Chapter II

Review of Literature

The literature of Information seeking behaviour of users is available in a wider range. An attempt has been made to cover number of works that go beyond discussions of the Information seeking behaviour itself and its direct application to closely related topics such as Information seeking. This broad revival also includes topics like Information seeking of all types of library users.

3.1 Basic purpose of review of literature:

In the review of related literature, the researcher primarily assumes the following basic purposes;

1. Whether any research work has been conducted or in progress under this topic previously;
2. To understand the current developments and its historical background.

In connection with the above mentioned purposes, the researcher when searched found that, since decades the topic proper attracted a large number of library science professionals and researchers. The subject covers almost each part of information needs and seeking activities of human beings.

3.2 Distinctive features of research area:

Researcher while reviewing literature came across certain following distinctive features,

i. Respective research area is also known by various terms like; user study, user survey, search strategy, information needs and information seeking behaviour, etc.

ii. Research work with the same title is not done by any one, at any place, for any degree or diploma.

iii. With the introduction of ‘IT’ in the human life, the nature of information, its form, scope, resources is rapidly changing.

iv. There is never an end to the Information and its need in the life of human beings. So there is a great scope in the futurity also for arranging research programs in respective area.

v. Information scientists developed various models of information behaviour by taken into consideration the nature, scope, human behaviour and introduction of IT, in the respected area.
vi. This research area attracts LIS professionals, psychologists, social scientists and researchers from every part of the world.

vii. The research can be done in many ways like, according to the profession, aims, group, gender, age, geographical area, situations etc.

3.3 Range of topics of information seeking behaviour research:

In the 4th and 5th decades of 20th century main objective of the study of information seeking behaviour was to examine the seeking or gathering habits of an individual, according to, how many books, journals and other reading material used by him. How many reference questions he asked? How many books were circulated in the public library? etc.

In the 1960s and beyond studies of information seeking and use by the general public opened out the research to incorporate many sources of information, of which library was only one. The first surprise was to discover how much information in both personal and professional contexts people and colleagues. In a study looking at how scientists learned of things serendipitously, Menzel (1966) found that fellow scientists were immensely important in that process. In fact in a large no of studies, the human preference to get information from other people was soundly demonstrated. In the study of various academic disciplines the close attention in the 60s to the rich complexity of the culture of science enabled a subtler analysis of the information seeking in all the academic disciplines studied from the 1970s to the present time. Atkins (1973) prepared a systematic bibliography, “Bibliography of users’ surveys 1950-1970” in 1971. 687 studies were collected by her. Ford (2004) examined more than 100 studies which are conducted in various academic libraries during 1930-1964 as well. Wood listed the studies conducted during 1966-70 in his paper, “Discovering the user and his information needs”. During the 1980s and 1990s several researchers deepened the understanding of various aspects of information behaviour by exploring questions and areas previously as well understood. Elfreda chatman (1992) focused on the information environment of janitors, women in a retirement home and prisoners. Cheryl Metoyer- Duran (1993) applied the concept of gate keeping to five minority communities and between them and the larger society.

In the last two decades of twentieth century researchers expanded their focus on information behaviour by incorporating the complete environment- physical,

Researcher has tried to cover/ comprehend each and every aspect in the review. It helped the researcher and may help to other researchers in the future as well.

3.4 Classification of review of literature:

A. Information seeking behaviour of research scholars and faculty members:

Prasad and Tripathi (1998) have conducted survey based study at Banaras Hindu University. A structured questionnaire was prepared for data collection. Main focus of the study was to determine similarities and differences between the information seeking behaviour of physical and social scientists. The study was also aimed to investigate the use of formal and informal channels of information, tools and techniques used for current awareness, their publication output, and use of material in other languages than English. They noted that no significant difference is there in their approach of information seeking process, information needs, and sources used for satisfying their information requirements.

S Majid and G.M. Kassim (2000) have conducted a study to collect the information about the information needs and information seeking behaviour of law faculty members of International Islamic University Malaysia. A structured questionnaire was made and distributed to the 80 IIUM law faculty members and 66 completed questionnaires were returned (82.5 per cent response rate). It was found that respondents used various sources for acquiring the needed information. Books were ranked as the most important source for teaching and research purposes, followed by law reports and statutes. Respondents preferred to consult their personal collection first before resorting to other information-providing sources and agencies. The online public access catalogue (OPAC) and CD-ROM were the most frequently used IT-based sources and facilities. Electronic mail was the most popular among the Internet-based services and applications. On the whole, respondents perceived IIUM library collections, services and facilities as adequate to meet their information needs effectively. They also express the need of orientation program to operate the online information tools.

A. Saif (2004) has examined information needs and seeking behaviour of Tanzanian forestry researchers in the growing global electronic environment. A questionnaire based survey was conducted in three forestry research institutions. The
findings indicated a wide range of information needs among forestry researchers in the studied institutions. Findings also revealed that researchers depend mostly on printed sources but evidence also suggests that they use electronic information resources such as CD-Rom databases and Internet services in varying levels. Researchers depend mainly on their institutional libraries, other forestry research institutional libraries as well as those of international and governmental organizations to meet their information needs. The paper recommends that there is a need to improve forestry research institutional libraries and that they should be networked in order to facilitate resource sharing.

Neela Deshpande and Kingkaew Patitungkho (2005) expressed their views in the article (Information seeking behaviour of faculty members of Rajabhat universities in Bangkok.). It reports the results of the study. For this study data was collected by using a questionnaire from seven faculties in Rajabhat Universities. Results showed that most of respondents (41%) stated their method of seeking information by consulting a knowledgeable person in the field. Two hundred and thirteen respondents (82%) seek information for preparing lectures. 54% of faculty members’ access more documents was references from a book. It is revealed that most of the faculty members (57 %) used textbooks. 74% percent of respondents read information materials in Thai and twenty four percent read materials in English. The Internet had been almost universally adopted; they trace materials from the library via the Internet. Google.com was used for searching information by respondents. They use frequently e-mail for communication. It is found that 42% of respondents use the ERIC (Education Resources Information Centre) database. The majority of respondents faced the common problem while seeking information i.e. unavailability of information.

Khosrowjerdi Mahmood and Iranshahi Mohammad, (2005) organised an analytical study to measure the Information seeking and its dimensions according to the different disciplines and contexts and the relationships to other variables, such as gender, task, knowledge, personality, experience, and expertise etc. Researchers have attempted to understand the correlation between the information seeking process and prior knowledge of graduate (MA and PhD) students at Tehran University. They found positive and strong relationships between these two variables. Moreover, some dimensions of information-seeking behavior and some aspects of prior knowledge (expertise, familiarity, and past experience) had positive and significant relationships.
A. Malekani (2006) conducted a study to examine awareness and use of different sources of information for course-work and research by students of the Open University of Tanzania and those of Sokoine University of Agriculture. Specifically, the study sought to understand students use of the information sources, why they visited the university library, the type of assistance they had received in using the library as well as the type of instruction they would like to receive in the future. A questionnaire was designed and administered to Open University students in the Faculty of Science, Technology and Environment who were attending their summer studies in July 2005 at Sokoine University of Agriculture and students of Sokoine University of Agriculture who were on campus during vacation. The objective was to compare the information needs and information-seeking behaviour of these students. The study highlights the positive aspects of seeking information from the students perspective as well as the kind of assistance they require when seeking information in the library. The findings show that there are differences in the extent to which students of the Open University of Tanzania (OUT) and those of Sokoine University of Agriculture (SUA) use sources of information in the library. The OUT students rely mainly on the use of print books and journals as opposed to electronic information resources, where as SUA students use both print books and electronic resources at varying degrees. The results further show that many of the information services offered in the library are not used effectively due to lack of awareness on availability of these resources among many students. It is recommended that a thorough and intensive training is carried out to both SUA and OUT students to help them use library resources more effectively and efficiently.

David Nicolas and others (2006) employs deep log analysis techniques, a more sophisticated form of transaction log analysis, to demonstrate what usage data can disclose about information seeking behaviour of virtual scholars - academics, and researchers. DLA works with the raw server log data, not the processed, pre-defined and selective data provided by journal publishers. It can generate types of analysis that are not generally available via proprietary web logging software because the software filters out relevant data and makes unhelpful assumptions about the meaning of the data. DLA also enables usage data to be associated with search/navigational and/or user demographic data, hence the name "deep'. In this connection the usage of two digital journal libraries, those of Emerald Insight and Blackwell Synergy are investigated. The information seeking behaviour of nearly three million users is
analyzed in respect to the extent to which they penetrate the site, the number of visits made, as well as the type of items and content they view. The users are broken down by occupation, place of work, type of subscriber ("Big Deal", non-subscriber, etc.), geographical location, type of university, referrer link used, and number of items viewed in a session.

Solomson Sulemani Bayugo and Seth Agbeko Katsekor (2007) have arranged a survey regarding the information seeking behavior of health sciences faculty at the College of Health Sciences of the University of Ghana Medical School. The survey documented preferences between print and electronic resource use, and the specific databases and full text journals that faculty have particularly found useful. The results showed faculty lack of awareness and use of the two most resourceful full text journal databases available at the library (HINARI and PERI), hence they resorted to PUBMED as their source of access to full text articles. Concludes that most faculty now prefer using electronic access to information (CD-ROM/online) than traditional print indexes and abstracts. It also includes recommendations for more functional and effective use of these electronic databases and full text journals that are available at the library.

Bradly M Hemminger and others (2007) has carried out the search work related to the academic scientists and their information seeking behavior. The focus of the study was to point out the availability of electronic resources for searching, retrieving, and reading scholarly materials. A census survey was conducted of academic science researchers at the University of North Carolina at Chapel Hill to capture their current information seeking behavior. Nine hundred two subjects (26%) completed responses to Web-based survey. The survey questions were designed to quantify the transition to electronic communications and how this affects different aspects of information seeking. Significant changes in information seeking behavior were found, including increased reliance on web based resources, fewer visits to the library, and almost entirely electronic communication of information. The results can guide libraries and other information service organizations as they adapt to meet the needs of today's information searchers. Simple descriptive statistics are reported for the individual questions. Additionally, analysis of results is broken out by basic science and medical science departments. The survey tool and protocol used in this study have been adopted for use in a nationwide survey of the information seeking behavior of academic scientists.
Rajan kumar Barik and others (2007) has arranged an investigative study of “Electronic information seeking behaviour of scientists and researcher scholars of CSMCRI Bhavnagar”. They commented in the study as, the e-resources are having an edge over its print counterpart. Due to its special features like, browsing, multi-access capability as well as searching, it’s ever availability etc. Through the consortium CSIR is providing 4500+ reputed scholar journals, as well as databases to the scientists and researchers working in its several laboratories spread all over the India. Information seeking through the e resources users needs much more ability to handle the tools to access the same. Their observations show that the scientists and researchers mostly seek information regarding their study. E- Resources are much famous amongst them. They get required information in this type of resources.

