CHAPTER 2
REVIEW OF RELATED LITERATURE
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2.0 Introduction

Review of literature is intended to endow the researcher with pertinent information as to formulate a sound research design and make legitimate decision regarding tools for the successful completion of the study. It provides a foundation for conceptual framework, insights into methods and procedures, suggests operational definitions of major concepts and also throws light on interpretations of findings. The study of related literature implies a sequential step by step procedure of locating, reading and evaluating reports of research as well as reports of casual observations and opinion that are related to the planned research report, which are arranged in a convenient sequence either chronologically, topic-wise, geographic area-wise, or any other order which makes sense to the researcher and which has relevance to the study at hand.

Information seeking behaviour is one of the heavily researched topics in Library and Information Science and literature is scattered widely across various disciplines, hence a comprehensive review of the entire studies is difficult. Even though a handful number of studies have been carried out on the topic information seeking behaviour, only a few have attempted comparative studies.

Here an attempt has been made to review the studies that have been carried out in the topic information seeking behaviour and its allied subjects and the studies reviewed were conveniently grouped under the following categories.

1. Comparative studies in the field of information seeking behaviour
2. Information seeking behaviour
3. Review studies
4. Thesis
5. User studies
Each of these categories is again classified into international and national studies and studies are arranged chronologically in each category.

2.1 Comparative studies in the field of information seeking behaviour

2.1.1 International studies

Liao (Liao, et al., 2007) compared the information needs and ISB of international graduate students and American graduate students at Virginia Tech. The objective of this comparative study was to identify how graduate students having different characteristics use various information sources and also to obtain insights into international graduate students ISB. Web based questionnaire method was adopted for collecting data. Three hundred and sixty two graduate students (6.3%) responded to the study. Various statistical techniques namely Chi-square, ANOVA, F-test were employed for the analysis of data. Study revealed that international students use libraries more actively and often than American students. Study also showed some distinctive characteristics of the style of study of international graduate students, and also demonstrated that the impact of language or cultural communication barriers and technology barriers affects the international student’s information access.

A comparative study of the information behaviour of academics of British Universities was explored by Gardiner (Gardiner, et al., 2006). The scope of the study was confined to three disciplines namely Computer and Information Science, Business / Management and English literature. The study focused on the information behaviour in the digital age with regards to the use of internet and search engines by academics from different disciplines with special reference to their use, attitude towards printed as well as electronic information resources and the major problems faced by academics in accessing electronic information. The data for the study was collected by means of a web-based questionnaire survey. Ninety seven persons responded to the study. Study showed that there were no significant difference in the use of search engines between disciplines, and about half of the respondents still make frequent use of printed materials. Study also revealed that the use of library books and electronic books varied significantly when broken down by disciplines.
Callinan (Callinan, 2005) made a comparison of the ISB of first year Biology and final year Biochemistry students of University College, Dublin, Ireland. Questionnaire method was used for collecting data. Ninety six students responded to the survey. Data obtained were analysed using Statistical Package for Social Science (SPSS). Study showed differences in the extent to which sources of information were used by students in different years of their studies. The lack of awareness is the primary reason for students not using the e-library.

Hallmark (Hallmark, 2004) investigated the methods of access and retrieval of recent journal articles cited by geoscientists and chemists who work in academia, government and industry. The study focused on the information needs and ISB of researchers in Geosciences and in Chemistry, as represented by their access and retrieval of recent journal articles cited in their publications. Citation originally published during 2002, were selected from the reference in current articles in twenty journal titles in the geoscience and fourteen in chemistry. The investigation illustrated the impact of internet on the access and retrieval of journal articles over a relatively brief period of time. Analysis of the ISB of chemists and geologists as represented by citation pattern offers a unique view of the scientific endeavor.

Roberts (Roberts, 2004) compared the information seeking skills of senior student nurses of three pre-registration nurse education programme. The study was carried out to explore the senior students' information seeking skills and to investigate whether students from different programmes utilized different seeking strategies. Purposive sampling strategy was employed for data collection and data analysis was carried out in two phases. Two hundred and fifty three nurse students participated in the survey. Study revealed both similarities and differences between the groups. The integrated degree programme participants displayed more systematic approach to information acquisition, while registered general nurse programme participants preferred the use of a model.

Song (Song, 2004) studied the ISB of domestic and international business students of University of Illinois. The study compared student's perceptions of library services and identified their library use pattern. Data collection was done by means of a web-based survey. Eighty-eight students out of two hundred and fifty nine responded to the
survey. The study was carried out to ascertain how, a) domestic and international business students make use of library instruction sessions; b) domestic and international business students’ use of library services; and c) domestic and international business students’ use of internet for their research. Study revealed that both domestic and international students perceived that instruction sessions were highly effective and helpful for their research needs. Profound differences were noticed with respect to primary library use and internet use between domestic and international business students.

Hiller (Hiller, 2002) carried out a study to measure the contentment of faculty and students with library services at the University of Washington. The study investigated the importance of resources, the reasons for the use or non use of libraries, information resources and their priorities for library services and resources. The study focused on the difference and also similarities between scientists/engineers and other academic areas in their library use and information needs at Washington University. The survey population included all faculties and random samples of graduate students were taken. Questionnaire method was used for the study. Survey results showed high satisfaction levels and a shift towards remote use and increased importance of electronic resources. Survey results also documented significant variations between groups and academic areas. The differences in academic areas are most pronounced in priorities, use patterns, importance of information resource formats and the impact of new technology on library use.

Siatri (Siatri, 1998) compared the ISB of academic computer scientists in British and Greek universities in an electronic environment. The study investigated how electronic information resources and information communication facilities especially those located in the internet have affected the computer scientists in terms of exchange of knowledge and information seeking behaviour. A combination of quantitative and qualitative method was used to collect data. The data analysis and comparison of findings were ongoing.

Haug (Haug, 1997) compared twelve studies that were conducted between 1978 and 1992 among US and Canadian Physicians with the aim to find out the information source preferences among the Physicians. Meta analytic method was adopted for
generalizations and to reduce the problems created by limited sampling, diverse methods and varied formats were adopted. The results showed that Physicians prefer journals as their main source of information along with books. They often consult colleagues to get answers to clinical research question.

Mendes (Mendes, et al., 1997) compared the personal information acquisition policy, use of libraries and information resources of four groups of health professionals working in three hospitals in Brazil and three hospitals in the U.K. Questionnaire and interview method was adopted for collecting data. Two hundred and seven (40%) responded to the questionnaire and thirty two interviews were carried out. Study demonstrated that information activities of health professionals in Brazil and in U.K. follow a generally similar pattern. Study also indicated that the information activities of different categories of health professionals follow similar pattern.

A comparison of the information seeking patterns of researchers in the physical and social science was carried out by Ellis (Ellis, et al., 1993). Data for the study was collected by means of interview with eighteen physicists at Manchester University and fourteen chemists at the University of Sheffield. The information seeking patterns of researchers were analysed and then compared with the findings of the previous study of ISB of Social scientists. The impact of ICT on the information seeking patterns was also considered. Study found some minor variations in the awareness level of facilities, extend of source usage etc and did not point out any major difference in the information seeking patterns of researchers.

2.1.2 National studies

A comparative study of user's outlook towards card catalogue and Online Public Access Catalogue (OPAC) was studied by Sridhar (Sridhar, 2004) at ISRO Satellite Centre (ISAC) library. The study compared the results of the study of OPAC usage with the finding of the study of the use of card catalogue of the same library conducted by the same person seventeen years ago. Data was collected by means of observation technique, and also by interaction with the users at the terminal while using OPAC. The study revealed that the catalogue consultation per day increased. But considering the fact that the collection, users and number of records on OPAC have almost doubled
over last seventeen years, the increased use of OPAC as compared to card catalogue was not remarkable. In comparison to access points in both the forms of catalogue results revealed that the title approach was adopted by a maximum of 38.3% in using OPAC as against a maximum of 54.2% adopting subject (descriptors) approach in the card catalogue search. Study also revealed that search by title has substantially increased. The study observed that the OPAC has changed the way by which catalogues were accessed and its use depends much on the practice, attitude, and behaviour of users rather than technology or tools alone.

