CHAPTER II

REVIEW OF LITERATURE
CHAPTER II
REVIEW OF LITERATURE

A summary of the writings of recognized authorities and previous researchers provides evidence that the concerned researcher is familiar with what is already known and what is still unknown and untested. Since effective research is based upon past knowledge, this step helps to eliminate the duplication of what has been done, and provides useful hypotheses and helpful suggestions for significant investigation.

Review suggests a method and a technique of dealing with a problematic situation, which may also suggest avenues of approach to the solution of similar difficulties, a scholar may be facing. It can provide the investigator with new ideas and approaches, which may not have occurred. It also assists the researcher in evaluating his own research efforts by comparing them with related efforts done by others.

Keeping the previous references as guidelines, efforts were made to find out that the researches completed are related to the present study.

A number of works of a reviewing, methodological or theoretical nature on user studies has appeared. The most inclusive bibliography is ‘Bibliography of uses Surveys 1950-1970’ compiled by Atkins in 1971. Her collection of 687 studies for all types of libraries except for special libraries is based upon a review of 1,200 studies during the two decades, 1950-1970. Those not included were for reasons of non-relevance or duplication. The large number of studies alone strongly demonstrates the interest in and activity on user studies.
Ford in ‘Progress in Documentation: Research in User Behaviour in University libraries’ examines over 100 studies conducted in academic libraries. Wood in his thesis ‘Factors influencing student library use: an analysis of studies’ presents a useful analysis and summary of the major studies of library use in the period 1930-1964.

The paper ‘Discovering the user and his information needs’ by D. N. Wood lists user studies conducted during 1966-1970. The compilation ‘User studies: A Review for librarians and information Scientists’ by Bates cites 181 studies up to 1968.

In 1970 the New York Library Association issued a publication ‘Use, Misuse and Non-use of academic libraries’, including an annotated bibliography of user requirements. This is a selected list (20 pages) of papers dealing with use, the making of surveys, and the problems of library use instruction.

At least one specialized collection of user studies exists. This is the compilation and review of fifty-four ‘Catalogue use studies and their implications’ by Krikeles which includes a chronology of catalogue use studies, 1931-1970.

Ford reviews the major user studies, suggests a conceptual framework for them and outlines the techniques, as does Exon. The Centre for Research on User Studies produced guidelines for the study of information users for UNESCO. Wilson advised on the conduct of user studies as a basis for user education programmes, and produced a useful review of the trend in user studies towards the use of qualitative techniques.

Each year a review of user studies is made in the ‘Annual Review of Information Science and Technology’. Also, user studies are currently
indexed in ‘Library Literature; Library and Information Science Abstracts, and ‘Research in Education’ (ERIC).7

Along with the user studies that have been published, there is little doubt that there are many that never see the light as printed reports. There probably are some unpublished studies in every library files, perhaps originally undertaken to prove a point or to justify a new service.

The user of libraries has been given the most attention by researchers. A subject that is frequently overlooked in studies is that of misuse. While this occurs inside the library, in a sense misuse is specialised and somewhat hidden and as a result is often missed in general studies of library use. Some insight has been given into misuse by investigators, concerned with the need for library user education, but no specific study on misuse exists.

Findings of User Studies:

Many studies have been carried out, in the different parts of the world, particularly in USA and UK. The findings of major studies are given below:

User Studies – USA:

A survey of faculty member’s attitudes toward library services at the University of Michigan was carried out in 1961 by the Survey Research Centre of the University of Michigan. The purpose of the survey was to ascertain the use of the university library system by faculty members, their opinions about shortcomings in collections, services, and facilities, and their ideas about the future development of the library. The Centre reported that the lower ranks (e.g. lecturers, instructors) depend more on the library for their
work, are less satisfied with book collection and library services, and are much less likely to have requested library purchases than the higher ranks.

Peterson\(^9\) in 1968 conducted the study at the University of Michigan to determine the patterns of the student use of one segment of serial literature, periodicals, in a research library system.

The results of this study clearly indicated that periodical literature receives substantial use. Eighty-four percent of the students surveyed indicated use of periodical literature in the given term. Sixty percent indicated use of periodical literature at least once a week. Moreover, periodical literature is heavily used by the students who are the most frequent and steady patrons of university libraries. Thus, the significance of periodical literature for graduate students is demonstrated on both an absolute and a proportional scale of use.