Paulina Junni (2007) conducted a study. She commented in the article that the internet has radically changed the global availability of scholarly publications. Today, a substantial part of the resources accessible for researchers and university students are offered through electronic site licenses, making the supply of easily obtainable information larger than ever. This brings forth an important question: what are the qualitative and quantitative effects of this development on the use of reference material in research and studies? Semi structured interviews were arranged with the students of economics, psychology and mathematics disciplines, who had finished their thesis in 2003. The quantitative data were analysed. The findings showed a substantial increase in the use of scholarly articles as references throughout the studied time periods, although the amount of other information sources had remained largely unchanged. There were also significant differences between the three disciplines in the contents of their reference lists, the amount of Internet resources that students used how they sought and obtained publications, and how they selected their sources. The Internet appears to have had a profound effect on the type and quantity of information that students use as references in Master's theses. One of the main problems that students reported was a lack of training in information seeking, and the abundance of irrelevant information on the Internet. Many respondents would have needed additional training on using library databases.

J. Bronstein (2007) reported the application of Ellis's behavioural model to the information seeking behaviour of Jewish studies scholars. A qualitative study in which twenty-five scholars from four universities in Israel were interviewed using a semi-structured interview guide in which participants were encouraged to talk about
different aspects of their information seeking behaviour. Data were analysed using the
grounded theory approach. This method consists of identifying incidents, events and
activities and coding them into their respective categories by constantly comparing
them to the properties of the emerging category to develop and saturate the category.
His findings were pointed to a strong relationship between the information activities
used and the stage of the research or purpose of the search. Lastly he rich at the
Conclusion, as per he said the proposed innovation positions of each of Ellis's
information activities within a time frame or relating them to a specific type of
scholarly activity. The proposed revision gives a comprehensive view of the active
stages of the information seeking process through the information activities used at
each research phase.

Vaishali G. Choukhande (2008) observed the information needs and use
pattern of faculty members and research scholars of Amaravati University. A
structured questionnaire was prepared and distributed among the 3431 researcher
scholars and faculty members of the said university and its affiliated colleges. Some
researcher scholars and faculty members and librarians of said jurisdiction were
interviewed. 1200 (34.98%) respondents were responded to the study. They
comments that text and handbooks encyclopaedias, dictionaries are mostly used by
them to fulfill their information need. They also seek the trade catalogue indexes,
bibliographies book reviews etc. book lending, reference newspaper clipping were the
famous library services among them. Very few libraries were providing SDI and CAS
services to their member. Respondents prefer both formal and informal channels of
the information dissemination. Librarians were expressed various problems regarding
the finance, technical knowledge of ICT.

Rubina Bhatti (2009) evaluates the educational and information needs and
information-seeking behaviour of the faculty members of the Islamia University of
Bahawalpur. Questionnaires and semi-structured interviews were used with one
hundred faculty members. One hundred fifty questionnaires were distributed and 100
returned. The data showed that most faculties (76%) consider the Internet the most
useful source of information, along with books, journals, and informal channels. The
teachers from Arts, Social Sciences and Humanities, and Islamic Learning also want
up-to-date resources relevant to their fields via a digital library. Teachers complained
about the insufficient provision of computers in the library. The demand for more
advanced services was also expressed.
Thanuskodi, S. (2009) observed the Information-Seeking Behavior of Law Faculty at Central Law College, Salem. During the study he identifies the information channels used by the Central Law College, Salem faculty members, including preferred information sources, methods of information access, and library use pattern. A questionnaire was distributed to 64 law faculty members and a return rate was of 87.5 percent. Books were ranked as most important for teaching and research, followed by law reports and statutes. Respondents preferred to consult their personal collections before resorting to other sources. On the whole, respondents perceived the Central Law College library collections, services, and facilities as adequate for their information needs.

Monica Vezzosi (2009) the purpose behind this exploratory study was to investigate the information behaviour of a group of doctoral students in the field of biology with the aim of understanding their needs and obtaining suggestions for an improved library service. In semi-structured interviews explore which information sources students’ use, research strategies they adopt, the role people adopt in their information seeking process and the attitude students have towards library services. After the data collection she observed that Doctoral students rely heavily on the internet for their research work. They appreciate simple and easy research tools and their use of the library is limited to a few services, such as document delivery and interlibrary loan. People play a crucial role in doctoral students' information behaviour mainly in terms of suggesting relevant documents. Students demonstrate progress throughout the years of their doctorate course in terms of awareness and information competence. The paper presents a perspective on the information needs of doctoral students in the biology field and provides some insights into students' priorities in terms of information tools and library services

Muzammil Tahira and kanwal Amin (2009) searched the information needs and Information seeking behavior of Science and Technology (S&T) teachers of the University of the Punjab. Their preferences regarding various formats of information sources (printed and electronic) and importance of formal and informal sources have been explored through quantitative survey. Self-completion questionnaire was used to reach whole population of institutions/colleges/departments of all Science and Technology faculties. After the data interpretation they found that both libraries and e-resources are playing important role in meeting respondents' information needs; direct access to e-sources has slightly decreased the number of their visits to
departmental and central libraries; and faculty spend comparatively more time on searching web sources than print sources.

Khushpreet Singh (2010) organised a study to find out the information seeking behaviour of the researchers of Punjabi University. He concluded in his study that researchers of that said university visit library daily. Most of the researchers were preferring periodicals as information source. Reference books were also famous among them. Researchers had enough knowledge to handle IT based devices of information as well.

Raja M. Masoom and Fatima Sarwat (2010) The study was based on Information-Seeking Behaviour of researchers of Central Drug Research Institute Lucknow. In this study, the methods of collection of data, analysis, interpretation, findings are presented in a systematic manner. The primary data is collected through a questionnaire of 54 researchers of Central Drug Research Institute, Lucknow. This study reveals the frequency of visit to the library, purpose of visiting the library, types of services, sources used to locate to the documents, behaviour of staff and user satisfaction, journal subscription, Internet facility etc.

Devendra Kumar (2010) focuses on the analytical study of information seeking behaviour among agricultural scientists in Sardar Vallabhbhai Patel University of Agriculture and Technology, India. Their preferences regarding various formats of information sources (formal, informal and electronic information sources) have been explored through quantitative survey. This study employed a structured questionnaire which was distributed to scientists in various teaching and research departments of the Sardar Vallabhbhai Patel University of Agriculture and Technology, as selected for the study.

Laura L. Haines and others (2010) attempted to arrange a study to examine the information-seeking behaviours of basic science researchers to inform the development of customized library services. Semi-structured interviews were conducted on a sample of basic science researchers employed at a university medical school. They observed that the basic science researchers used a variety of information resources ranging from popular Internet search engines to highly technical databases. Respondents generally relied on basic keyword searching, using the simplest interface of a database or search engine. They were highly collegial, interacting primarily with coworkers in their laboratories and colleagues employed at other institutions. They made little use of traditional library services and instead performed many traditional
library functions internally. Although the basic science researchers expressed a positive attitude toward the library, they did not view its resources or services as integral to their work. To maximize their use by researchers, library resources must be accessible via departmental websites. Use of library services may be increased by cultivating relationships with key departmental administrative personnel. Despite their self-sufficiency, subjects expressed a desire for centralized information about ongoing research on campus and shared resources, suggesting a role for the library in creating and managing an institutional repository.

Xuemei Ge (2010) conducted a study of Academic Researchers Information-Seeking Behaviour in the Digital Age. The article focuses on how electronic information resources influence the information-seeking process in the social sciences and humanities. It examines the information-seeking behaviour of scholars in these fields, and extends the David Ellis model of information-seeking behaviour for social scientists, which includes six characteristics: starting, chaining, browsing, differentiating, monitoring, and extracting. The study was conducted at Tennessee State University (TSU). Thirty active social sciences and humanities faculty, as well as doctoral students, were interviewed about their use of electronic information resources for research purposes, their perception of electronic and print materials, their opinions concerning the Ellis model, and ways the model might apply to them. Based on the interview results, the researcher provides suggestions on how current information services and products can be improved to better serve social sciences and humanities researchers. The author makes recommendations for improving library services and technologies to better meet the needs of social sciences and humanities scholars.

With the intention of search the Information-Seeking Behavior of Scientists, Hamid R. Jamali and David Nicholas (2010) Adopted an interdisciplinary perspective to evaluates the information-seeking behavior of academics from different subfields of physics and astronomy. It investigates the effect of interdisciplinarity (reliance on the literature of other subjects) and the scatter of literature on two aspects of the information-seeking behaviour methods used for keeping up-to-date and for identifying articles. To this end a survey of 114 PhD students and staff at the Department of Physics and Astronomy at the University College London was carried out. The findings showed that the subfields that are more interdisciplinary or have a more scattered literature are more likely to use general search facilities for finding
information. The study also showed that cross-disciplinary use of the literature is not necessarily an indicator of scattered literature. The study reveals interdisciplinary differences among physicists and astronomers in terms of their information-seeking behaviour and highlights the risk of overlooking the characteristics of information-seeking behaviour of specialized subject communities by focusing on very broad subject categories.

Hemminger Nui Xi and others (2010) conducted national wide survey in the United States. As new technologies and information delivery systems emerge, the way in which individuals search for information to support research, teaching, and creative activities is changing. To understand different aspects of researchers' information-seeking behavior, this article surveyed 2,063 academic researchers in natural science, engineering, and medical science from five research universities in the A Web-based, in-depth questionnaire was designed to quantify researchers' information searching, information use, and information storage behaviors. Descriptive statistics are reported. Additionally, analysis of results is broken out by institutions to compare differences among universities. Significant findings are 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. Generally speaking, researchers in the five universities had similar information-seeking behavior, with small differences because of varying academic unit structures and myriad library services provided at the individual institutions.

Laila Marouf and Mumtaz A Anwar (2010) The purpose of the paper was to investigate the information-seeking behavior of the social sciences faculty at Kuwait University. A survey method was used for this study. The data was collected using a structured, peer-reviewed questionnaire self-administered to 77 faculty members, with 54 returns. It was found that these respondents heavily depend on books and journals for teaching and on a larger variety of materials for research purposes. Their use of informal sources is comparatively less than formal sources. Journals and books are considered the most important sources to meet their needs. Among the informal sources, conferences, subject experts, and colleagues are given higher importance than librarians and government officials. Journals and books are used more frequently than raw data, technical reports, and manuscripts and primary materials. Their satisfaction level with all the sources is positive but higher for journals and books. The level of satisfaction with informal sources is slightly higher than formal sources.
Their library use is very low with complaints about the quality of staff, resources, especially in Arabic, and access to international resources.

Ganpathi shinde (2010) has a book on his credit named by “information research in social science”. He showed which information resources are seek the researchers to fulfill their information query in the area of social sciences. He also commented on their information seeking behaviour, their information needs. He expressed his views on the user studies and its importance in the field of library science. He also wrote about the various information behaviour models and its implication in the information behaviour of researchers. In the same book he highlighted the current scenario of Indian higher education, roll of universities and colleges in the social science research roll of academic libraries in it.