Prasad (Prasad. et al., 1998) examined the information seeking activities of social scientists and the physical scientists and the various formal and informal sources of information consulted by them. The scope of the study was limited to scientists of Banaras Hindu University. Questionnaire method was used for data collection and twenty six scientists belonging to both Physical and Social science disciplines responded. Study revealed that there was significant difference in ISB of Physical scientists and Social scientists.

Sheena Kumari (Sheena Kumari, 1997) conducted a study on the information use pattern of Ph.D research scholars in pure science subjects of the University of Kerala. The aim of the study was to assess the research scholars’ nature of information requirement during different stages of their work and the methods and strategies adopted by them in satisfying their information requirements. Questionnaire method was used for data collection which was supplemented with interviews. One hundred and twelve research scholars from nine different disciplines of pure science subjects responded to the survey. Almost all the research scholars are of the opinion that the foreign periodicals collection should be enriched. Study revealed that forty percentage of the research scholars have publications and the number of publications depends on their experience. Research scholars are aware of the indexing and abstracting periodicals in their subject and they heavily utilise these for their research activities. But research scholars of Mathematics, Statistics and Geology depend more on primary periodicals. Information seeking of research scholars differs from discipline to discipline. The information sources like supervising teachers, fellow researchers, conferences etc play a vital role in the information use pattern of researchers. The
author stressed the need for bibliographic instruction programmes for the effective use of libraries.

2.2 Information seeking behaviour

2.2.1 International studies

Tenopir (Tenopir, et al., 2009) studied the reading patterns of science, social science, technology, and medical university faculty members. The study was restricted to university science faculty members and their response was compared over time. Data for the study were collected periodically from 1977 to present through questionnaire. Study showed that the information seeking and reading patterns of science faculty changed with the growth of electronic journals. Study also found that the average number of readings per year per science faculty member continues to increase, while the average time spent per reading decreases.

The ISB of Biology students attending doctoral school at the University of Parma in Italy were studied by (Vezzosi, 2009). The study was carried out with the objective to understand their needs and also to suggest improvements in the library facilities. Data for the study was collected through semi structured interviews. Eighteen doctoral students participated in the study. Nearly all the doctoral students reported that the internet is their first and favourite point of access to any type of information and majority of them are using scirus and science direct for their information needs.

Jamali (Jamali, et al., 2008) investigated two aspects of ISB of Physicists and Astronomers at University College, London. The scope of the study was limited to the techniques adopted by the academics for keeping up-to-date and the methods used for finding articles. One hundred and fourteen people (47.1 %) responded to the survey. A self-administered web-based questionnaire was used for eliciting data from the Ph.D students and staff of the Department of Physics and Astronomy at University College, London. Study shows that even though similarities exist among academics of Physics and Astronomy with regard to ISB, there are considerable differences also. The study outlined the need for and the importance of looking deeper into subject communities within disciplines for a better understanding of the information behaviour of scientists.
Qureshi (Qureshi, et al., 2008) examined the information needs and ISB of students of nine universities in Pakistan. The study was carried out with the objective to examine the behaviour of students towards the information, to identify the main sources of information, to determine level of awareness regarding the sources and to establish whether students have had any instruction on use of resources or not. Questionnaire method was the chief instrument for collecting data, and one thousand students responded to the study. Statistical tools like correlation and regression were used to analyse data. Study found that educational and cultural background, surrounding environment and student participation have a positive impact on the ISB of students. Study also revealed that modern digital libraries, interfaces and web database sources etc also have an influence on students' information behaviour.

Bigdeli (Bigdeli, 2007) investigated the ISB of engineers at Khuzestan sugar-cane company in Iran. Questionnaire method was used to collect the data and random sampling method was employed to select sample of two hundred and fifty peoples. Data was analysed by means of various statistical techniques namely descriptive statistics, ANOVA and Tukey tests. Survey results indicated that ISB of scientists differs according to the sites they work, and they use informal channels followed by formal channels for information.

An analysis of the use behaviour of electronic journals in the field of Chemistry at University of Barcelona was carried out by Borrego (Borrego, et al., 2007). The study was carried out using the data consumption per IP address. The data for the study was collected from the publisher on the use of thirty one journals of American Chemical Society at the University in 2003. Study showed that a small group of IP address is responsible for most of the sessions, article downloads and viewing of abstracts and the dispersion was greater in the use of electronic information than in the use of information on paper.

The impact of e-resources on the ISB of health science faculty at University of Ghana was investigated by Sulemani (Sulemani, et al., 2007). The survey documented faculties' preference between print and electronic resource, and the specific database
and full text journals they found useful. The study revealed that access to internet by health science faculty had an impact on their ISB.

Chudamani (Chudamani, et al., 2006) in their conference paper underlined the importance of preparation before service. Investigators are of the view that knowledge of the ISB of scientists is essential to predict their information use and will be useful in planning and implementing an information system. Scientists are extraordinary diverse group of professionals and the attribute common to all scientists is their use of information. The study chooses this attribute and examined the ISB of scientists by reviewing selected literature. Study proposed a model for information use based on the studies on the relationship between task performance and information searching by end users.

George (George, et al., 2006) investigated the ISB of graduate students of Carnegie Mellon University. The study was carried out to determine the graduate students (masters as well as doctoral) ISB and the use of information for their scholarly activities. A sample of hundred students representing all disciplines was selected and data was collected by means of in depth structured interviews. The transcript of the interview was coded and analyzed using ATLAS.ti software. The study showed that graduate students' information gathering activity begins with teacher’s direction and recommendations. Convenience, lack of sophistication in finding and using resources, course requirements affects their information behaviour. Another finding of the study was that even though internet plays a major role, students continue to use print resources. Study also revealed that there is significant variation in ISB across disciplines and between programmes. Interesting finding of the study was that the libraries influenced students’ ISB.

How information retrieval was associated with users search behaviour was the topic of interest of Rose (Rose, 2006). Investigator analysed the development that took place in user interface aspects of information research. The shift in web seeking from boolean query to unrestricted queries, natural language questions, relevance ranking produced more relevant results. The article analysed the user search behaviour namely variety of information seeking goals, the cultural and situational context of search and iterative
nature of search task and suggest that interfaces can be re-designed to make searching more effective for users.

An explorative study was done by Silvio (Silvio, 2006) to ascertain the information needs and ISB of immigrant Sudanese youths in the city of London, Ontario in Canada. Data was collected from twenty four youths. Study found that Sudanese youths information needs are mainly academic in nature and their chief source of information includes colleagues, friends, neighbours and relatives. Results also showed the lack of awareness about where to obtain information on education and apprenticeship training is their main problem.

Wang (Wang, 2006) studied the academic researchers' use of internet information and communication technologies (IICT) to support information seeking activities. The goal of the study was to gain insight into disciplinary and cultural difference of information seeking in the internet era. In depth face-to-face interview method was used to collect data. Fifty five researchers from United States and ten from China were interviewed for the study. Quantitative data were coded and analysed using SPSS and quantitative data using QSR N6. To compare disciplinary differences, only faculty participants were included from the selected disciplines and countries. The preliminary results of the study showed differences in perception of importance of IICTs to research. The project was continuing to include more participants from different cultures.

Wilson (Wilson, 2006) investigated the nature of ISB in the digital information world. Author explored the behavioural pattern with special reference to electronic databases and the World Wide Web. Different models of ISB were presented and the difficulties in the process of searching were explored. Study provides insights into the seeking behaviour through electronic systems.