The subject approach to periodical literature is the dominant approach used by the graduate students. The majority of users of periodical literature read only one article and 70 percent of the respondents read not more than two articles. What is more 70 percent of those who read one article and 61 percent of those who read two articles were using periodical literature for research purposes.

Only eleven respondents indicated that, at the end of their search for a periodical article, they had found neither the article nor any appreciable information regarding it. This is equal to less than 1 percent of the total respondents, and indicates a very large number of satisfied users of periodical literature.

Allen, Kenneth W (1970)\(^10\) conducted a study of student and faculty member attitudes and the degree of their utilization of community of college libraries. He found that there are several variables which affect the use
of community college library such as the age of the institution, the attitudes of the faculty members, the attitudes of the students, the geographical location of the institution and the institution’s internal climate.

Burns and Hasty\textsuperscript{11} conducted a survey of user attitudes toward selected services offered by the Colorado State University libraries, and conducted that ‘most user studies have emphasised the descriptive rather than the analytical in their reporting and were conducted by practicing librarians or information scientists with little or no attention to the adoption of rigorous methodology’.

Gratch (1979)\textsuperscript{12} conducted student and faculty use survey of Drake Memorial Library, State University of New York, College at Brockport, to evaluate user perceptions of library effectiveness and to obtain further information about user expectations and requirements. This study was used to identify gaps in total library service. The responses indicated highly favourable student attitude about library services, facilities and staff.

Overall, student library users and the faculty users surveyed were quite satisfied with facilities, services and staff. No major changes were required but certain continuing efforts were needed; such as: the improvement of library atmosphere and the allocation of adequate funds to provide extended hours before examination period.

A general evaluation survey of the academic community was conducted during the fall quarter of 1979 to determine whether the present services, facilities and resources of the IOWA State University of Science and Technology, AMES library, meets the needs of its users.\textsuperscript{13}
Users were asked how often they come to the library and their principal reasons for coming. The users were also asked about their satisfaction with the collection, the hours of operation and their impressions of services.

Results of the survey indicated that graduate students use the library in essentially the same way, while use by undergraduates is different. The user's perceptions also pointed to areas where improvements in service need to be made.

A user survey of the College of Charleston’s Robert Scott small library was conducted in Spring 1980\(^4\). Self administered survey questionnaires completed by 57 per cent of the college faculty and a random sample comprising 10 per cent of the undergraduate population provided information on who uses the College of Charleston’s Library materials and services, why they use them, and in what areas users are satisfied or dissatisfied with the library.

This survey was conducted in order to identify areas in which the library's materials and services can be improved or extended to better meet user needs and play a more active role in the educational process.

During the 1981 Spring Semester, the Memphis State University (MSU) Libraries asked representative groups of library users to give their views about the services, personnel and facilities of the library system in order to evaluate the effectiveness of the libraries\(^5\).

This study indicated that the MSU libraries are effectively meeting the needs of their users. The respondents were of the view that the MSU libraries play an important role in the university community. They regard the library facilities and collections as adequate for their need and the personnel as willing and able to help them.
Minner-Van-Neygen (1982)\textsuperscript{16} conducted his study of students’ attitudes towards the behavioural approach to library and information sciences: an experiment involving the group as an agent of change. The purpose of this study was to develop and an agent of change. The purpose of this study was to develop and test a training design that would modify library student’s attitudes towards a behavioural science and towards psychology.

Aliire, Camila Ann\textsuperscript{17} (1984) conducted a survey concerning doctoral students in Colleges of education who were involved in library research work. The findings of this study were that research scholars stated that they thought knowledge of the library and its resources was important to their academic success. They further stated that library usage was also important for their academic success. Need for bibliographic instruction and library research methodology was stressed.

**User Studies – UK:**

Line (1962)\textsuperscript{18} conducted a survey on the attitudes of students to the library, as well as on certain aspects of library use at Southampton University. The findings of this survey were that students appeared not to be availing themselves of the help library staff could give them, even when they were aware of it, and to be making little use of the reference material in the library. A high proportion of students (60 per cent) reported that they often found that a book they wanted was not on the shelves. They wanted more books confined to the library. It was also found that women were using the catalogue more frequently than men. The students who have been at the university longest and those who use the library most have the most favourable attitudes to the library staff. Line stated that “There is a general impression that students use libraries for less than
they ought to and before librarians can change this, they need to find out why". This survey also revealed several other problems and deficiencies and on the basis of which a number of changes in library policy and practice were instituted.