Sheeja, N (2010) investigated the information-seeking behaviour of the research scholars of the field of science and social science. The main focus of the study was on service effectiveness, satisfaction level on different type of sources and various methods adopted by the scholars to keep their knowledge up to date. Data was collected through the survey method and questionnaire was used as a data collection instrument. Population of the study was 200 randomly selected PhD students of science and social science departments of four universities in Kerala. Researcher found several similarities as well as differences between the social science and science PhD students with regard to information-seeking behaviour as well. There was a significant difference between science and social science scholars on the perception of the adequacy of print journals and database collection which are very relevant to the research purposes. There is no significant difference between science and social science scholars on the perception of the adequacy of e-journals, the most used source for keeping up to date. Researcher also notified that the research scholars of both faculties were dissatisfied with the effectiveness of the library in keeping them up to date with latest developments.

Mohmad Al-Suqri (2011) conducted a study regarding the Information-seeking behavior of social science scholars in developing countries. The study develops an integrated model of social science information-seeking behavior based on a synthesis of established models and tests the ability of this integrated model to describe present-day information-seeking among social science scholars in a Middle Eastern university. The research was based on e-mail interviews, face-to-face interviews and focus groups conducted with social science faculty at Sultan Qaboos
University in Oman. the College of Education, the College of Commerce and Economics, and the Law College, including both men and women and representing a range of academic ranks. It was found that the information-seeking practices of the study sample could be readily matched to the stages of the model, suggesting that, in general terms, information-seeking behavior follows universally applicable stages, and that the model can be applied to current-day information-seeking despite changes in the information environment. The findings also provided support for the inclusion in the model of additional dimensions relating to the format and location of information resources, since these contextual factors were found to have an important influence on the process of information-seeking among the study participants.

T. Satish Kumar and others (2011) analyzed the information needs and information seeking behavior of Defence Research and Development Organization (DRDO) scientists working in nine life science laboratories in India. Data was collected from 443 scientists. Structured questionnaires were analyzed. Results revealed that DRDO life science scientists depend greatly on their respective library/information centers. Scientific journals have been ranked at the top for obtaining specific information and keeping up-to-date. Concludes that the working culture of the individual requiring information, the importance is placed on getting it, the facilities available for seeking it, the knowledge about these facilities, the judgment of their value and the probability of getting what is wanted affects information seeking behaviour.

David Nicholas and others (2010) evaluated the use of the Science Direct journals database with regard to Life Sciences, Economics, Chemistry, Earth and Environmental Sciences and Physics by ten major UK research institutions. The aim of the study was to investigate researchers' digital behaviour, and to ascertain whether their use and behaviours varied by subjects and disciplines, or in relation to the institutions in which they worked. Raw logs for Science Direct were obtained for the period January to April 2007, were subject to deep log techniques and analysed using the Software Package for Social Sciences (SPSS). Typically, 5 per cent of the Science Direct journals viewed accounted for a third to half of all use. A high proportion of researchers entered the Science Direct site via a third-party site, and this was especially so in the case of the Life Sciences and in the highest-ranked research institutions. There were significant institutional and subject differences in information-seeking behaviour. In the most research-intensive institutions, per capita
journal use was highest and their users spent much less time on each visit. There were significant differences of the order of 100-300 per cent in the age of material viewed between subjects and institutions. Just four months after Science Direct content was opened to Google indexing, a third of traffic to the site's Physics journals came via that route. The research is one of the very few studies to investigate subject and institutional differences with regard to the information seeking and use of UK researchers, something UK academic librarians should particularly welcome.

Chopkar H.D and Khaparde V.S (2011) conducted a study to understand the information seeking behaviour of information seeking behaviour of research scholars of biological science department of Dr. Babasaheb Ambedkar Marathwada University. A structured questionnaire was prepared to complete the survey based research study. It was found that 120(89%) research scholars visit the library. Mostly they visit library twice per week. First preferred sources of the information were books. Their second choice was to newspaper and journals as the information source. Respondents commented that they have enough knowledge to handle the IT based information resources and they browse needed information through such sources frequently. They had some technical problem in using the library resources and services.

Jaydev Kadli and B.D. Kumar (2011) arranged a study of faculty members of commerce colleges in Mumbai. They observed that changing technologies have brought a more sophisticated and higher speed of communication. Academic libraries are responding to this change in the learning and research environment. Libraries are adding new electronic information resources and bringing services for the benefit of users. Developments in ICT have made drastic changes in the way the information collected, stored, and distributed by libraries and accessed by users. Information-seeking behavior is expressed in various forms, from reading printed material to research and experimentation. Scholars, students, and faculty actively seek current information from the media available in libraries. The article studies characteristics of information-seeking behaviour of faculty of commerce colleges in Mumbai.

Shakil Khan and Farzana Shifique (2011) conducted a survey; purpose of the study was to determine the information needs and information seeking behaviour of college faculty (i.e. teachers and administrators) at Bahawalpur City. A survey was used for the study. The results of the study reveal that current services rendered by the college libraries are not fulfilling the information needs of college faculty to great
extent. They search their personal collection in case of urgent need of information instead of visiting the library. Furthermore they mostly rely on informal sources of information. Information technology has affected their information seeking behavior and made information seeking process easier.

Hazel, Woodward (2010) the study was done by the financial assists of The British Library and JISC. The survey ‘Researchers of Tomorrow' was completed in three-years. Basic intention behind the study was to find out the difference between the information-seeking behaviour of 'Generation Y' doctoral students and older doctoral students. After the data collection and interpretation results revealed that there was little difference in the research behaviour of older doctoral students and Generation Y. The two groups differ primarily in subject disciplines being researched.

Afrodite Malliari and others (2011) described a survey designed to determine the information seeking behaviour of graduate students at the University of Macedonia (UoM). The 254 students responded tend to use the simplest information search techniques with no critical variations between different disciplines. Their information seeking behaviour seems to be influenced by their search experience, computer and web experience, perceived ability and frequency of use of e-sources, and not by specific personal characteristics or attendance at library instruction programs. Graduate students of the university.

Debra Engel and others (2011) has made an attempt to search the information-seeking habits of engineering faculties. This study explores the information-seeking behavior of academic engineering faculty from twenty public research universities. This investigation includes an examination of how frequently engineering faculty seek or access information, how they keep abreast of current developments in the field and find less recent journal articles, how often they visit the library in person, and how important library services and resources are in meeting their information needs. The responses from the survey participants emphasize the importance of electronic access to current and archived scholarly journals for meeting the research and information needs of engineering faculty.

Naved Ahmed (2011) has observed during his research conducted for fulfillment of Ph. D. degree that all the faculty members of the Indian institute of management are used books journals for teaching and research activity. More than 25% members were consulting to the subject expert for their queries as a informal channel of information. Generally most of the faculties surf the internet for
information need regarding the teaching and related activities. ICT shows deep impact on teaching learning process in the same institutes of Ahmedabad and Lucknow. Members felt that Library services and use of ICT, e-journals are much better. Faculty members of the institutes from Calcutta, Ahmedabad and Lucknow are use verity of information resources ranging from search engines to technical databases. Yet books, periodicals, encyclopaedias indexes and abstract journals are the famous information sources amongst the respondents.

Ashwani Kumar and N. R. Satyanarayan (2012) carried out a study with social science research scholars of Banaras Hindu University Varanasi. The focus of the study was to find out their preferences regarding the information sources and method of information access. They noticed that online sources and internet are popular among them. Google was most popular search engine used by them. they were frequently using e-mail for communication.

A.K.Pareek and Madan S. Rana (2013) carried out the study to understand the information seeking behaviour and library use pattern of researchers within the campus of Banasthali University. A structured questionnaire was prepared and distributed among the 100 researchers. The population of the study was selected by the random process from total 150 researchers. The basic indentation of the study was to determine what their information requirements and also determine their awareness of library services available to them. Authors concluded that respondents need proper guidance for optimum use of the library collection and services

Anil Kumar and others (2014) organized a study to assess the Information Seeking Behaviour of the research scholars and faculty members of Kurukshetra University Kurukshetra. The study was delimited with the research scholars and faculty members of the disciplines of Life Sciences. 121 respondents were chosen from seven departments viz Botany, Bio-Chemistry, Biotechnology, Zoology, Microbiology, Home Science and Institute of Environment Studies under the Life Sciences out of them 50 were faculty members and 71 were research scholars. A well structured questionnaire was prepared and distributed among the respondents of the study. Authors found some certain facts about the Information Seeking Behaviour of Kurukshetra University Kurukshetra. 28.92% of the research scholars and faculty members were daily visit the library to procure information. it was also found that same no. of respondends i.e. 28.92% sometimes visit the library with same intention. In fact 22.31% visits the library weekly, 16.52% respondents were visit the library
twice in a week to collect the information. Respondents were expect to improve internet speed it may assist to acquire needed information for research work etc. for the proper use of online resources and IT based sources, respondents commented about the orientation /training program by the library. Most of respondents were suggested that Kurukshetra University Kurukshetra should take necessary steps to utilize the library must take improve the internet, and aware the students about E-Journals & E-resources available in INFLIBNET.

B. Information seeking behaviour of students:

Abdoulaye K (2002) has conducted a questionnaire based survey, to investigate the information seeking behaviour of African students at the International Islamic University Malaysia (IIUM) and explore the effects of students' perceptions of the IIUM library on the African students' information seeking behaviour. Twenty students were interviewed. Participants were found to be aware of the services available to them in the library. Respondents also were found to be relying heavily on library books, periodicals, the Internet, and textbooks for coursework, project or research papers. All respondents agreed that the library has changed their information-seeking behaviour.

Benzies Boadi and Patricia Letsolo (2004) investigated the information needs and information seeking behaviour of distance learners at the Institute of Extra-Mural Studies in Lesotho. The study shows that the distance learners exhibit the same characteristics of distance learners elsewhere by way of age, employment status, long distances from campus and, therefore, uneasy access to on-campus library and information sources and services. This has made them depend on easily available sources of information including colleagues, personal collections, co-workers and family members, which may not necessarily be the best sources of information to meet their needs. Suggests that information is an indispensable aid to learning and that everything should be done, especially in the case of distance learners, who as a rule live off-campus, to have unimpeded access to needed information.

Yoo-Seong Song (2004) investigated information-seeking behaviour of one particular segment of international students - international students seeking degrees in the field of business. The author surveyed domestic and international business students enrolled in the College of Business at the University of Illinois at Urbana-Champaign. The survey was designed to compare their perceptions of library services and information-seeking behaviours. This study focused on three aspects: (1) how
domestic and international business students assess the effectiveness of library instruction sessions; (2) how domestic and international business students use library services; and (3) how domestic and international business students use the Internet for their research. The survey results offer insights into understanding different perceptions of these two student groups with respect to their library use patterns and research strategies.