Asemi (Asemi, 2005) carried out a study to understand the information searching habits of internet users at the Medical University of Isfahan. The aim of the study was to investigate the status of information searching nature of the users on internet. Data was collected using a questionnaire followed by interview with users from five faculties. One hundred and eighty eight persons responded to the study. Study revealed that
students use internet significantly, and it occupies an important place among various sources. Study also observed that electronic media has not replaced print media.

Ellis (Ellis, et al., 2005) explored the ISB of English literature researchers in the Universities of the UK with respect to information revolution. Study investigated the attitude of researchers towards internet and its influence on their publication. The objective of the study was to determine the extent of the impact of electronic information sources on the ISB and attitudes of English literature researchers. The different types of electronic information sources for English literature are identified and researchers' experience in using them explored. A total of nine universities in UK were chosen for the study and data for the study was collected through mailed electronic questionnaire. Sixty researchers responded to the survey. Study established that electronic medium is making impact on the research of English literature academics.

Heinstrom (Heinstrom, 2005) investigated the information behaviour from a physiological perspective by relating information seeking to personality traits and study approaches. Author studied ISB in relation to the five factor personality theory. The study was based on three hundred and five university students who were in the process writing their masters thesis. Research design was quantitative and consisted of three questionnaires. Statistical tools used for analysis include factor, correlation and regression analysis. The main finding of study was that students information behaviour could be grouped into three patterns- fast surfing, broad scanning and deep diving, which were linked to personality traits and study approaches.

Patitungkho (Patitungkho, et al., 2005) conducted a study to identify the ISB of the faculty members in six Rajabhat Universities in Bangkok, Thailand. Questionnaire was the tool adopted for data collection. Two hundred and sixty (86%) faculty members from seven faculties namely Education, Humanities and Social science, Management, Science & Technology, Arts, Industrial technology and Agricultural technology responded to the survey. Statistical Package for Social Science (SPSS) was used for the analysis of data. Study revealed that majority of the faculty members (82%) seek information for preparing lectures and most of the faculty members (57%) prefer text books. The findings indicate that 47% of respondents record information materials in Thai and 24% record materials in English. ERIC CDROM data base was consulted by
42%. Incomplete information, lack of information and time are the problems faced by the respondents in seeking information.

Boadi (Boadi, et al., 2004) studied the distance learners in University of Lesotho with the aim to gain a deeper understanding of their characteristics and their information needs and ISB. The study focused on the distance learners’ information needs, the information channels and services they use and the problems they encounter in seeking information. Data for the study were collected through questionnaire and interviews. Fifty four students responded to the questionnaire. The study showed that the distance learners exhibit the same characteristics of distance learners elsewhere by way of age, employment status, long distance from campus and therefore have less access to on-campus library and information sources and services, hence they depend on colleagues, personal collection etc for information.

Davis (Davis, 2004) in his study titled ‘Information seeking behaviour of Chemists: a transaction log analysis of referral URL’s’ investigates the tools used and the pathways taken by the chemists in navigating electronic journals. Davis studied the ISB of scientists by analyzing the transaction log’s of the American Chemical society (ACS) for members of the Cornell University community. The study found that scientists use different methods of referrals and number and types of referrals followed an inverse-square law. Scientists relied on local alternatives or personnel web page for information.

Fidel (Fidel, et al., 2004) studied the ISB of thirty two engineers having diverse educational backgrounds and expertise. The purpose of the study was to explore how engineers working in a particular organization sought information, what types of information needs they had, what sources they used, and how they selected these sources. The study was carried out to determine that factors that influenced engineers in selecting information sources. Interview method was adopted for data collection. The study revealed that the factors influenced engineers in selecting information sources were complex and involve various aspects like right format, the right level information in one place etc.
Hallmark (Hallmark, 2003). The study included Atmospheric scientists working in Universities, federal government agencies and private research institutions. The investigator collected data by approaching scientists directly and asked specific questions with the help of questionnaire. The study showed that scientists used traditional (non-electronic) methods for access and retrieval of particular citation. The results of the study provided a snapshot of the ISB of the scientists.

Murphy (Murphy, 2003) conducted a study to gain a clear understanding of how interdisciplinary scientists seek information, and how these scientists manage their time in regard to information gathering habits. Questionnaire method was adopted for the study. One hundred and forty nine (55%) scientists responded to the study. Results of the study indicated that many scientists have some difficulty in keeping up with research in their field of study with regard to time. Study also showed that interdisciplinary researchers have developed unique information gathering habit to seek out relevant information.

Abdoulaye (Abdoulaye, 2002) investigated the effect of International Islamic University Malaysia (IIUM) library on African students. Author studied the students awareness of services available to them and their preference to information. Data collection was done by means of semi-structured interview, choosing twenty students through random sampling method. Analysis of data was carried out by using SPSS. Study revealed that students were aware of the service of the library. Study also found that there was a growing importance of internet use among students and the students very rarely use printed version of abstracts and indexes. All students agreed that the library has changed their ISB.

The information gathering behaviour of Art students in six Srilankan Universities were identified by Ileperuma (Ileperuma, 2002). The study was carried out to analyse the information gathering behaviour of students in terms of purpose of seeking information, means of obtaining information and source and the type of information used. Questionnaire method was adopted to collect data. One hundred and fifty one students responded to the study, which is 69.2% of the distributed questionnaires. Statistical methods were used for the analysis of data. Study found that students gather
information for their academic purpose and also to update themselves. Study also found that publisher's catalogue was the preferred source.

Prekop (Prekop, 2002) carried out a qualitative study of a complex collaborative information seeking activity drawn from military domain. Most of the information seeking studies focused on the ISB of individuals rather than a collaborative information seeking. This study investigates the collaborative ISB performed by a working group of command and control support study. Structured interviews were used for eliciting data and were supported by minutes of the working groups meetings. A total of twenty eight participants were involved in the study. The study identified the contexts, roles and patterns of interaction that emerged from the collaborative information seeking activities undertaken by the study.

ISB of user's on the medical library website of University of Ljubljane, Slovenia was examined by Rozic-Hristouski (Rozic—Hristouski, et al., 2002). The medical library website was designed to serve as a guide to the library resources and services and it also offers hypertext links to other sites of potential interest to library users. The ISB of the Central Medical Library (CMK) website users were studied by analyzing the web server log files. These log files provides a clear picture of the users attitude towards information and web page visitor's interests can be precisely understood. Such an analysis provides valuable information to enhance the quality and delivery of information services.

Washington-Hoagland (Washington-Hoagland, et al., 2002) carried out a study to identity how graduate and professional students of University of Lowa access library resources and services. Sample for the study was selected by random stratified method and data collection was done by mailed surveys. Three hundred and eighteen students (44%) responded to the survey. Study provided an understanding of how graduate and professional students access library resources and services. Study also showed the students' perceptions and satisfaction with library services and resources.

The factors which influenced the information seeking activities of Aerospace engineers and Scientists in United States were explored by Anderson (Anderson, et al., 2001). Questionnaire method was used for data collection. and response rate was 67%.
Various statistical methods including Friedman's two-way ANOVA was used for testing the hypothesis. Study showed that information gatherers prefer those information sources that were easily accessible, and preferred interpersonal channels over print channels. The study stressed the need for providing the employees with comprehensive training programs and to develop formal and informal communication networks.

Christine Black (Christine Black, et al., 2001) in their study stressed the need for faculty librarian relationships for building a successful information literacy infrastructure which can provide a seamless blend of core subject information and information seeking and information evaluation skills. This paper not only provides the librarian-faculty collaboration model but also examples of successful campus-wide information literacy initiatives in some libraries through collaborative effort of faculty and administrators. The study revealed that the collaboration had a clear impact on user instructions and also proved to be a valuable tool in generating interest in the library by old and new faculty members.

Nicholas (Nicholas, et al., 2001) explored the relationship between the expressed health information needs and what health information seekers actually found. Data was collected from three sources namely; questionnaire hosted on website, a touch-screen health information kiosk and Kiosk transaction logs. Results of the study showed that reasons for visit to the system has an impact on the type of information viewed and identified four types of internet users. The study examined the information behaviour of health information users also.