A follow-up study by Line and Tidmarsh (1965) was carried out with a sample of 322 undergraduates. The survey revealed that there was the expected high correlation between the extent of borrowing and readiness to use the catalogue. Two features of the survey call for special comment. The first is the greater use made of libraries by women. They used the university library far more for recreational reading, and borrowed more from it for vacations, they used the catalogue entries; they had more confidence in the library staff, but were more reluctant to ask them queries, and were more ‘intimidated’ by the library on first arrival, more of them attended library tours and seminars. The explanation lies in personality factors; presumably women are on the whole more amenable, and perhaps more conscientious than man, more ready to admit they need help, and less ready to criticise.

Secondly, social science students showed remarkable improvements over 1962 in such matters as book purchases, use of catalogues as a first resort, personal acquaintance with library staff, estimates of staff helpfulness and willingness to ask them questions, and progress in the use of the library and they were well ahead of other faculties in some of these aspects, as well as in their valuation of seminars.

The two surveys are an excellent illustration of the concept of survey, policy evaluation, policy implementation and re-survey – a sequence, which is rare in this field.
A study by Harris\textsuperscript{20} of users and use at Newcastle upon Tyne Polytechnic library, covered many aspects of library use in terms of subject differences. The results of this study suggested that better library collections are used more extensively (i.e. more users per users) as well as more intensively (more uses per document) than are poor collections, and provided extensive evidence of a correlation between issues of books and the use of those books within the library\textsuperscript{21}.

The many surveys of book borrowing from libraries tell us how many books are borrowed by persons of varying status and with varying subject interests. Data collected from a number of university libraries showed the lengths of time for which students read books\textsuperscript{22}. It is interesting that comparing one university with another, the amount of time devoted to reading a single book varied much less than did the number of books borrowed. Thus while the mean number of books borrowed. Thus while the mean number of books borrowed per annum varied between 25 and 90 per student the mean time spent reading them varied from 2.75 to 3.83 hours per book. While this measure of document exposure may be more useful than simple figures of number of loans, we are still no wiser as to the effectiveness of the use.

Urquhart and Schofield\textsuperscript{23} (1972) conducted two major surveys to measure readers’ failure at the shelf in three university libraries.

The result of this survey will enable the librarian to establish priorities, the difference in rates of failure for different subject areas of the library will call for a reassessment of book purchasing policies. The third use of this survey will have understanding of reader problems and attitudes.
User Studies – Australia:

Chris Mulder and Ed Parr\(^{24}\), the librarians of two Western Australian Colleges of Advanced Education, have combined to carry out surveys of student attitudes to their respective college libraries. Both colleges have substantial teacher education programmes, have similar enrolments and library holdings, yet library use patterns differ significantly between them.

Information was sought on student attitudes to the college library and attitude scores were recorded by relating students’ actual feelings about the college library, to their concepts of the ‘ideal’ library.

However, the important findings of these surveys were not reported in CRUS News.

User Studies – Austria:

In 1983\(^{25}\) a survey on library use was carried out among over 500 teaching staff at Vienna University library. Information is included about literature needs, types of library preferred, university library facilities, user training, criticism of services and the need for improvement.

User Studies – Nigeria

Unomah (1984)\(^{26}\) conducted a study on student utilization of Academic libraries in Nigeria. In this study three major discoveries were made, namely i) That students grossly under-utilize library resources, ii) The teaching staff are to a considerable degree responsible for this under-utilization by not sufficiently stimulating interest in the students to use the library; iii) Students’ perception of the roles of librarians in Nigeria is not only erroneous but chaotic.
Recommendations for improvement include 1) Appointment of Reference librarian; 2) Introduction of the ‘Use of books and library’ as a compulsory course in all the universities; 3) An aggressive programme at improving the reading habits of students.

Onadiran (1985)\textsuperscript{27} conducted the study to assess the use of Ahmadu Bello University library and to examine student opinion. Various aspects examined were users characteristics, frequency of use, reasons for using the library, users satisfaction and reason for dissatisfaction. User dissatisfaction centred on the fact that books wanted were not available in the library. The sad fact was that there had been rapid decline in the recurrent estimates of library materials. In addition, most of the university library books were of foreign origin. There was, therefore, the problem of scarce foreign exchange to facilitate their acquisition. The fact was that the bureaucratic machinery in government finance was so rigid and cumbersome that it was a barrier to regular importation of books.