Joanne Callinan (2005) conducted study the purpose of the study was to understand what differences exist between first year biology and final year biochemistry students in University College Dublin so that measures can be taken to address those needs. It examines student's awareness and use of different sources of information for their course-work, their use of the library, why they visited the university library, the type of assistance they had received in using the library as well as the type of instruction they would like to receive in the future. For the data collection a questionnaire was designed and administered to both sample groups to investigate the information-seeking behaviour of these students in different years of their studies. The study highlights the positive aspects of seeking information from the student's perspective as well as the barriers they encountered when seeking course-related information. The findings show that there are differences in the extent to which sources of information are used by students in different years of their studies. Apart from web sites and web-based lecture notes, lack of awareness is the primary reason why undergraduate biology students did not use the library's electronic databases. the study does not distinguish between third and fourth year students in the final year sample. One of the key recommendations is that bibliographic instruction should meet the specific information needs of first year biology and final year biochemistry students as well as greater liaison between faculty and librarians in the area of collection development and information literacy. The paper establishes the importance of a cross-sectional study in understanding the difference in students' information needs in different years of their studies.

Cheryl Dee and Ellen E Stanly (2005) investigated the information seeking activities of nursing students and clinical nurses. The objective behind the study was to provide new insights on clinical nurses' and nursing students' current use of health resources and libraries and deterrents to their retrieval of electronic clinical information, exploring implications from these findings for health sciences librarians. Questionnaires, interviews, and observations were used to collect data from 25
nursing students and 25 clinical nurses. After the data interpretation the findings were, as bellow.

Nursing students and clinical nurses were most likely to rely on colleagues and books for medical information, while other resources they frequently cited included personal digital assistants, electronic periodicals and books, and drug representatives. Significantly more nursing students than clinical nurses used online databases, including CINAHL and PubMed, to locate health information, and nursing students were more likely than clinical nurses to report performing a database search at least one to five times a week. Conclusions and Recommendations: Nursing students made more use of all available resources and were better trained than clinical nurses, but both groups lacked database-searching skills. Participants were eager for more patient care information, more database training, and better computer skills; therefore, health sciences librarians have the opportunity to meet the nurses' information needs and improve nurses' clinical information-seeking behaviour.

Joyline Makani, & Kelli WooShue, (2006) arranged a study with the students of business faculty of Dalhousie University Canada. The purpose of the study was to investigate the changes exist in information seeking behaviour of the student due to introduction digital libraries. The students studied were drawn from the School of Business Administration at Dalhousie University, Canada. The data of the study was collected through both qualitative and quantitative techniques. Survey method was used to complete the study as the instruments of data collection semi-structured interviews, observations were used. Qualitative case study data was coded using QSR N6 qualitative data analysis software. The data was categorized using Atkinson's "Model of Business Information Users' Expectations" and Renda and Straccia's personalized collaborative DL model. Atkinson's model assisted to define the expectations of business students in terms of cost, time, effort required, pleasure and the avoidance of pain. Renda and Straccia's model of a personalized and collaborative digital library centres around three concepts: actors, objects, and functionality. The survey data was analysed using the Zoomerang software. It was noticed that cost of the resources affecting the student’s document selection policy. Easy accessibility, usability speed of delivery and convenience were other factors influencing the document selection policy of the student. The results showed that similar to Atkinson's findings, the business students' information-seeking behaviour is influenced by the concepts of cost-benefit and break-even analyses that underlie
business education. Concerning speed of delivery and convenience, the organization of the resources was paramount. Students preferred user-defined resource lists, alert services, and expert-created business resource collections. When asked about the usefulness of potential digital library functionalities, students valued a personalized user interface and communal virtual spaces to share information and communicate in real-time with their peers. Authors concluded that development of digital libraries showed tremendous change in resource selection process of the students. They also advocated the "user's orientation and motivation" program.

Elizabeth Brumfied (2008) communicated her views in the article, “Using Online Tutorials to Reduce Uncertainty in Information Seeking Behavior”. She defined Uncertainty, as affective symptoms of stress, anxiety, and frustration when faced with an information need. Traditional face-to-face instruction allows sender and receiver to fulfill information needs using multiple sources, which can be visual, auditory, tactile, or verbal. Distance learners may experience high levels of uncertainty when most or all of the communication and interaction takes place in an electronic environment that does not allow for these multiple information sources. Research on face-to-face communication and uncertainty, suggests that people attempt to reduce uncertainty by acquiring more information and also by using structured or familiar information resources. The paper suggested that many of our behavioral motivations in face-to-face activities would also apply in the online environment. By creating online tutorials that combine structured hierarchical instructions with familiar modes of communication, one may be able to reduce symptoms of uncertainty in the library search process.

Fatima, Nishat and Ahmad, Naved (2008) had attempted to conduct a survey with the student of Ajmal Khan Tibbiya College, Aligarh Muslim University. In the survey the data was collected from 60 students by administering questionnaires on their information seeking behaviour at the College. The study indicates that guidance in the use of library resources and services is necessary to help students meet their information requirements. It also finds that textbooks and journals are the most popular sources of information for the students' course work.

Mojtaba Sookhtanlo and others (2009) conducted a study. The study investigates the library information-seeking behaviour among undergraduate students of agricultural extension and education of Iran. The data was collected by structured
questionnaire. Respondents were selected by using stratified proportional random sampling. 230 persons were selected from four famous universities of Iran through questionnaires for this study. The findings revealed that awareness of library scientific resources and availability of library resources items were the most important and influenced factors in students' library information-seeking behaviour. Students with higher academic level are generally expected to have higher skills through information-seeking behaviour. On the contrary, this study indicates that the students were not influenced by this. Gaps in the library facilities in different universities (especially total number of related books to field and the number of computers) have direct influence on students' library information-seeking behaviour. Besides, interactions (searching by asking other students and faculty) were the other means students' used for seeking information.

Mohd Saad and others (2009) observed that undergraduates are skilled in finding and evaluating resources for their various learning needs. Information professionals need to find out strategies and courses of action undertaken by undergraduate students in order to perhaps improve information literacy skills or user education programmes. This qualitative study uses the diary, emails interaction and in depth face to face interview approach involving 14 final years Computer Science and Information Technology undergraduates whom shared their information search and use process. The objectives of this study were to find out the decision on deciding research topics by final year students; the sources and channels of information they use and prefer, the utility of libraries and librarians; the use of the Internet; the search strategies adopted; their thoughts on intellectual property and ethical issues. Among the main information sources used were the Internet, books and previous final year project reports. They also seem to rely a lot on their friends and lecturers as their source of information. Very few used journal articles, seminar papers or other sources. An understanding of their information seeking behaviour patterns is the focus of this paper. Informants' thoughts and feeling on the library services and the ethical use of information will be shared.

David Nicholas and others (2009) their study provided evidence on the actual information-seeking behaviour of students in a digital scholarly environment, not what they thought they did. It also compares student information-seeking behaviour with that of other academic communities, and, in some cases, for practitioners. Data were gathered as part of CIBER's ongoing Virtual Scholar programme. In particular
log data from two digital journals libraries, Blackwell Synergy and Ohio LINK, and one e-book collection (Oxford Scholarship Online) are utilized. The study showed a distinctive form of information-seeking behaviour associated with students and differences between them and other members of the academic community. For example, students constituted the biggest users in terms of sessions and pages viewed, and they were more likely to undertake longer online sessions. Undergraduates and postgraduates were the most likely users of library links to access scholarly databases, suggesting an important "hot link" role for libraries. Few studies have focused on the actual (rather than perceived) information-seeking behaviour of students. The study fills that gap.

Olugbade Oladokun (2010) has made an attempt to observe the information-seeking behaviour of the off-campus students at the University of Botswana in 2 of the 7 satellite centres of the Centre for Continuing Education. Although the university deeply committed itself to the project, the university library could not afford to establish branch libraries in all the off-campus centres. With the nearest university branch libraries located some 160 km and 200 km away from the centres of study and only branch offices of the public library available, the findings revealed that the library and information needs of the students were not significantly met. As printed sources were revealed as their preferred choice of information format, e-mail and the Internet sources were not given much priority, even though there was evidence that suggests the students were adequately equipped through the teaching of information skills. Questionnaire and interview tools were used.

Tusiwe Hadebe (2010) conducted a study The purpose of the study was to investigate the use of electronic databases by master's students in the Faculty of Humanities, Development and Social Sciences at the University of KwaZulu-Natal, Pietermaritzburg campus. The study which was based on a master's thesis aimed to establish which electronic databases master's students used and how frequently they were used. The conceptual framework for the study was rooted in Kuhlthau's Information Search Process. The methodological approach undertaken by the researcher was quantitative and data was collected using a questionnaire. The outcome of the study revealed that a majority of HDSS master's students at the University of KwaZulu-Natal, Pietermaritzburg campus used the electronic databases and a number of problems were experienced when using the databases. Recommendations for the library include ensuring that training or user education is
ongoing and meets all the various users' needs; improving students' access to the databases by limiting the need for passwords; improving the internet bandwidth to enhance the speed of connection, and using the internet and web-based services such as news groups, bulletin boards, Web 2.0 facilities to communicate with users.

As per the opinion of Behdja Boumarafi, (2010) Electronic information is becoming prevalent worldwide, and its use is growing exponentially as more and more users are recognizing the potential that it offers in terms of access and delivery. However, with the introduction of new tools for e-information searching and retrieval, users have to readjust their information-seeking behavior to cope with the corresponding changes. The University of Sharjah library is steadily increasing its investment in e-resources to offer ubiquitous access to the growing body of literature in areas that interest the community it serves. This study reports the findings of a survey conducted to investigate the information-seeking behavior of medical students at the medical library. Results showed evidence of use of e-resources, but they did not explicitly establish that some of the major problems mentioned by participants did binder the information searches of the respondents.

Kehinde Owolabi and others (2010) has conducted a study. The study investigated the information-seeking behaviors of polytechnic students. Five hundred students were randomly selected and a questionnaire was used to gathering data. The findings revealed that academic information is the major reason why students seek information and the library is the major source of information.

O'Connor, Lisa & Lundstrom, Kacy (2010) has conducted a study to understand the Impact of Social Marketing Strategies on the Information Seeking Behaviours of College Students. There were three objectives put to understand the problem i.e.(1) decrease procrastination due to the illusion of immediacy, (2) increase students' willingness to seek expert assistance when it is warranted, and (3) increase the selection of information sources based on criteria other than the information need itself. It is found during the study that students were feeling easy and conferrable with online sources as well as internet to fulfil their information query. Findings suggest a positive impact as a result of marketing strategies attempting to achieve these objectives. Students who received messages based on a social marketing framework that emphasized these objectives appeared more willing to engage in discussions about the research process and were more likely to seek assistance from a librarian. There were a number of students reported that they ever get needed information from the librarian. Students who only received skills instruction reported attempting to use research tools like databases, but gave up in frustration. Due to relatively little research on
how social marketing strategies can be used to change student research behaviours, more research is warranted to explore this connection.