The information needs and ISB of the biomedical scientists at institute for medical research (IMR) was studied by Zawawi (Zawawi, et al., 2001). Questionnaire method was adopted for the study and fifty four scientists responded to the study. The study found that biomedical scientists use a variety of information sources to satisfy their information needs. Scientists who were solely involved in research work considered journal articles as the most preferred information source but researchers-cum-lecturers preferred books for their information needs. Study revealed that in spite of having access to modern and up to date digital information sources, most respondents still preferred using printed materials.
Hertzum (Hertzum, et al., 2000) carried out a case study in two product-development organizations to investigate Engineers reliance on people as sources of information, factors that affect engineers’ choice of information sources, seeking of information from external as well as internal sources, perceived barriers for seeking oral and written information. Study revealed that the engineers search for documents to find people, search for people to get documents, and interact socially to get information without engaging in explicit searches. Study also revealed that the major obstacle in seeking both oral and written information was cost and time involved in getting it.

Majeed (Majeed, et al., 2000) in their study explored the information needs and ISB of Malaysian Agricultural scientists. Study was carried out in five major Malaysian Agricultural institutions. Questionnaire method was used for data collection and data was collected from two hundred and thirty six respondents followed by interviews with some respondents. Study showed that majority of the scientists’ preferred primary sources of information. Study also revealed that research scientists spend 16% of their office time on literature search and reading. Another important observation of the study was that 43% of the respondents were unable to keep in touch with the latest scientific literature due to deficient library collection and facilities.

United Kingdom’s Veterinary practitioner’s information use and ISB was studied by Wales (Wales, 2000). Questionnaire method was adopted for data collection, which was supplemented with semi-structured interviews. Eighty two people (39%) responded to the paper survey and 42% responded to email survey and seven persons were interviewed. Survey revealed that most of the respondents prefer internet to veterinary library. But conventional journals, text books and conferences were the main source of information to veterinary practitioners. Most of the users are interested in having internet based full-text journals.

Lumande (Lumande. et al., 1999) explored the ISB of academics in the eight departments that comes under the science faculty of University of Botswana. Mailed questionnaire method was adopted to elicit data and fifty four faculty members (51%) participated to the survey. SPSS was used to analyze the data. Study showed that scientific academic staff at the University of Botswana depends on journals and text
The information needs, ISB and the problems encountered by undergraduate students of Makerere University, Uganda in seeking information were studied by Kakai (Kakai, et al., 2004). The study was carried out with the purpose of suggesting strategies to enhance the use of library resources and to provide cost effective services. Non-probabilistic quota sampling and purposive sampling technique were used to identify the samples for data collection from two departments namely Biochemistry and History. Questionnaire, interview and observation method was used to collect data and one hundred and four students responded to the study. Ellis’ six generic information seeking activities were considered as the bench mark for establishing undergraduate students’ ISB. Chi-square test was used to test the hypotheses. The study found that students depend mainly on textbooks, rather than journals (both print and electronic) for their information needs. Study recommends user education for making students equipped in seeking information.

Meho (Meho, et al., 2003) studied ISB of Social scientists from fourteen different countries with respect to David Ellis’s ISB model of Social scientists. Sample for the study was identified through searching four international bibliographic databases namely Arts & Humanities citation index, Gerbase, Social Science citation index and Sociological abstracts. After considering various aspects sixty five participants from fourteen different countries were selected for the study. Data was collected through structured and semi-structured email interviews followed by face to face interview with five faculty members. Study confirmed Ellis’s model with some additional features namely accessing, networking, verifying and information managing.

Kerins (Kerins, et al., 2004) in their paper entitled “information seeking and students studying for professional careers: the case of engineering and law students in Ireland” reports the results of two empirical studies which explored the ISB of engineering and law students in Ireland. Interview method was adopted to elicit the ISB of engineering and law students. Study revealed similar patterns of ISB between students studying to become professionals. Study suggests that engineering and law students in Ireland could benefit from greater information literacy training and awareness programmes.

Communication patterns of Atmospheric scientists and the problems they encountered while accessing and retrieving journal articles and data was the study of interest of
books as their major source of information and that they were informed about the existence of information through review articles. Most of them (70%) rely on University of Botswana library resources for information. Study concluded with some recommendations for enhancing the use of library resources.

Ocholla (Ocholla, 1999) studied the ISB of the academics with respect to productivity of academics of South African Universities with particular reference to the University of Zululand. One hundred and fifty academics participated in the survey. Study found that ISB of academics was determined by the nature of the discipline as well as the rank of the academics which represents academic qualification, experience and research productivity level and they need information for career development and occupational and professional needs. Study also revealed that university libraries play a pivotal role in the information access of the academics.

Savolainen (Savolainen, 1999) investigated the place of internet among other sources and channels in information seeking. Data was collected by interviewing two thousand three hundred and eighty three persons of different ages. Study revealed that internet is rapidly showing its presence among other sources and channels, and hence information sought through internet is increasing. Study also found that the major reasons for preferring information seeking through network services include easiness of accessing huge amount of data, time saving, money saving, chance to interact with more experts using discussion groups and greater independence of certain time and place in information seeking.

ISB of trainee teachers from two teacher training colleges in the State of Johor, Malaysia was investigated by Shanmugan (Shanmugan, 1999). The study investigated the information needs of trainee teachers and their perceptual feelings that arise from these needs, to establish the motives of seeking information, to explore the resources or channels chosen by trainee teachers to satisfy their needs and also to assess the extent of potential problems trainee teachers encountered in information seeking. A total of one hundred and ninety seven, fifth semester pre-service teachers were selected for the study and data collection was done by means of questionnaire. Study revealed that trainee teachers’ information seeking is heavily influenced by their course requirements.
and they prefer Malay language to English. Study also showed that time is a major limiting factor in the information seeking.

Fidzani (Fidzani, 1998) carried out a study to estimate the information needs, ISB and awareness of information resources by graduate students at University of Botswana. Data collection was carried out from two hundred and twenty three postgraduate students by means of open and close ended questionnaire. One hundred and forty four students responded to the survey. SPSS was used for data coding and analysis. Study revealed that most of the graduate students lacked basic skills on how to use library resources and services and hence a user orientation was needed for students using library resources and services. Study established the sources consulted by the students and their ability in using them, but failed to establish the relation between students ability to use library services and their performance in studies.

Ucak (Ucak, et al., 1998) carried out a study at Hacettepe University, Ankara, Turkey to investigate the effects of occupational factors in information needs, ISB and library usage of the scholars in Science, Engineering, Social Science and Humanities. Questionnaire method was adopted for data collection. Study showed that there are major differences in the need and ISB among the members of major disciplines. Study also showed strong similarities exist within members of each discipline. Another finding of the study was that even though scholars use both formal and informal channels to acquire information they prefer formal channel. The study recommends that the user education programme should be conducted in tune with needs of each discipline for better library use.

Curtis (Curtis, et al., 1997) investigated the ISB of health science faculty in light of the impact of information communication technologies. Authors investigated the faculties use of electronic resources and the impact of library training in ISB and analysed for any shift from the use of print to electronic formats. A survey was administered to all faculty members in medicine, nursing and pharmacy of the University of Illinois at Chicago. Mailed questionnaire method was adopted for data collection. Five hundred and fifty four (49.4%) faculty members responded to the survey. Survey showed that index medicines and MEDLINE were not sufficient to meet all the information needs of many health science faculties. Faculty members preferred accessing electronic data
bases from their offices rather than from library and most faculties did not take advantage of either in-house or electronic training sessions offered by librarians. The findings indicate the need to promote and re-engineering delivery models for training on the use of new and electronic resources.