Olanlokun (1982)\textsuperscript{28} conducted this study to determine the attitudes of the major interest groups in Nigerian university on library policy, use and service specifically, the attitudes of the faculty, students and librarians on adequacy of resources, quality of library collections and library services.

The study reveals differences in the pattern of library use by the faculty members and students. A majority of the faculty members and student respondents indicated that they needed more library staff assistance in journal, audio-visual and government document sections. The majority of the librarians did not find the faculty members of much help in building library collections.

The findings strongly suggested more interactions with the patrons. It emphasized that users needs should also be given greater attention.
**User Studies – India:**

The studies relating to the attitudes of users with special reference to university libraries have been reported below:

White (1965)\(^29\) conducted a survey of the University of Delhi Library on the request of the university. Following were the recommendations of Mr. White:

No definitive set of standards for use in developing a university library programme exists. It is recommended that the university should consider the applicability of such standards in dealing with local library problems.

That book selection is oriented toward supporting instruction and research. The resources and services are developed according to the instructional and research needs of the university.

That the teaching staff and the library staff work closely together to discard obsolete titles and to determine in advance, what titles are to be used intensively enough to require the purchase of additional copies.

Physical accommodations should provide ample space for books, readers and workspace for the staff. These accommodations should be attractive, comfortable and well lighted.

The idea of bringing together in one building all the books that belong to a large university was impractical. The problem was not whether to decentralise the resources, but how to do so.

Krishna Kumar (1968)\(^30\) conducted a survey concerning teachers and research scholars in the Department of Chemistry, University of Delhi. The important finding of this survey was quite a large percentage of research fellows do not use the library as much as they ought to. The majority of the researchers (71 percent) feel the need to improve their skill in the use of science-technology
literature. The research fellows depend much more on the departmental library than the University library. But the teachers seem to use both libraries about equally. It was found that existing services being provided by the University have not been publicized sufficiently. The respondents were in favour of getting photocopying service in the library. The university library should build a sound collection and should try to get all the essential periodicals. The survey has underlined the importance of communication between the librarians and the users. It was interesting to note that many persons showed interest in the training programme for librarians. It was also found that the approach to the services provided by the libraries used by respondents was rather critical. On account of change of teaching system it is expected that there will be increased use of the library resources and services. All this will have important implications for the university library.

Dhyani (1974)\textsuperscript{31} conducted a survey of 100 readers at Rajasthan University library, Jaipur. The study revealed that generally the readers showed interest in using the library at the college level. However, only a few made use of the library at the university levels. The users surveyed were not clear even about the elementary library terminology. The survey revealed that there was general ignorance about the subject approach of the catalogue. The other finding was ignorance about handling of reference books. The survey recommended that library instruction should be imparted to the students, reference service, by competent staff, should be given, every member should be given a library handbook, library service should be properly organised, documentation list, including current awareness list, should be circulated.

A recent university library survey\textsuperscript{32} indicated that both librarians and the user community have only imperfect knowledge about each other.
Supply or provision of library service is made not according to the real demand. No effective demand exists for the major portions of the supplied resources and services, and both library resources and library personnel are not fully utilised or employed due to misallocation of resources and manpower.

As a result, university libraries are functioning at a sub-optimal level or their effectiveness is not at the required level.

A study measuring the user satisfaction over the important services offered by the central library, Sambhalpur University was undertaken. The services evaluated covered the document acquisition policy, document delivery service, technical processing and documentation service offered by the library. The user community included only faculty members of the postgraduate teaching departments.

The analysis revealed that the users are partially satisfied over the strength of book collection of the library in their respective subject fields. The users are not satisfied with the document processing and housekeeping services of the library. Further it showed that the users are partially satisfied with the document delivery service of the library. The users are not satisfied over the reading facility offered by the library in its reading rooms. The users trend reveals that the reference and documentation services provided by the library are not satisfactory. Further it shows the personal attention (i.e. delegated search) provided by the library is more or less satisfactory.

Each university library should endeavour to bring out 'Inventory of Current Research Projects' on a regular basis to disseminate information about on going research projects in the university.