Umesh Reddy Kacherki and Mahesh J Thombre (2010) focused on the developments in information technology. As per their observation there are huge changes introduced in the information collection, storage, retrieval and distribution fields. Electronic journal is one of the products of information and communication technologies. The advancement of e-journal during recent years has given librarians a powerful new resource to support learning and research. With availability of both forms of journals in the library, it has become necessary to compare and evaluate effectiveness of e-journals and print journals from users' and library's point of view. The paper was discussed case study done at SP Jam Institute of Management and Research to find out the information-seeking patterns of the library users. The paper also discussed advantages and disadvantages of e-journals and suggests that printed and e-journals are complimentary to each other.

According to C Okello-Obura and J R Ikoja-Odongo (2010), “Without clearly understanding the users' level of usage of resources, attitudes and the e-resources literacy levels, it is difficult to promote reading in electronic environment. Developing countries within their limited library resources need to ensure that the e-resources acquired or subscribed to are optimally used”. With those views and on the same basis they designed and conducted a survey among the postgraduate Library and Information Science (LIS) students of Makerere University, Uganda to establish the level of computer skills of its LIS postgraduate students. Their views behind the study were to observe how students use the electronic information resources; their attitudes towards e-resources; access; their e-resources literacy levels and propose strategies to improve on e-resources use. For the completion of study survey research technique was used. The data was collected by using structured questionnaire. and it has analysed by using Excel Software to generate the frequencies, percentages and pie charts. Results of the study established that LIS postgraduate students have varied computer skills. Working on coursework/assignments, looking for opportunities and e-mail use top the main reasons as to why they use e-resources. Among the e-resources that the University Library subscribes to, Emerald and Blackwell-Synergy are the most accessed. The study also established that the respondents have positive attitude towards e-resources and feel that their standard of academic work would suffer
without e-resources. The respondents proposed different strategies to improve on e-resources in the University. Among the different proposals suggested to promote e-resources in the University are the integration of the Phone short text message services and insistence by the LIS lecturers for students to use e-resources in coursework/assignments. The respondents however did not support the idea of introducing e-resources fees to be paid by students. The study concludes that a concerted effort is needed by both lecturers of LIS postgraduate students and university librarians to promote e-resources. Joint effort is required if optimum reading in electronic environment is to be achieved. It should not be seen as the work of the university librarians alone. The study will help to develop access to critical data that can help academic libraries make decisions regarding e-services and resources. It will also develop data-rich evidence for the library users that the academic library serves attesting to the value of the library-enabled networked services and e-resources.

Judith Mavodza, (2011) attempted to search out the information seeking behaviour of Metropolitan College of New York (MCNY) library users. The paper was based on studying database usage patterns from January 2007 to December 2010, as well as a literature review. The results of the study suggest the position that database usage statistics can give insight into information behaviour and help inform collection management decisions, but on their own are not sufficient to give the complete picture. The outcomes may be useful in the design of library instruction sessions in future student groups in the College as well as in postsecondary settings, in addition to informing collection management decisions. A study of library database use patterns by library users brought out relevant information relating to the tailoring and enhancement of library service.

C. Information seeking behaviour of scientists:

Eric Thivant (2005) has searched the information seeking and use behaviour of economists and business analysts. The aim of this paper was to deal with the information seeking and use problem in a professional context and understand how activity can influence practices, by taking as examples, the research undertaken by economic analysts. He analysed the relationship between the situational approach, described by Cheuk, the work environment complexity (with social, technological and personal aspects), and the information seeking and use strategies, which relied on Ellis and Wilson's model, with Bates's comments. He interviewed eight economists,
using a questionnaire and the SICIA (Situation, Complexity and Information Activity) method. The SICAI method is a qualitative approach, which underlines the relationship between situations, professional contexts and strategies. Both methods allow better understanding of how investment analysts find out what they need for their job. We can clarify their information sources and practices of information seeking, which are very particular because of their activities. He completed his analysis by interviewing analysts from financial institutions. A qualitative mode of analysis was used to interpret the interviewees' comments, within the research framework adopted. He find similarity in information seeking and use strategies used by these two groups and environmental levels meet in most situations. But some differences can be also found, explained by the activity frameworks and goals. The study demonstrates that the activity and also the professional context (here the financial context) can directly influence practices.

M. P. Satija and K.P. Singh (2006) have conducted a survey study to find out the information seeking studies done with the Agricultural Scientists in India. After scanning through various studies on information theories, authors noticed that agricultural sector is as a subject and a crucial economical sector didn’t get enough space in the research area. No single compressive study has done by any Indian scientist or librarian. Most of the studies didn’t published by the authors. They also found that one cannot find enough empirical studies covering many types of users and many aspects of information seeking behaviour of agricultural scientists keeping in view that Indian economy and Indian society is an agro-business based.

Pujara and Sangam (2007) have carried out a search work “an information use by economists” the purpose of their study was to find out the information and use pattern of Indian economists in present era. They highlighted the use of various types’ resources and the roll of NASSDOC in providing various services to social scientists.

Angelica Villanueva (2007) conducted a study regarding the information Seeking Behaviour of the Mexican Mathematician Community. It studies the community to know his behavior in the searching of information. The data was collected through the well structured questionnaire. It investigated the relation or possible influence existing between several variables: study level, age, labor age, class and ownership to the SNI against the source and the resource more used by the researchers.
Hamid Jamali and Saeid Asadi (2010) the paper aims to demonstrate the role that the Google general search engine plays in the information-seeking behaviour of scientists, particularly physicists and astronomers. The paper was based on a mixed-methods study including 56 semi-structured interviews, a questionnaire survey of 114 respondents (47 per cent response rate) and the use of information-event cards to collect critical incident data. The study was conducted at the Department of Physics and Astronomy at University College, London. The results showed that Google is the tool most used for problem-specific information seeking. The results also show the growing reliance of scientists on general search engines, particularly Google, for finding scholarly articles. Initially, finding scholarly articles was a by-product of general searching for information rather than focused searches for papers. However, a growing number of articles read by scientists are identified through the Google general search engine and, as scientists are becoming more aware of the quantity of scholarly papers searchable by Google; they are increasingly relying on Google for finding scholarly literature. As the only fields covered in the study were physics and astronomy, and the research participants were sourced from just one department of one institution, caution should be taken in generalizing. The data were based on a mixed-methods in-depth study of scientists' information-seeking behaviour which sheds some light on a question raised in past studies relating to the reason for the high number of articles identified through Google.

D. Professionals of health care sector:

Majid S Zawawi S (2001) focused on the information needs and information seeking behaviour of health science professionals in developing countries, particularly in Malaysia in his survey study. The study explores the information needs and information seeking behaviour of biomedical scientists at the Institute for Medical Research (IMR), Malaysia. 84 questionnaires were distributed. Out of that 54 completed questionnaires were returned by the respondent. Overall response rate was of 64.3 per cent. Results indicated that biomedical scientists were using a variety of information sources to satisfy their information needs. Biomedical scientists who were solely involved in research work considered periodical articles as the most preferred information source. On the other hand, researcher-lecturers considered books as the most preferred information source in meeting their information needs. Both categories of scientists also considered interaction with colleagues as an important source for satisfying their information needs. The study also revealed that
in spite of having access to modern and up-to-date digital information sources, most respondents still preferred using printed materials. Nonetheless, CD-ROM was the most utilized IT-based source. For the Internet-based information sources and applications, electronic mail was the most popular while other applications were used infrequently.

Sue Bryant (2004) has carried out a search work to explore the information needs and information seeking behaviour of family doctors, identifying any differences in attitudes and behaviours deriving from membership of a training practice and investigating the impact of a practice librarian. A case study of general practitioners (GPs) in Eynesbury Vale incorporated a quantitative study of use of the medical library, and two qualitative techniques, in-depth interviews and group discussions. A total of 58 GPs, almost three quarters of those in the Vale, participated; 19 via individual interviews and a further 39 via two group discussions. Family doctors are prompted to seek information by needs arising from a combination of professional responsibilities and personal characteristics. A need for problem-orientated information, related to the care of individual patients, was the predominant factor that prompted these GPs to seek information. Personal collections remain the preferred information resource; electronic sources rank second. The study demonstrated low use of the medical library. However, both vocational training and the employment of a practice librarian impacted on library use. The study illuminates the information needs and preferences of GPs and illustrates the contribution that librarians may make at practice level, indicating the importance of outreach work.

Florence Boissin (2005) has stated as, “Numerous studies deal with the use of computers and the Internet in the health sector. Most of these studies show an increase in the use of the new technologies in searching for medical information—particularly by patients—but these uses remain very heterogeneous and depend on the studies. The aim of this work was to consider the use of computers by French general practitioners and to analyze the impact that computerization could have on their information-seeking behaviour. The nature of the approach used is qualitative using interviews. Most of the general practitioners interviewed were equipped with a computer. The policies of the government were supposed to give financial incentives for general practitioners to start using computers for the management of administrative procedures, but many physicians do not know how to use the new tools properly. Their computers are, in most cases, underused for searching for medical
information. Most of the time internet sources were thought to be unreliable. This study sheds light on the use of computers and the preferences of general practitioners in searching for medical information.

Wole Olatokun and Ajagbe Enitan Michael (2010) made an attempt to examine the information-seeking behaviour of traditional medical practitioners by using the Taylor's information use model. Respondents comprised all 160 traditional medical practitioners that treat sickle cell anemia. Data were collected through interviews and, structured questionnaire. Frequency and percentage distributions were employed for data analysis using the Statistical Package for the Social Sciences (SPSS) software. Analysis revealed that traditional medical practice in the study area was male dominated and the majority of the traditional medical practitioners seek information primarily from informal sources, particularly from colleagues within the same professional association. Knowledge of traditional medical practice was revealed to be orally preserved. The low level of education of the traditional medical practitioners denied them access to knowledge that could improve and make their services in the treatment/management of sickle cell anemia more relevant to the health needs of Nigerian society. Traditional medical practitioners have some good advice for the holistic care of sickle cell anaemia but their information and communication system is very dependent on 'what works, in some situations' moving upwards to the experts, and the associations, who then pass this on to other practitioners who may have specific queries. If the associations could actively collect information about the practices of their members, and subject them to some open debate, then good practice might drive out less effective practices faster -- and the associations would be in a better situation and have a basis to 'accredit' and help train junior traditional medical practitioners. There is therefore a need to bring the traditional medical practitioners into the mainstream by providing them with proper training, facilities and back-up for referral.