The information seeking patterns of engineers and research scientists of Statoil's research centre in Trondheim, Norway was identified by Ellis (Ellis, 1997). Interview method was adopted to elicit data, and twenty three respondents were interviewed. The study provided a picture of the nature of their communication behaviour and the role of information seeking in relation to the performance of work tasks. Study also found that even though the behavioural characteristics of the research scientists and engineers were same there is difference in their seeking patterns.

Devadason (Devadason, et al., 1996) explored the methods for the identification of information needs of users. The study proposed that no single method or tool will enable the information needs of users but a careful selection and blending of several techniques, depending on the users were necessary. The paper proposed formal step by step procedure that can be adopted to study the information needs of majority of users. Besides gathering and recording needs, a careful analysis was made to distil actual needs from the data collected. The information needs identifier should study, prepare and equip information professionals to perform the task of identifying needs.

Information seeking behaviour of the academics at Moi University, Kenya was explored by Ocholla (Ocholla, 1996). Sample for the study was chosen randomly from four faculties namely Health science, Information science, Environmental science and Education, and data were collected through questionnaire and interviews. Twenty seven academics participated in the study. Study revealed that most of the academics depend on libraries for information. Even though they depend heavily on text book for information, they seek information from current and research oriented information sources also. Study recommends for user education for promotion of information products and services of the library.

Wilson (Wilson, 1995) in his paper entitled “Information seeking behaviour: designing information system to meet clients needs” provides some basic information on ISB. He
explains clearly the differences between needs and wants; between perceived needs and expressed needs of the users. He points out that ISB can be understood in two senses: a continuous activity in a generic sense or a highly spasmodic sense of event driven phenomena. He concludes that understanding the information seeking habit of user is possible and highly relevant to creation of effective libraries and information services.

Belkin, (Belkin, 1993) in his paper entitled “Interaction with texts: information seeking behaviour“ studied information retrieval as an information seeking activity supporting people’s interaction with text. Study revealed that information retrieval is a form of ISB, in which the user’s interaction with text is the central phenomenon to which information retrieval is responding and supporting. The role of information retrieval was to support the users in their ISB. The possible ways to incorporate the view in the design of information retrieval system is also dealt with.

2.2.2 National studies

Naushad Ali (Naushad Ali, et al., 2006) conducted a study to investigate teachers’ attitude towards central library services at Aligarh Muslim University. The study was carried out with the objective to examine teachers’ opinion regarding the overall collection, facilities and services of the library and to access the frequency and purpose of using the library. Study also considered the factors for promoting library services. Questionnaire method was adopted for the study. Two hundred and ten persons (85.71%) responded to the study. Study showed that majority of the teachers are aware of the reference services, circulation, and newspaper/periodical services of the library but are unaware of the inter library loan services. Teachers of the University use the library for collecting materials for teaching purpose. Most of the teachers (55.24%) are not satisfied with the over all function of the library, and they suggested computerisation of all activities and services of the library.

Raza (Raza. et al., 2006) examined the use of electronic journals by researchers at Aligarh Muslim University. Authors carried out a study to find out the purpose, level of electronic information usage, place of use, problems faced, preference of source, and effectiveness of e-journals by researchers. Questionnaire method was used for data collection. Fifty-two research scholars responded to the survey. Data thus collected was
statistically analysed. Study revealed that researchers are aware of the e-journals available in the university. Study also revealed that the researchers use the e-journals for their research purpose and also for updating their knowledge. Majority of the researchers are of the opinion that e-journals will not replace traditional print format, and are not satisfied with the e-journals that are available in their subjects.

Information needs and use pattern of faculty members of college of Agriculture, Vellayani, Thiruvananthapuram Kerala was explored by Sarala (Sarala, et al., 2006). The scope of the study was limited to core agricultural departments of the college. Seventy eight (65%) faculty members responded to the questionnaire. Study showed that textbooks and other monographs were the most preferred information source followed by primary periodicals, and to keep updated with current developments they consult latest issues of learned journals. International network of scientists exists and they were active in the communication of scientific and technical information.

Purnima (Purnima, et al., 2005) examined the information needs, choice and access to information, problems faced by the faculties in Manipur, India. Questionnaire was the tool used for data collection. Nine hundred and seventy college faculties and sixty five university faculty members responded to the survey. Study found that faculty members seek information for academic purpose and also for writing papers, and most of the faculties are not aware of the emerging technology, digital resources, e-journals and INFLIBNET services. Study underlines the fact that librarian has a greater role in influencing education standard.

Choukhande (Choukhande, et al., 2004) examined the information needs and use patterns of faculty members and research scholars in various departments belonging to different disciplines in colleges / departments affiliated to Amravati University. Random sampling technique was used to identify the samples and for data collection various tools namely questionnaire, interviews and observation method were employed. One thousand two hundred persons responded to the survey. Statistical techniques such as simple percentage, chi-square test were employed to test the hypothesis. The survey revealed that most of the users prefer text books / handbooks as their information source and lack of knowledge in use of library services was the main difficulty in accessing information. As regards to use pattern, most of the users prefer book trade
catalogue followed by bibliographies, index and abstracts. From the study it was found that academics of the university face difficulties in accessing information through electronic sources, and they require skills in using the available resources of the library.

Sharma (Sharma, et al., 2004) studied the information seeking patterns of Defence Research and Development Establishment (DRDE) Scientists. The study estimates the information seeking patterns and the factors which influence the ISB in context of user education programme conducted by DRDE, Gwalior, Madhya Pradesh. Study revealed that success rate of getting information from library is 85%. They are using the library for referring journal articles. Lack of reading materials and lack of knowledge are the hindrance in ISB. Study also points out that internet was the commonly used medium for communication.

Information seeking behaviour of faculty members of Government Arts College in Cuddalore district, Tamilnadu was investigated by Suriya (Suriya, et al., 2004). The study was conducted to measure the reading habits and varying interests of the faculty members in their field, and also to examine the pattern of library use. Questionnaire method was used to elicit the data which was supplemented by data collected from other sources. One hundred and sixty persons responded to the study. Study showed that faculty members prefer to search by subject, and more than one fourth of the respondents do not use computer based services.

The information seeking habits of different categories of users of two postgraduate departments namely Bio-chemistry and Microbiology of Nagpur University were explored by Kafalikar (Kafalikar, et al., 2003). Census method was adopted for the study and one hundred and fifty one (83.88%) academics responded to the study. Study showed that academics visit the library for satisfying their academic needs. Study confirms a presence of invisible college in both the departments and users depend more on informal modes of communications for their information needs. Study also found that use of traditional tools like catalogue; index etc and testing sources like bibliographies were hardly noticed.

Biradar (Biradar, et al., 2001) investigated the ISB of the users of DVS Polytechnic college library. The study was carried out with the objective of evaluating the collection
of the library and also to seek user's opinion on the collection and services of the library. Data were collected through structural and detailed questionnaire and 80% students responded to the study. Study recommends for user education to its users.

Mahapatra (Mahapatra, et al., 2001) identified the modes of communication used by working journalists in seeking information from libraries. Authors investigated the principal information sources consulted and the constraints encountered by the working journalists in seeking information. Structured questionnaire method was used for data collection. Two hundred and twenty six (46%) journalists responded to the study. Study showed that majority of working journalists prefer to visit libraries personally for gathering information. Study also revealed that the major constraint faced by working journalists is paucity of time.

Vijayalakshmi (Vijayalakshmi, et al., 2001) examined the information use pattern of post-graduate lady students of various departments coming under the faculty of science and technology and social sciences of Gulbarga University, Gulbarga. The study was confined to final resident students of the university. Census method was adopted for study and seventy students (95.89%) responded to the study. Study showed that majority of the students seeks information for their course work. Study also points out that majority of the respondents use latest books, but they were not using indexing periodicals. Majority of students are not aware of the primary, secondary and tertiary source except textbooks, dictionary and encyclopedia in their concerned subjects. The study suggested creating awareness regarding the facilities and services through publicity.

