journal of Documentation,* 68(4)(2010)430-459.

[18] Mutshewa Aand others (2010), Information behaviour of non-users of libraries in Botswana, *Afr. J. Lib, Arch. & Inf. Sc,* 20(1)1-10.

[19] Timmers C F, Developing scales for information-seeking behaviour, *Journal of Documentation*, 66(1)(2010)46-69.

[20] Chang Chiao-Chen and others, Predicting information-seeking intention in academic digital libraries, *The Electronic Library*, 27(3) (2009) 488-460.

[21] Abou-Auda H S,Information-seeking behaviors and attitudes of physicians toward drug information centers in Saudi Arabia, *Saudi Med J*,29(1)(2008)47-487. Available at:http://faculty.ksu.edu.sa/hisham/Documents/information20070195.pdf (Accessed on 15 May 2013).