Paula Younger (2010) reviewed how doctors and nurses search for online information are relatively rare, particularly where research examines how they decide whether to use Internet-based resources. Original research into their online searching behaviour is also rare, particularly in real world clinical settings, as is original research into their online searching behaviour. This review collated some of the existing evidence, from 1995 to 2009. To understand their searching process and how they behave at the time of information seeking an initial scoping literature search was
carried out on PubMed and CINAHL to identify existing reviews of the subject area and relevant original research between 1995 and 2009. Following refinement, further searches were carried out on Embase (Ovid), LISA and LISTA. Following the initial scoping search, two journals were identified as particularly relevant for further table of contents searching. Articles were excused where the main focus was on patients searching for information or where the focus was the evaluation of online-based educational software or tutorials. Articles were included if they were review or meta-analysis articles, where they reported original research, and where the primary focus of the online search was for participants' ongoing Continuing Professional Development (CPD). The relevant articles are outlined, with details of numbers of participants, response rates, and the user groups. Results: There appear to be no significant differences between the reasons why doctors and nurses seek online Internet-based evidence, or the ways in which they locate that evidence. Reasons for searching for information online were broadly the same: primarily patient care and CPD (Continuing Professional Development). The perceived barriers to accessing online information are the same in both groups. There was a lack of awareness of the library as a potential online information enabler. Libraries need to examine their policy and practice to ensure that they facilitate access to online evidence-based information, particularly where users are geographically remote or based in the community rather than in a hospital setting. Librarians also need to take into account the fact that medical professionals on duty may not be able to take advantage of the academic model of online information research.

Petros A. Kostagiolas and others (2011) investigated the information seeking behaviour of hospital pharmacists. They found that hospital pharmacists need access to high-quality information in order to constantly update their knowledge and improve their skills. In their modern role, they are expected to address three types of challenges: scientific, organizational and administrative, thus having an increased need for adequate information and library services. The study investigates the information-seeking behaviour of public hospital pharmacists providing evidence from Greece that could be used to encourage the development of effective information hospital services and study the links between the information seeking behaviour of hospital pharmacists and their modern scientific and professional role. An empirical research was conducted between January and February 2010 with the development and distribution of a structured questionnaire and the response rate was 31%. The
hospital pharmacists in Greece are in search of scientific information and, more particularly, pharmaceutical information (e.g., drug indications, storage, dosage and prices). The Internet and the National Organization of Medicines are their main information sources, while the lack of time and organized information are the main obstacles they have to face when seeking information. Lastly they observed that the modern professional role of hospital pharmacists as invaluable contributors to efficient and safer healthcare services may be further supported through the development of specialized libraries and information services within Greek public hospitals.

Chinwe M.T. Nwezeh and others (2011) conducted a study To ascertain the pattern and determinants of information-seeking behaviors of doctors at the Obafemi Awolowo University Teaching Hospitals Complex (OAUTHC), Ile-Ife, Osun State, southwestern Nigeria, a descriptive, multi method, cross-sectional survey, involving the use of self-administered questionnaires, interviews, and on the spot observation during consultation were employed. One hundred twelve doctors completed the study. The response rate was 70%. Results indicated preferred sources of information and indicated that presently information needs are not being met by the university library services. Most respondents suggested computerization of library services, interlibrary connection, current awareness services, and improvement in the interpersonal relationships of library staff as means to improve library service.

E. Information seeking behaviour of professionals:

Reddy and Karisiddappa (1997) has conducted a survey with 160 professionals in the field of physically challenged users. The basic aim of the study was to determine the types of communication channels used to gather the latest information; the informational resources used in performance of specific research activities; and the duration of time spent in browsing reading material within performing research activities. Special educators, psychologists, medical staff, vocational counseling and speech therapists were included in the population of the study. periodicals, subject bibliographies, abstracting and indexing services, current literature reviews, databases, meeting, and conferences, discussion with colleagues, and personal files were listed as the information resources used by them. They were using more informal channels than informal channels.

I Haruna and I Mabawonku (2001) have examined the information needs and seeking behaviour of lawyers in Lagos, Nigeria. Results reveal that many lawyers
perceive the need to know the latest decisions of superior courts as their greatest professional information need. Other expressed needs include: knowing recent legislation; information on local and international seminars and conferences; information on acquisition and application of legal know-how. The library has been identified as the most heavily consulted information source for job-related information, but librarians do not fulfil their role in meeting the information needs of lawyers.

Ifeanyichukwu Njoku (2004) investigated the information needs and information seeking behaviour of fishermen in Lagos State, Nigeria. The survey was carried out in the rural fishing communities of the state. Using questionnaire supported with interviews, personal observation and examination of relevant records, data were collected from 500 fishermen in the different fishing communities in the state. The simple percentage was used to analyse the data. The study examined information needs, sources and information seeking behaviour as well as problems encountered by the fishermen in a bid to obtain information. Results show that the information needs of fishermen in Lagos state are mostly occupation directed. Their chief sources of information include colleagues, friends, neighbors and relatives. Results also show that the fishermen in Lagos State are mostly illiterate, married and male adults in their middle ages; where and how to obtain credit facilities remain the most important information need of the fishermen; lack of awareness about where to obtain information on modern fishing technology is the most common problem of the fishermen in their attempt to seek information. This shows that there is acute shortage of information and fisheries extension officers in the field of information dissemination. It was concluded that the means and sources of information seeking found in fishermen in Lagos State are no longer adequate to meet advanced technology in the field and this can be detrimental to the profession. Suggestions that would facilitate information seeking and use among fishermen in Lagos state were given.

Felicite Fairer Wessels (2004) has arranged a pilot study of professional black women in Pretoria Regarding their Information needs and information-seeking behaviour as leisure tourists. This discussion focuses on the pilot study that is undertaken in the field of tourism to test the feasibility of such an investigation to be done on a national basis. As little research exists on the information needs and travel patterns of black South Africans in general, the research appears warranted. A
literature survey is undertaken to ground the concepts of need, motives, values, information sources and searching strategies in order to provide a framework for the empirical investigation. The information needs and seeking behaviour of the pilot group are presented and certain conclusions are drawn that postulate this pilot group as manifesting mainly physiological needs of escapism, using traditional information sources, including word-of-mouth sources, and seeking strategies with no adoption of information technology such as the WWW or Internet.

Gholamreza Pezeshki-Rad and Naser Zamani (2005) explored the information-seeking behaviour of extension managers and specialists in Iran, and to identify the factors that correlate with this behaviour. A questionnaire was developed and distributed to thirty-eight public extension managers and 175 public extension specialists who work for Deputy of Extension and Farming System of Iran's Ministry of Agriculture. Data was collected and analyzed, appropriate statistical procedures for description were used. Their findings were as below.

Main motivation for seeking job-related information by both public extension managers and specialists was interest in developing their own job-related information. The top three mostly used information sources by extension managers and specialists were Persian books, Persian scientific magazines, and scientific-technical reports. Concerning communication channels, interpersonal communication with colleagues, in-service training courses and scientific-technical conventions were ranked respectively as the three top communication channels used by respondents. There was a negative correlation between managers' years of extension work and their information-seeking behaviour. For specialists, a significant positive correlation was found between years of education, level of job satisfaction and information-seeking behaviour. Finally their conclusion was providing valuable information sources, and removing information seeking barriers, can improve information-seeking behaviour of extension specialists and managers.

Cephas Odini (2005) discussed the findings of a study which sought insight into engineer's information seeking and communication behaviour at Kenya Railways Corporation. The study employed a user centered approach to information seeking and use unlike many past studies which were system centered. It focused broadly and considered the user, his functional role, his formal and informal information seeking and communication processes, and the influence of the environment in which information seeking and communication takes place. The information seeking patterns
derived from the data collected in interviews with engineers were compared in different ways in accordance with the recommendations contained in the grounded theory style of qualitative analysis. Interesting findings were found on the ways in which information needs were generated and perceived by engineers, in which the engineers select resources for information searching and also in the ways in which information was used. The study concludes that information seeking and communication behaviour of engineers should not be viewed solely from the perspective of formal documentation but should be viewed mainly from the perspective of the engineer and his work tasks which are responsible for generating information needs which can best be satisfied through personal contacts and informal documentation.

Amin Yousefi and Shima Yousefi (2007) the study summarizes the results of an investigation of information seeking behavior and needs conducted at Iran Khodro Axle Manufacture Company in Iran, examining professional factors in information behaviors. The study's questionnaire was designed to examine the role of the library and the role of librarians in the searching process. Recommendations were given for improving information sources tools and techniques to recall. It may assist professionals to seek the information in similar companies.

Elisha Rufro Chiware (2008) arranged a study on information needs, information seeking patterns and business information services for small, medium and micro enterprises (SMMEs) in Namibia. The study ranks business information needs of SMMEs as: finance, marketing, production, and training, policies on SMME development, sources of raw materials, regulations, technical information and other types of information. The study reveals that SMMEs largely depend on informal information sources despite the existence of a wide range of business information services in Namibia. Recommendations are made on how business information delivery services can be improved in the SMME sector in Namibia by both government and business support organizations.

Stephann Makri and others (2008) has conducted a study as they said, the Information-seeking is important for lawyers, who have access to many dedicated electronic resources. However there is considerable scope for improving the design of these resources to better support information-seeking. One way of informing design is to use information-seeking models as theoretical lenses to analyse users' behaviour with existing systems. However many models, including those informed by studying
lawyers, analyse information-seeking at a high level of abstraction and are only likely to lead to broad-scoped design insights. They illustrated that one potentially useful (and lower-level) model is Ellis's - by using it as a lens to analyse and make design suggestions based on the information-seeking behaviour of 27 academic lawyers, who were asked to think aloud whilst using electronic legal resources to find information for their work. They also identified similar information-seeking behaviours to those originally found by Ellis and his colleagues in scientific domains, along with several that were not identified in previous studies such as 'updating' (which we believe is particularly pertinent to legal information-seeking). We also present a refinement of Ellis's model based on the identification of several levels that the behaviours were found to operate at and the identification of sets of mutually exclusive subtypes of behaviours.

Mumtaz A. Anwar and Muhammad Asgar (2009) have conducted a study by using the self-administered questionnaire. The 87 respondents from 11 establishments were responded. In terms of the type of information, they placed emphasis on fact checking and general information. Information was obtained by using a wide variety of both informal and formal sources. 'Human' sources were the primary informal sources used by the participants. Personal collections, daily news diaries, and news agency reports were considered high in terms of importance. The Internet and the 'in-house electronic library of stories/reports generated by their colleagues' were very limited both in availability and use. The lack information searching skills is their top ranking problem. They consider these very important for their work and are willing to go through training if it were provided to them.

Donald Case (2010) observed the information seeking behaviour regarding the decision making process of online coin buyers. The study focused on a community of collectors to examine how they gather information to decide whether to purchase an item for their collection when the target item has an ambiguous or deficient description. Manual scanning of eBay and other online discussion board for coin buyers led to 187 postings indicating an attempt to reach a purchase decision, or to authenticate a purchased coin, through solicitation or posting of advice. Postings were coded as to whether they dealt with 1. Ambiguous images in a listing, 2. Ambiguous statements in a listing, 3. Information missing from a listing, 4. Sharing of other information (not restricted to a coin listing) that might possibly be used to make a purchase decision or authentication. By using the example postings and the
investigator's earlier experiences, a model of coin buyer decision making was created, outlining the different paths and strategies that collectors may take when faced with uncertainties. The Internet facilitates access to both documentary reference material, as well as human information sources. The formation of virtual communities is made possibly, alongside existing face-to-face communities of hobbyists. Further studies of collectors could benefit from comparisons of information behaviour in both virtual and actual worlds.