Solomon (Solomon, 2000) investigated the communication patterns and ISB of Medical researchers and scientists. Author examined the prevailing situation in ten Indian Council of Medical Research (ICMR) institute libraries in India with respect to money, man power, material resources and information services. Study also investigates whether the libraries are in tune with the user expectations and also how far the users are putting the sources and services to productive use. Questionnaire method was adopted for data collection. The population was stratified as senior research officers and junior research officers. One hundred and ten participants responded to the survey. Study found that information source and services provided by the libraries vary from
library to library and only five libraries provide current awareness services. Majority of the scientists prefer formal means of communication to informal communication. Another finding regarding the use of library facilities shows that 60% of the scientist use library once in a week and 40% daily.

Information needs, use patterns, and adequacy of library resources and services of Ship Technology department of CUSAT was studied by Ammini (Ammini, 1999). The scope of the study was confined to the students of the department. Questionnaire method was adopted for the study and eighty two (93%) students responded to the survey. Study found that students of the departments were not satisfied with the library hours and they prefer text books for their information needs. Most of the users consult indexing and abstracting review periodicals and they depend on library catalogue for locating information. The students feel that library collection and services were inadequate.

Jange (Jange, et al., 1998) conducted a survey to understand the ISB of physical scientists in the five departments namely Chemistry, Electronics, Mathematics, Physics and Statistics of Gulburga University. Survey included both research scientists and family members of the University. Questionnaire method was used for data collection, and fifty seven (81.42%) academics responded to the survey. Chi-square test and Spearman’s Rank correlation coefficient method were used to verify the hypothesis. Study showed that personal characteristics such as gender, possession of a Ph.D degree, nature of job responsibilities etc have no direct impact on the choice of the source of information and also personal attributes have no significant role in selecting the route in locating information from sources.

Relative importance of different source of information for the faculty members and research scholars of Karnataka University was explored by Maheswarappa (Maheswarappa, et al., 1998). Authors also examined whether personal attributes of academics have any relation on the use of information sources. Three departments namely Botany, Zoology and Bio-Chemistry of Karnataka University campus were selected for the study. Data was collected by means of questionnaire. Forty nine (90.57%) scientists responded. Study found that reprints / preprints, abstract and indexing journals, primary periodicals, research reports and subject bibliographies were
the mostly used information sources. Also the personal attributes such as designation, experience and nature of research work have bearing on the use of information sources while qualification, sex, age and nature of work have no bearing on the use of information sources among the biological scientists of the university.

Pal (Pal, 1998) conducted a study to find out the periodical use pattern by the academics at the Department of Chemistry, Guru Nank Dev University, Amritsar, India. Questionnaire method was adopted to elicit the opinion of faculty members and research scholars. Fifty two academics responded (88.1%) to the study. Study showed good use of periodicals. Research scholars consult periodicals to locate information in their own area of research. It was found that most of the academics are aware of the abstracting periodicals and most of them use this frequently.

Borse (Borse, 1997) studied the information seeking methods of farmers who got agricultural awards in the State of Maharashtra. The study was carried out to investigate how these farmers seek information; to see whether they have their own collection of information on agricultural technology and whether the accumulated information yield them valid production of agriculture. Questionnaire method was used to elicit data. Five (83.3%) farmers responded to the study. Study revealed that most of the farmers collect information through audio-visual media, and they use primary and secondary information sources on agriculture. Study also revealed that farmers adopt some specific methods for collecting information.

Chaya Devi (Chaya Devi, 1997) studied the end-users of technical information cell of National Ship Design Research Centre (NSDRC) to know their attitudes / behaviour towards the on-line information search and retrieval. Survey method was adopted for the study and questionnaire was distributed to forty employees who were using on-line resources. Twenty eight employees responded to the questionnaire. Study revealed that most of the employees (92.86%) prefer online search and the reason for that include immediate access and convenience. Most of the end users had the previous experience in the use of on-line technology. The main access points for most of the users were subject / keywords and natural language search was preferred to controlled vocabulary search. Study recommended that end-users be taught about the search strategies and the use of controlled vocabulary to make on-line search process easier.
Hari Krishna Reddy (Hari Krishna Reddy, et al., 1997) investigated the ISB of professionals in the field of disabilities in India. The study was carried out during 1993-1994 to ascertain the types of communication channels and sources used for information and the time spent in browsing / reading literature for research activities. Questionnaire method was adopted for the study supplemented by interviews. One hundred and sixty persons responded to the survey. Survey showed that the users' awareness of sources and access tools vary with age, experience, professional, educational and managerial status. Journals were the main formal source of information for preparing course / teaching materials, and books were used for providing consultation and diagnostics services.

Munjoo-Munshi (Munjoo-Munshi, et al., 1997) studied the information seeking pattern in the electronic environment. Authors theoretically analysed the seeking pattern in electronic media with respect to various attributes. Study also discussed the two consequences namely physical and intellectual and highlighted their specific attributes, which directly influenced the information seeking in electronic environment. Study points out that information seeking activities were amplified in electronic media. The increase in information seeking activities was due to the facts like more access points, more iteration of activities, more tools, and immediate feedback. Study also points out that the electronic system had its impact on physical attributes of information such as quantity, time, location and format.

Panda (Panda, et al., 1997) examined the ISB of creative writers in Oriya language. Mailed questionnaire method was used for data collection. One hundred and four writers (52%) responded to the questionnaire. Chi-square test and normal test of significance were applied for analyzing the data. Study disclosed that most of creative writers hail from teaching / research profession. Majority of the respondents are familiar with indexing services (53.4%) and they felt that user education was imperative for them for the best use of the library resources.

Sasikala (Sasikala, 1994) investigated the ISB of four hundred and thirty six managers from twenty industrial organisations in Andhra Pradesh. The study was carried out with the aim to understand the ISB of different level of managers namely senior, middle and
junior. Pre-tested questionnaire was used for collecting data. Study found that managers need data as well as descriptive type information for their information needs. They are not regular visitors of the library and they satisfy their information needs from sources other than libraries also. They seek information for updating their knowledge, to solve their practical problems and also for their job related issues. Study also revealed difference in searching and using behaviour among the different levels of managers.

The information needs of engineering scientists of regional research laboratory Bhubanesher were studied by Ramesh (Ramesh, et al., 1993). The study was carried out to explore the information needs of scientists, to list out the frequently used information sources, scientists information seeking methodologies, to design and develop a need based information system and services and to find out the usefulness of library collection. Questionnaire method was used for data collection and fifty seven scientists responded to the survey. The study revealed that all the scientists used online databases for literature search, have knowledge about information services of INSDOC, scan current periodicals for updating knowledge, preferred to have computerization of activities in libraries and majority of them expressed satisfaction over present collection of library. Among the services offered by the library current awareness service was preferred by majority (63%) of scientists.

2.3 Reviews

2.3.1 International studies

Bawden (Bawden, 2006) reviewed various concepts put forth by Wilson in the article "On user studies and information needs” published in 1981. The paper adopted a literature based conceptual analysis, with Wilson’s paper as the study point and evaluated the significance of, and the later developments in the issues dealt with in that articles. Study showed that Wilson’s articles had a significant effect on the development of information science. It dealt with several fundamental issues including nature of information itself, information need, and models of information seeking and information behaviour. The paper provides a perspective on the development of information seeking over thirty years.
Shenton (Shenton, et al., 2003) reviewed the information seeking models with respect to youngsters. Analysis of the past work revealed that there were four types of models covering the information behaviour of youngsters. They are instructional, grounded, narrative and synthesized models. Tabberer offers a five stage model and Kuhlatha offers a model consisting of six stages. Each writer suggests that the recognition of an information need actually starts with the information seeking process for that individual. Sample for the study were drawn from six schools of Whittey Bay, England. Individual interviews and focus groups were the principal methods of data gathering, and the data thus gathered was verified against documentary sources. The model presented by the author differs from the sequence of ISB identified by many other writers.