Reprography units in university libraries should be strengthened for providing more effective service.
Saha, Karuna (1978)\textsuperscript{34} describes the survey and findings from the point of view of quantum of library use, pressure of demand from various category of users, peak hours of library usage at various service points such as reference, text book binding etc. The observations noted help in making library services more need oriented and satisfy greater percentage of demand in a better way.

The above studies have turned out to be mostly academic in their content and have not necessarily provided any significant indicators for application in practical context.

It is pointed out that having felt the need of user studies, department of Library and Information Science, Osmania University, Hyderabad, organised a seminar on 'International Developments in User Education Studies and User Education' on 22\textsuperscript{nd} June, 1985\textsuperscript{35}. The seminar stressed the need of conducting user studies in Indian University libraries. It was further added that the university libraries will have to conduct user studies, so that they can prepare an acquisition policy which may help in acquiring the documents/information required for research.

**State of the Art of Library Use Studies:**

Eunis\textsuperscript{36} in his view of the state of the art of library use studies says: 'If something is not done to reconnect the study of use and users to their intellectual roots in the social sciences, then the spasmodic and non-cumulative kind of library research will continue'.

The evaluatory reviews of use and non-use studies have uncovered several examples, which are indicative of quality research (combining well-
constructed questions and valid sampling techniques). These may possibly provide a base to build a research structure.

Some sense of professional direction in library use/non-use studies needs to be developed. A study that looks at one group of users at one place and at one point of time is invalid as a research base. Several cross-sections of users/non-users over a period of time will be needed to arrive at any valid (Scientifically useful) conclusions about library use and non-use.

Another point that needs stress is that for any user studies to be more effective in changing user behaviour, consideration should be given to the publication of research findings in journals other than those read exclusively by librarians.

The reviews are arranged according to the following categories:

a. User Studies
b. Information Needs and Use pattern
c. Information Seeking Behaviour
d. Information Gathering Habits

User Studies:

J. L. Dorsch and V. Pifalo\textsuperscript{37} reports results of a use study, to explore the information needs of rural health professionals, which involved a retrospective study of 1,224 document delivery requests made during the course of 3 outreach projects in west and central Illinois. The 547 unique periodicals, from which the articles were requested, were analyzed for frequency of request, subject content, and inclusion on core lists. These rural health professionals were found to request current information on a wide range of topics in clinical
medicine, nursing, health administration, allied health, social sciences, and basic sciences. While, 10 per cent of the titles filled 37 per cent of the requests, 58 per cent of the titles were requested once and filled 26 per cent of the requests. A high correlation with Abridged Index Medicus and Brandon/Hill list titles was found, but titles from either of these lists could fill not more than 30 per cent of the total requests. Besides demonstrating the complex information needs of rural health professionals and depicting the difficulty of building a collection to support them, the study exemplifies a method for need based periodical collection development and begins to identify titles commonly requested in a rural health setting.

J. N. Gupta, P. Wang and R. Ravichandran described that the educational programmes in the information systems area should equip graduates with skills needed by employers. An assessment of the information systems educational needs is critical to keep information systems curricula relevant to the workplace. 2 questionnaires were developed to assess 46 specific information systems areas and skills, 10 university-industry collaboration activities, and training requirements for information systems graduates. 62 information technology vendors and 202 information system employers in Taiwan participated in 2 different surveys. Results indicate that both general and technical skills are important. Students need to improve their communication skills and understanding of business needs. Deficient technical areas are project management, systems analysis and design, telecommunications and database management. University-industry collaboration has to be enhanced in the areas of conference participation, training programmes and consulting contracts.

S. R. Ijari and B. U. Kannapanavar discusses about all the citations appended to 155 articles published in 3 volumes of Indian Journal of
Clinical Psychology were analysed to identify the periodicals most profusely cited by Indian clinical psychologists. A list of 46 journals, each having been cited at least 5 times, is prepared. Type of documents used and their quantitative data are presented. Geographical distribution of cited journals are given and the chronological scattering of citation is also presented in the tabular form, and found that the current literature is most useful for Indian clinical psychologists.

C. M. Karelse\textsuperscript{40} in National Symposium on Information for all, Cape Town, South Africa, February 1994 discusses the process of development in South Africa in order to provide a picture of the setting in which librarians operate and the challenges they face and to underline the relationship between information and development. He considers the process of change underway in information work to pave the way for a discussion of an interactive approach to information work. He further describes some of the components of interactive information work illustrating the concept with a description of the Elsie River case study, a demonstration of the involvement of library services in the everyday operations of a community. This provides examples of the information needs of the people of South Africa.