F. Information seeking behaviour and technology:

Pat Dixon and Andrew K. Shelton (2003) have presented a paper it showed there are several models of information seeking out that few have been constructed to represent the information behaviour of young people. The article reviewed those models that have been developed and outlines several that have emerged from a recent research project undertaken in north-east England with four to eighteen-year-olds. The first of the new models is devoted to general patterns in the informants' information seeking, regardless of the type of source exploited. It begins with the development of an information need and concludes with the making of decisions with regard to the completion of a search. The remaining four models are smaller scale in nature, with each covering the use of one of the following - books, CD-ROM software, the Internet or other people. The article concludes by considering the value of the models that have been created to populations beyond the sampled youngsters.

Joemon M Jose and others (2005) investigated the criteria used by online searchers when assessing the relevance of Web pages for information-seeking tasks. For the data collection twenty-four participants were given three tasks each, and they indicated the features of Web pages that they used when deciding about the usefulness of the pages in relation to the tasks. These tasks were presented within the context of a simulated work-task situation. We investigated the relative utility of features identified by participants (Web page content, structure, and quality) and how the importance of these features is affected by the type of information-seeking task performed and the stage of the search. The results of this study provide a set of criteria used by searchers to decide about the utility of Web pages for different types of tasks. Such criteria can have implications for the design of systems that use or recommend Web pages.

Agusta Palsdottir (2009) The paper has focused on factors related to purposive health and lifestyle information seeking on the Internet, examining participants' access
to the Internet from four access points; the prevalence of their health and lifestyle information seeking, as well as information seeking in relation to other topics; the barriers to information seeking they experienced; and self-evaluation of their skills at seeking online information. For the study sample consisted of 1,000 Icelanders, aged eighteen to eighty, randomly selected from the National Register of Persons in Iceland. The data were gathered as a postal survey during spring 2007. Response rate was 47%. Collected data was evaluated Based on the participants’ health and lifestyle information seeking in twenty-two sources, k-means cluster analysis was used to draw four clusters: passive, moderately passive, moderately active and active. The active and moderately passive clusters have greater access to the Internet and their members seek online information more frequently than the passive and moderately active clusters. All clusters seek information about health and lifestyle less frequently than information about other topics. The passive and moderately active clusters experience more barriers to information seeking than the other two clusters. However, the passive and moderately passive clusters consider themselves to have more competency at seeking online information than do the moderately passive and active clusters. He pointed out that, the Internet to be used in an effective way for health promotion it is necessary to gain more complete knowledge of the various aspects of health information behaviour and identify the characteristics of those who have adopted it to seek information, compared with those who have done so to a lesser extent.

Gemma Madle and others (2009) as per their observation, evaluation on Internet portals is a key component of any online resource development. Understanding user information seeking behaviour and user perceived behaviour is essential to obtain the full picture of user needs, online activities and draw lessons to improve the design of Internet portals to better meet user expectations. This article discusses the evaluation of a WHO Internet portal: the Lab resources website. The evaluation investigates user satisfaction with the resource, usability, demographic information about users and how well they could complete specific tasks using the website and compared this with the actual online behaviour revealing a number of discrepancies. An online questionnaire was advertised on the Labresources website during the period November 2005 to February 2006. As the site caters to English and French speakers, the questionnaire was made available in both languages. It consisted of two sections the first section required the participant to complete three tasks using the website whereas the second section tested user satisfaction, information needs and
appropriateness of the content. Weblogs data were compared with the questionnaire results to compare user perceived and actual online behaviour. Twenty one respondents completed the online questionnaire from a total of 18 countries. This was out of a potential 60 website users among whom the questionnaire was promoted. In general, respondents were satisfied with the website layout and navigation. 61.9% of respondents listed WHO among their top 5 and a third listed the Labresources website. The number of sessions where users browse (146) the information resources is almost three times more than the number of users who search (52) the resources. Weblogs revealed most interesting results with differences between what users reported doing when completing tasks and how easy they perceived the tasks and what they actually did. Twelve respondents completed at least one task. Of the remaining nine respondents, three did visit the Labresources website from the link in the questionnaire but did not go on to complete the tasks. Only one of the twelve who completed a task reported it being difficult. Three of the respondents who didn't complete a task reported the tasks to be difficult but only one of these actually followed the link to begin the tasks in the questionnaire. This article described an evaluation study investigating user perceived and actual behaviour at the WHO Labresources Internet portal. Although the questionnaire results demonstrated general satisfaction with the resource, a combination of a weblog evaluation with the questionnaire revealed a clearer picture of the user perception of and satisfaction with the website compared to their actual activity when completing the set tasks.

M Abdul Kareem (2010) said that, “Internet use is becoming increasingly popular in Nigerian cities, thus necessitating the spread of commercial cybercafés nationwide. Unfortunately, use of cybercafé has been associated with a number of anti-social behaviors. The study was an exploratory investigation of the characteristics and information seeking behaviour of users of commercial cybercafés in selected Nigerian cities. A total of 180 respondents were selected via a multi-stage random sampling technique. Data were collected using a structured questionnaire. Data analysis revealed that about 60% of respondents were male, and nearly 80% were less than 36 years old. Furthermore, 91% of respondents had above 12 years of formal education, while 30% had no formal training in use of computer. Majority (40%) had 1 -- 4 years of Internet use experience, while students constituted about 40% of respondents. About 40% had no formal source of income. It was further revealed that 59.4, 13.4, and 27.2% of respondents used the Internet for academic, business, and
'social' purposes respectively. Pearson correlation analysis revealed significant relationship between weekly use of cybercafé and Internet use experience (r = 0.61, p = 0.016), years of formal education (r = 0.69, p = 0.008), and monthly income (r = 0.78, p = 0.002) among respondents. The paper concluded that cybercafé users in Nigerian cities are mostly students and academics, and proffered some useful recommendations for improvement.

Essam Mansour and Nasser Alkhurainej (2011) conducted a study. The main purpose of the study was to lighten a very big dark room of research regarding parliament and parliamentarians in the Arabic environment. The two researchers of this study tried to investigate the information seeking behavior of Members of the Kuwaiti Parliament (MKPs) in terms of their thoughts, perceptions, attitudes, motivations, techniques, preferences, ways, tools and problems encountered by them towards accessing information. The authors employed a questionnaire, with a response rate 42 percent. The study found that MKPs were mainly seeking information to make a parliamentary request/inquiry, to make a speech, and to make a decision. The study showed that the most important sources of information MKPs were seeking for minutes of sessions, mass media, personal letters and information networks. It was also found that MKPs preferred printed formats, with a very good use of the internet and computers. This study showed MKPs' confirmation of using the English language, beside the use of the Arabic language, as the most dominating foreign language used to access information. The study found that consultants, secretaries and colleagues were the most important assistants of information to MKPs. The currency of information, the limited nature of the library's role to deliver information, and the use of technology tools were the most significant problems encountered by MKPs when they were seeking information. The paper investigates the topic of parliamentarians' use of information, and as such highlights a topic that has limited previous research. The paper provides valuable insight into the information behavior of a very important client group. Being the first study in the Arab world concerned with the issue and topic of information seeking behavior and needs of Arab parliamentarians, it is considered a pioneering and unique study among many studies conducted in the field of both information access and information seeking, especially with this category of information users.

Sarangthem Bembem (2012) has arranged a study for the fulfillment of Ph.D. degree. He noticed that, Users have some specific purposes for the information need.
In order to satisfy these needs they actively undergo the process of information seeking. The behaviour regarding the information need is particularly depends upon who need information, for what purpose he needs. Which reasons are there, and which mean has been used during the search. How it evaluated and used and whether user was satisfied or not. It is a process in which the users purposefully search for information by identifying, searching, selecting, interacting and analysing with the appropriate sources of information. Social sciences constitute a major component of the existing universe of knowledge. Scientists who are engaged in different branches of social sciences, can, loosely, be taken into consideration as the social scientists. They constitute one of the biggest components of the user communities who accumulate process and analyse, retrieve and disseminate information in the field. As a group of information users the social scientists have their own nature and purpose of information needs. To meet their varied and complex information needs, also they undergo a number of strategies and activities in the process of seeking the right information in different environment. Their information needs have to be satisfied by the libraries, information centers, systems, etc. through their services and other facilities. In today’s digital era, ICT-based services play an important role in serving the needs of the users. They can be benefited in many ways from the newly emerged digital environment. He also observed that the social scientists are taking more interest in use of web based resources. Internet is famous mode of information search science last decade. They use various e resources to fulfill their information need.

G. Models of information seeking behaviour:

David Morehead R and William B. Rouse (1982) Models of human information seeking in searching on-line bibliographic citation networks are discussed. First, the experimental environment called DBASE (Data Base Access and Search Environment) and the results from 2 previous experiments are briefly reviewed. Rule-based and decision theoretic approaches to modeling the search task are then presented and a progression of models is developed. The models are used to derive 'optimal' search strategies when both constrained and unconstrained by experimental data. Finally, the rule-based model is used to mimic subject performance and the differences between model and subject performance are considered.

T. Wilson (1999) presented an outline of models of information seeking and other aspects of information behaviour, showing the relationship between communication and information behaviour in general with information seeking and
information searching in information retrieval systems. He suggested that these models address issues at various levels of information behaviour and that they can be related by envisaging a 'nesting' of models. He also suggested that, within both information seeking research and information searching research, alternative models address similar issues in related ways and that the models are complementary rather than conflicting. Finally he presented an alternative, problem solving model. It was suggested, provides a basis for relating the models in appropriate research strategies.

Andrew K. Shenton and Naomi V. Hay-Gibson (2001) The paper seeks to draw on Sice's systems model, itself based on Senge's "fixes that fail" archetype, and on data from two previous research projects conducted by one of the authors. The purpose of this paper is to synthesise a new model that portrays the information-seeking behaviour of children and young people. The systems model provides the backbone of the new framework but additions, accommodations and revisions were made to ensure that the version featured here represents the phenomenon of information seeking by the young as appropriately as possible in terms of the data that were gathered. One of the new model's most significant characteristics is its emphasis on problems and issues that prevent information seeking from proceeding smoothly. Information seeking is also shown to be an iterative process, with the individual often revisiting previous stages, frequently in response to difficulties. Data were collected from pupils in just seven schools. The undertaking of research further a-field would be invaluable, if the extent to which the model is applicable to other information-seekers in different environments is to be ascertained. The model demonstrates the importance of the information professional's educative role, in terms of both delivering formal information literacy instruction and providing assistance at the point of need. Although the use of ideas and frameworks from other disciplines, with the aim of increasing understanding of phenomena within LIS, is a growing trend, this paper represents one of the first attempts to apply an existing model associated with systems thinking to information behaviour.