Brajnik (Brajnik, 1999) reviewed the various models of information seeking with the aim to ground for another model based on two levels of interaction namely presentation and navigation. The navigation and presentation levels enable the analysis of information seeking process at two levels of abstraction and group usability factors in two disjoint sets. Author argued that this would simplify both the design and evaluation process of interactive information systems.

Spink (Spink, et al., 1999) investigated the action taken by information seekers in their search for information. Authors explored the changes that took place over time, and examine changes in information seekers relevance judgments and criteria and characterize their difference. Study also examined the human information seeking and searching processes in the context of mediated on-line searching. Data was collected from one hundred and ninety eight information seekers in US and UK. The findings of the study were presented in four parts.

Hepworth (Hepworth, 1998) evaluated various studies in the field of user studies, information retrieval with respect of library human computer interface design and system analysis. Study attempted to answer questions on 1) the kind of data to be captured from users and their interaction and information requirements 2) appropriate research techniques for capturing relevant data. Study found that any user requirement analysis needs to capture the user’s thoughts as well as their behaviour and the
materials required to undertake information intensive tasks, and limiting one’s study to any one dimension would result in only a partial picture of the user’s requirements. Also three dimensions, namely environment, behaviour and cognitive and personnel factors can be taken as the fundamental aspects for understanding user requirements.

Wilson (Wilson, 1994) in his study entitled “Information needs and uses: fifty years of progress”, reviewed the developments that occurred during the past fifty years in the field of ISB and its allied areas. Author grouped the studies that were conducted over the past fifty years according to a) the method of investigation b) according to the social role of investigation c) according to discipline and d) according to the theoretical framework. The review points out that the studies carried out in early stages were system studies rather than person centered studies, and also these studies lacked theoretical background. Another finding of the study was a need for an integrative model of information need and ISB and information use.

2.3.2 National studies

Singh (Singh, et al., 2006) investigated the ISB of agricultural scientists. Authors reviewed various studies that were carried out in the field of agricultural sciences discipline. Authors provide the importance of review of literature, meaning of key terms associated with ISB and provided sixty five review findings and their findings have been organized into six categories. The review provides a clear understanding of ISB of international agricultural scientists. The review study covered significant studies on ISB of agricultural scientists all over the world and delineated the research plan in conducting research on ISB of agricultural scientists in Indian environment.

Kawatra (Kawatra, 1985) reviewed the user studies with the aim to investigate the information seeking attitude of users, identify the gaps in knowledge of user studies, and suggest area of user attitudes for research and to out-line techniques for future research. Study investigated the attitude and need of users and reviewed eleven studies that were carried out in the field user studies.
2.4. Theses

2.4.1 International studies

Burns (Burns, 2007) explored the ISB of health professionals seeking integrative medicine related information affiliated with the four North Carolina academic programs and centers for integrative medicine. The study was carried out with the objective for better understanding of this population and to meet their information needs. A web-based survey consisting of ten close ended and open ended questions were designed based on the questions used in similar studies. The survey was administered through e-mail. Fifteen professionals (32%) responded to the survey. The study showed that the health professionals need more targeted library services due to the difficulty in finding information.

ISB of distance education students of University of North Carolina (UNC) was studied by Thompson (Thompson, 2007). The aim of the study was to identify the library use and needs of these students and to determine the library’s plan of service. Survey was carried out using a web-based self administered questionnaire and the survey instrument was sent to all enrolled distance students of four departments. Nineteen students (10.5%) responded to the study. The study found that students prefer electronic resources to traditional print-based resources and was highly confident in their search abilities. Students commonly use Google and UNC libraries web pages for their research, but they consult Google more for information.

Good (Good, 2005) studied the ISB of first and second graduate students with the objective to find out the types of sources students use and the authoritativeness of the sources they use. Students who had basic computer knowledge and internet searching skills were included for the study. Participants were explained briefly about the purpose of the study and were requested to undergo the web form that included two scenarios. Fifteen students responded to the survey. Study found that although there was roughly the same number of participants for each year in school, first years look at about twice as many websites, suggesting a difference in information literacy skills or trust in the information found. Also a weak, but positive correlation between usefulness and
authority in one scenario, but not the other, reaffirms the need to flag quality health information on the web.

Al-Saleh (Al-Saleh, 2004) examined graduate students information needs from electronic information resources in three Saudi Universities namely Umm Al-Qura University, King Saud University, and King Fahad University of petroleum and minerals. Five hundred and two graduate students in three Universities were surveyed from which four hundred and eighty usable responses were obtained. Findings of the study showed that only half of the graduate students used the library electronic resources for their academic needs Chi-square test found a significant relationship between graduate students use and lack of use of library resources and students situational variables.

The effect of electronic journals on the ISB of scientists during the past ten years at the National Institute of Environmental Health Sciences (NIEHS) was examined by Gleeson (Gleeson, 2001). The study aimed to provide insights to the librarians at the NIEHS library about the preferences of their patrons and to assist them in making important decisions in collection development. Questionnaire method was used to collect data and one hundred and forty nine persons responded to the survey. Study revealed that majority of the scientists have considered e-journals as an important resource, and have integrated it into their information seeking routine.

2.4.2 National studies

The ISB and the problems encountered in seeking information by the teachers and postgraduate students of the Rajagiri College of Social Science, Kerala was studied by Antony (Antony, 2006) as a part of his M.Phil thesis. Different tools have been used to elicit data. Study showed that lack of time was the major problem in obtaining required information for students as well as for teachers. A major portion of the student community (53.2%) didn’t use non-book materials, while teachers (58.3%) use non-book materials. The study showed that ISB of students and teachers vary primarily because of their different needs and requirements. The teachers and students were satisfied with the facilities and services provided by the library.
Information needs and ISB of engineering students of government engineering college Thrissur, Kerala was studied by Sheela (Sheela, 2006) as a part of her M.Phil degree. Questionnaire method was the main tool for data collection. One hundred and eighty students responded to the study. The study revealed that students visit central library for borrowing books and to prepare assignments, they prefer print media as their major source for information. Study also showed that the students are not satisfied with the systems and services provided by the central library.

The information needs and search behaviour of pure science research scholars in University of Kerala were examined by Geetha (Geetha, 2003) as a part of her doctoral thesis. Pre-structured questionnaire was used to collect data and questions were administered to respondents personally. One hundred and fifty nine scholars responded to the study. Study established that the information sources in pure science disciplines of Kerala University library are inadequate and require improvement. Study showed a variation in the use of different sources by the pure science research scholars of different disciplines.

Various investigation methods and data collection tools and techniques were adopted by Sridhar (Sridhar, 1987) to investigate the ISB of Indian space technologists. An almost census survey method was used as sampling technique and data for the study was elicited primarily through self administered questionnaire from over eight hundred space technologists. The primary motivation of space technologists is self improvement, being up-to-date in the field, maintaining professional competence, self-satisfaction and to achieve the desired result in work. Study also demonstrated that the space technologists depend slightly more on formal and documentary information sources when compared to informal and interpersonal source of information and almost all aspects of the ISB are significantly related to one or more of the six user characteristics, namely status, qualification, nature of work, specialization, experience and professional activities and achievements of the Indian space technologists.
2.5 User study

2.5.1 International studies

Siatri (Siatri, 1999) in the paper entitled “The evolution of user studies” depicts a historical background of user studies and describes the related key concepts of the topic. Author points out that all the user studies starting from 1948 have contributed in establishing and expanding the knowledge in the field. In the era of information communication technology (ICT) user studies help library professional in understanding the user needs and seeking behaviour in a better way which in turn helps the professional to serve the users better.

Meltzer (Meltzer, et al., 1995) provided a brief overview of the focus group, discussed the library use of undergraduate students at two campuses of University of California. Questionnaire and interview methods were adopted for data collection and the study at Los Angel’s campus of University of California found that library need to advertise its services and students of the campus desired to have automated services. Results of Berkeley campuses revealed that most of the undergraduates were using Moffit or Doe Libraries almost exclusively, but some were unaware of the branch libraries existing in the campuses and also most of them were unaware of libraries’ instructional and tour programmes.

2.5.2 National studies

The use of library facilities and information resources in first grade colleges in Shimoga district, Karnataka was identified by Lohar (Lohar, et al., 2007). Data from four hundred faculty members from thirty degree colleges in Shimoga district were elicited through questionnaire. The main intention for the use of libraries has been the academic interest of the faculty. Study concluded with findings that majority of the college libraries in Shimoga district are not having adequate and well organized library resources and services.

The expectations and perceptions of the users of National Law School of India were studied by Khaiser (Khaiser, et al., 2006). Structured questionnaire method was used
for the survey. One hundred and twenty four users (83%) responded to the study. Study found that majority of the students (87.90%) use the library on daily basis and they rated the library as very good. Users suggested that journal articles are to be indexed.

The medical practitioners' periodicals use patterns were explored by Biradar (Biradar, et al., 2001). Investigators outlined the information needs, purpose, usage, sources especially periodicals usage of medical practitioners of Shimoga City. Questionnaire method was used for data collection. Sixty medical practitioners responded to the study. Study showed that medical practitioners seek information to get information about the new procedures and latest trends in medicine. Medical practitioners irrespective of MBBS, BAMS and BDS prefer to use Indian journals and MEDLINE was the commonly used database.

Mallaiah (Mallaiah, et al., 1999) conducted a study to find out the users' perspective on library services and facilities in Mangalore University. Authors investigated the user preferences with regard to library and information requirements and other facilities. Questionnaire method was used to elicit the opinions from postgraduate students. Six hundred and thirty eight students (82.32%) responded to the study. Study found that the users were generally satisfied with the library services and sources. Study recommends that collection should be strengthened in tune with user needs and highlights the importance of user orientation.

Information use pattern of faculty members of Sri. Padmavathi Mahila Visva Vidyalayam (SPMVV), Tirupati, Andhra Pradesh was explored by Sudharani (Sudharani, et al., 1999). Investigators carried out the study to find out the information requirements of faculty members, to identify the measures for the effective use of collection and to find out the problems in seeking information. The scope of study was limited to the faculty members of Science and Arts departments. Census method was adopted for the study. Sixty one out of eighty three faculty members responded to the study. The study revealed that most of the faculty members use information sources like books, reference book, periodicals commonly, while abstracts, indexes, dissertation etc are rarely used and most of the faculty members use the library with assistance.
Faculty members use the library for current periodicals and their earlier library experience was reflected in their effective use of information.

Sahu (Sahu, et al., 1998) conducted a survey at regional research laboratory, Bhubaneswar to find out the awareness, use and preference of scientists of regional research laboratory, Bhubaneswar with special reference to CDROM data bases and computerized library services. Questionnaire method was used for data collection. The data is supplemented with other records of the library and annual reports of the institution. Ninety six scientists responded to the questionnaire. The study found that the awareness of scientist towards CDROM databases, computerization of services and networks like INTERNET makes them dependent on the type of publications and services. Study recommended for networking of libraries in the city of Bhubaneswar for better sharing of resources.

Kumbar (Kumbar, et al., 1998) in their paper titled “User education in university libraries” describes the meaning of user education and explain how user education differs from orientation and initiation. The need, objectives and methods of user education are also discussed. Authors concluded the paper with remarks that the user education programme plays a vital role in the process of information dissemination and maximum utilization of resources in university libraries.

The utilization of college libraries and their facilities by the teaching community was investigated by Bavakutty (Bavakutty, 1998). The study was carried out with the objective to examine the utilization of library resources and facilities by teachers with respect to their frequency of library visit, purpose of library visit, duration of time spent in the libraries and their borrowing patterns. One hundred and twenty three teachers responded to the survey. Study revealed that thirty four percentage of teachers use college libraries every day and they use the library to satisfy their teaching related requirements. The study also revealed that the frequency of library visits and degree of library use by teachers are somewhat satisfactory.

Dixit (Dixit, 1998) carried out a user study to identify the library use pattern, and to evaluate the library services and resources and its organisation at National Medical Library (NLM), New Delhi. Questionnaire method was adopted for the study and one
hundred and thirty seven members of the library responded to the survey. Study showed that the existing services of NLM were not up to standard and users were not very much conversant with the use of secondary sources. Library staffs’ attitude towards users was not good.

Dalai (Dalai, et al., 1997) conducted a study to examine the users’ habits, period of their study, movement, pattern of library use, use of card catalogue, books and journal usage and their opinion about library and its collection of regional research laboratory, Bhubaneswar, India. Observation and interview method was adopted for data collection. During the data collection period library was used by three hundred and eighty users for six hundred times. The study provides a picture of library use by internal or external users and the interactions with users of the library provide sufficient in sight for planning the physical layouts of libraries and the ISB of users.

Acamma (Acamma, et al., 1991) carried out a study to find out the information needs and use pattern of rubber scientists at rubber research institute of India. Data collection from sixty four rubber scientists (78%) was done by means of a questionnaire. Authors conducted the study with the objectives to judge the limitations of library system and services, exploit resources at least expense, enhance the quality of acquisition and collection and to improve the science communication system. Study found that the secondary periodicals were under utilized and the present system of services offered by the library was inadequate. Study also revealed that there is a need for user education, computer based services and to build a collection according to the needs of the users.

Devarajan (Devarajan, 1989) conducted a survey to examine the users’ approaches in the field of pure sciences. Study revealed a trend towards multi disciplinary research. The pure scientists were mostly interested in reading primary journal and the collection and services provided by the Kerala University library were partially adequate to meet the research potentials.

The information use pattern of Indian Geo-Scientists was investigated by Maheswarappa (Maheswarappa, et al., 1986). Authors explored the use of information sources by Geo-Scientist as to their form, subject, country of origin, language etc and identified the journals cited and its obsolescence. The study also investigated the
Indian Geo-Scientists journal use pattern and also examined whether journal use pattern was in conformity with the law of scattering. Data for the study was collected by means of citations from the Journal of Geological Society of India covering the volumes 22-24. Citations appeared during the period 1981-83 were taken for the study. Study found that the society cites journal articles more frequently than another type of documents, and English was found to be the dominant medium. The Indian Geo-scientists’ information use pattern is in tune with the Bradford’s law of scattering.

Rout (Rout, 1982) in the paper entitled “measuring user satisfaction: a quantitative model” described the steps involved in evaluating the library services. Author points out that there were three levels of evaluation namely effectiveness evaluation, cost effectiveness evaluation and cost benefit evaluation and provides the criteria for evaluation.

Vashishth (Vashishth, 1982) in his article titled “user education in college libraries: a basic frame” depicts the idea of user education and its variant forms. Author provides the meaning of the term user education and describes the different stages of user education programme. The article enumerates the objectives of user education, and discusses the basic frame work for user education in the context of college libraries and suggests the elements to be included in course design for the purpose.

2.6 Conclusion

Review of literature was carried out to acquaint with the existing body of knowledge in the area of information seeking behaviour. It gave theoretical background for the study and provided guidelines in the planning of research. The investigator reviewed various international and national level studies that were carried out on the topic ISB and also comparative studies on ISB.

From the reviews it is clear that the topic is researched more in foreign countries. The comparative investigations of ISB are a less researched area. The notable characteristic of all these studies is the lack of consistency in the usage of the term information seeking behaviour. Some have adopted bibliometric analysis, citation analysis, web log
analysis and in some cases the study was confined to identifying the services and 

sources.

One common feature noticed in all these studies is that a good majority of the studies used questionnaire as the survey instrument or a combination of questionnaire with other instruments for eliciting data.

Reference