Pamela McKenzie (2003) highlighted on the models of information seeking behaviour. She said that, “Many research-based models of information seeking behaviour are limited in their ability to describe everyday life information seeking. Such models tend to focus on active information seeking, to the neglect of less-directed practices. Models are often based on studies of scholars or professionals, and many have been developed using a cognitive approach to model building. This article
reports on the development of a research-based model of everyday life information seeking and proposes that a focus on the social concept of information practices is more appropriate to everyday life information seeking than the psychological concept of information behaviour. The model is derived from a constructionist discourse analysis of individuals' accounts of everyday life information seeking.”

Jarkko Kari and Reijo Savolainen (2003) commented in the paper. They said that everyday life information seeking via the World Wide Web, and its many contexts at various levels of abstraction. First, empirical Internet-searching studies are reviewed, the conclusion of which is the fact that they yield an exceedingly limited and fragmentary picture of the context of the activity. Therefore, the aim of the paper is theoretical: to propose - based on holistic reflection and earlier literature - a truly contextual model of Web searching from an individual's perspective. The various layers - life-worlds, domains, situations, action, information action, information seeking, information sources, Internet and Web - of the framework are presented one by one, and the dynamics of the whole creation is eventually outlined. At the end, the usefulness and application of the model are deliberated upon. It is claimed that the framework amounts to an exhaustive description of the context of Web information seeking, and that the theoretical construct can be taken advantage of in researching information seeking from practically any source.

Kalervo Jarvelin and T. D. Wilson (2003) said that there are several kinds of conceptual models for information seeking and retrieval (ISR). The paper suggests that some models are of a summary type and others more analytic. Such models serve different research purposes. The purpose of this paper is to discuss the functions of conceptual models in scientific research, in information seeking and retrieval (ISR) research in particular. What kind of models are there and in what ways may they help the investigators? What kinds of models are needed for various purposes? In particular, we are looking for models that provide guidance in setting research questions, and formulation of hypotheses. As an example, the paper discusses at length one analytical model of task-based information seeking and its contribution to the development of the research area.

Lokman I. Meho and Helen R. Tibbo (2003) revised Davis Ellis' information seeking behaviour model of social scientists, which includes 6 generic features: starting, chaining, browsing, differentiating, monitoring and extracting. The description and analysis of the information seeking behaviour of the group was based
on data collected through structured and semi structured electronic mail interviews. 60 faculty members from 14 different countries were interviewed by e-mail. Face-to-face interviews with 5 faculty members were also conducted. A fuller description of the information seeking process of social scientists studying stateless nations should include 4 additional features: accessing, networking, verifying and information managing. They developed a new model which groups all the features into 4 interrelated stages: searching, accessing, processing and ending. Describes this model and discusses its implications on research and practice. They discussed how and why the scholars studied here are different from other academic social scientists.

Nils Pharo (2004) has attempted to establish a new model of information behaviour. He reported his theory in his paper “A new model of information behaviour based on the search situation Transition schema”. The paper presented a conceptual model of information behaviour. The model is part of the Search Situation Transition method schema. The method schema is developed to discover and analyze interplay between phenomena traditionally analysed as factors influencing either information retrieval or information seeking. In this paper the focus is on the model's five main categories: the work task, the searcher, the social/organizational environment, the search task, and the search process. In particular, the search process and its sub-categories search situation and transition and the relationship between these are discussed. To justify the method schema an empirical study was designed according to the schema's specifications. In the paper a subset of the study is presented analyzing the effects of work tasks on Web information searching. Findings from this small-scale study indicate a strong relationship between the work task goal and the level of relevance used for judging resources during search processes.

Nigel Ford (2004) has published a paper about the similarity within the various information seeking behaviour models. The report explored the intellectual processes entailed during information seeking, as information needs are generated and information is sought and evaluated for relevance. It focuses on the details of cognitive processing, reviewing a number of models. In particular, Popper's model of the communication process between individual and new information is explored and elaborated from the perspective of Pask's Conversation Theory. The implications of this theory are discussed in relation to the development of what Cole has termed "enabling" information retrieval systems.
John D Ambra and Concepcion S. Wilson (2004) have commented on the information seeking and TTF model. In the study, they attempted to evaluate the performance of the World Wide Web as an information resource in the domain of international travel. The theoretical framework underpinning their approach recognized the contribution of models of information seeking behavior and of information systems in explaining World Wide Web usage as an information resource. Specifically, a model integrating the construct of uncertainty in information seeking and the task-technology fit model is presented. To test the integrated model, 217 travelers participated in a questionnaire-based empirical study. Their results confirm that richer (or enhanced) models are required to evaluate the broad context of World Wide Web (the Web) usage as an information resource. Use of the Web for travel tasks, for uncertainty reduction, as an information resource, and for mediation all has a significant impact on users' perception of performance, explaining 46% of the variance. Additionally, our study contributes to the testing and validation of metrics for use of the Web as an information resource in a specific domain.

C. A. Beverley and others (2007) has conducted a model based study. The purpose of the study was to determine the extent to which two existing models of information behaviour could explain the information behaviour of visually impaired people seeking health and social care information. The research was conducted within a constructivist paradigm. A total of 28 semi-structured interviews with 31 visually impaired people were conducted. Framework analysis was used to analyse the results. The study identified several factors that may affect a visually impaired person's information behaviour. These related to the presence of other health conditions or disabilities, participants' understanding of the word "information", their interactions with information providers, their degree of independence, the support they received from friends and family, their acceptance of their own visual impairment, as well as their awareness of other visual impairments, their registration status and their willingness and ability to pay for aids, adaptations and equipment. The study provided a new and valuable insight into the information behaviour of visually impaired people, as well as testing the applicability of a specific and generic information model to the information behaviour of visually impaired people seeking health and social care information.

David Nicholas and others (2007) have conducted a study to examine the upcoming changes in information seeking behaviour due to the digital environment.
The paper delineated and explained an emerging, but significant, form of digital information seeking behaviour among information consumers, which the authors have called 'bouncing'. The evidence for this behaviour has emerged from five years of deep log analysis studies an advanced form of transaction log analysis of a wide range of users of digital information resources. Much of the evidence and discussion provided comes from the scholarly communication field. Two main bouncing metrics were applied in the log studies: site penetration, which is the number of items or pages viewed in a session, and return visits. The evidence shows that (1) a high proportion of people view just a few items or pages during a visit to a site and, (2) a high proportion of visitors either do not come back to the site or they did so infrequently. Typically those who penetrated a site least tended to return the least frequently. These people are termed 'bouncers'. They bounce into the site and then bounce out again, presumably, to another site, as a high proportion of them do not appear to come back again. Possible explanations - negative and positive, for the form of behaviour are discussed.

Linda Fainburg (2009) has made an attempt to focus on Kulthau’s information seeking model. For that she compared it with the John Dewey’s problem solving model. She explained how the users' information need could be compared with a learning, knowledge and research need where the purpose of information seeking is to find relevant information in relation to the fulfillment of a specific goal and information need in order to become information literate. By theoretical considerations and studies of research literature an analysis and comparison of Kulthau's ISP-model and Dewey's problem solving model are presented. According to epistemological pragmatism information seeking is primarily a process of finding relevant and useful information in relation to the fulfillment of a specific research need. This can be accomplished by a combination between rationalistic thinking and action. Therefore the paper stated that pragmatism is a fruitful epistemological view for library and information science research and practice. This paper presents, compares, and discusses Kulthau's ISP-model and Dewey's problem solving model. First, it is clear that both Kulthau and Dewey are focusing on the close relationship between thinking and action, where both information seeking and problem solving is considered a learning process. Second, both Kulthau and Dewey find that information seeking is easier when the problem is more focused or the hypothesis more verified. However, when Kulthau rather extensively pays attention to the
feelings of uncertainty during the ISP, Dewey finds only that problem solving initiates uncertainty and perplexity. This paper may provide guidelines for academic libraries interested in developing their information literacy program. This paper points out that further epistemological, theoretical and empirical investigations of the relationship between Kuhlthau's ISP-model and Dewey's problem solving model are necessary. In particular, further investigations of specific user groups of Research Libraries and their information seeking and problem solving are important in order to optimize Research Libraries' educational programs.

As per the views of Mohammed Al-Suqri (2011), models of information-seeking behaviour are based almost entirely on research conducted in Western countries, and were generated at a time when electronic methods of information-seeking were still uncommon. This study develops an integrated model of social science information-seeking behaviour based on a synthesis of established models and tests the ability of this integrated model to describe present-day information-seeking among social science scholars in a Middle Eastern university. E-mail interviews, face-to-face interviews and focus groups conducted with social science faculty at Sultan Qaboos University in Oman were arranged for the data collection. At the time of data collection in June-July 2007, there were approximately 367 social science faculty at this University, distributed throughout the College of Arts and Social Sciences, the College of Education, the College of Commerce and Economics, and the Law College, including both men and women and representing a range of academic ranks. The data from the e-mail interviews, face-to-face interviews, and focus groups are analyzed using qualitative content analysis. The researcher used a qualitative analysis software program, NVIVO, to facilitate the process of analysis. Initially, the responses are examined and a preliminary set of themes created. Then, the responses are re-examined and coded according to the preliminary themes, with additional themes added as necessary. After the interpretation of collected information it was found that the information seeking practices of the study sample could be readily matched to the stages of the model, suggesting that, in general terms, information-seeking behavior follows universally applicable stages, and that the model can be applied to current-day information-seeking despite changes in the information environment. The findings also provided support for the inclusion in the model of additional dimensions relating to the format and location of information resources, since these contextual factors were found to have an important influence on the
process of information-seeking among the study participants. Conclusions: It is hoped that this study will make a contribution to the future development of an expanded knowledge base which will underpin library and information science in the 21st century.

Total 103 reviews were scanned from the sources of books, Journals, databases from various university libraries. Researcher found ample literature on information seeking behaviour and related topics. Nature and form of the literature was different including research articles, books, thesis etc. The scanned literature was arranged chronologically from 1950-2016.

In the academic activities, the research area attracts to the library and information science students/researchers, sociologists, psychologists, information scientists etc. Table given below shows the distribution of the studies classified in various categories i.e. Research scholar, faculty members, students, various professionals as well as Information Seeking Behaviour and Technology etc.

Table 2.1
Distribution of the studies reviewed

<table>
<thead>
<tr>
<th>Sr. no.</th>
<th>Information seeking behaviour</th>
<th>No of reviewed studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Research scholars and faculty members</td>
<td>40</td>
</tr>
<tr>
<td>2.</td>
<td>UG/PG students</td>
<td>19</td>
</tr>
<tr>
<td>3.</td>
<td>Scientists</td>
<td>05</td>
</tr>
<tr>
<td>4.</td>
<td>Health care sector</td>
<td>07</td>
</tr>
<tr>
<td>5.</td>
<td>Other professionals (lawyers, engineers, managers etc.)</td>
<td>11</td>
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<tr>
<td>6.</td>
<td>Information seeking behaviour and technology</td>
<td>07</td>
</tr>
<tr>
<td>7.</td>
<td>Models of information seeking behaviour</td>
<td>14</td>
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</table>

**Total** 103