C. R. Karisiddappa, S. L. Sangam and M. S. Maheswarappa\textsuperscript{41} investigates the information use pattern of Indian historians as to their use of different sources; various approaches to locate information; difficulties faced in the use of information, and awareness and usefulness of information services of the National Social Science Documentation Centre (NASSDOC), New Delhi, based on data collected through questionnaires. Findings of the study have some implications for planning and organisation of information services.

P. S. Kawatra\textsuperscript{42} conducted the study on the user studies: State of the art, which highlights the attitudes of the users, findings of the user studies and
also the reasons for conducting various user studies. The author aims to find out information seeking attitude of users, suggest areas of user attitudes for research, indicates the gaps in knowledge of users and outlines the techniques which might be useful for undertaking further research.

R. Marcella\textsuperscript{43} describes the results of a Scottish Library and Information Council funded project into the business information needs of companies in the rural areas of the northeast of Scotland. Based on a survey by questionnaire, interviews and case studies. He describes the information providers available to rural businesses, the pattern of present use of such agencies by companies, the nature of respondents' information needs, problems in accessing information and attitudes to IT.

R. Marcella\textsuperscript{44} discusses that for many university libraries and their users, the Internet represents potential and potential does not satisfy information needs, but it does raise expectations which in turn place enormous pressure on the library and information services. He examines the sources of the expectations and this pressure, which include mass media; perceptions of academic staff and students; and the US scenario where Internet use is integrated into the library's pattern of service provision. He further draws attention of the Academic Librarians in the Social Sciences (ALISS) forum for discussing information technology and Internet developments, which aim to dissipate fear through sharing expertise.

H. M. Mendes and A. J. Meadows\textsuperscript{45} report results of a joint questionnaire and interview survey to determine the ways in which 4 groups of health professionals (consultants, junior medical staff, nurses and administrators) working in 3 hospitals in Brazil and 3 hospitals in the UK, use libraries and information resources. Patterns found in the 2 countries were
compared. The investigation was carried out in 2 stages. The first stage examined the role of the library and the second looked at information activities that did not involve the library. They conclude that the information activities of health professionals in Brazil and the UK follow a generally similar pattern, which in overall terms fits the general picture gained from previous studies. However, UK health professionals clearly have better access to publications (particularly periodicals) than their Brazilian counterparts, due to the latter's problem of the acquiring foreign publications, the language barrier, poorer access to electronic information resources and greater difficulty in attending conferences. They further recommend that teaching hospitals in Brazil should make greater use of electronic communication and act as a focus for the information needs of non-teaching hospitals.

S. Shoham reports results of a 1994-1995 questionnaire survey of faculty members in 2 Israeli Universities, to discover whether changes in scholarly communication have occurred in the wake of technological changes that have added new media and tools and altered the structure and composition of library collections. 477 questionnaires were returned out of 2361. Research focused on 3 components of the information gathering process: the researcher's needs and approaches; channels of access to information; and information sources. Five basic approaches to information and 8 information channels were defined. He further concludes that, despite extensive changes in higher education, institutions and libraries that have occurred during the previous 45 years since the interest in information gathering behaviour began, patterns for obtaining information remain conservative and have resisted transformation. Professional periodicals are still the most important tools for obtaining professional information and monographs still play a major role.
P. S. Kawatra’s\textsuperscript{47} “Library user studies” deals with the needs, importance and scope of user studies. The studies conducted in India and abroad have been reviewed. It presents a psychological perspective on research in librarianship and also explores the potential for application of psychological research, principles and practices to behavioral research in librarianship. The problem of determining needs behaviour and need for conducting user studies, before designing user education programmes, have also been stressed.

Asif Farooq Siddiqui\textsuperscript{48} “Use of library collection in the Jawaharlal Nehru University library, New Delhi” is a user survey, regarding opinions, on different aspects of adequacy of collection and its use, in the J.N.U. Library, New Delhi. It also discusses the various problems, so that the librarians may ensure maximum use of library collection within the available resources.

G. Devarajan\textsuperscript{49} conducted a survey on Information needs and use pattern of Humanities Scholars working in the various departments in the University of Kerala. The study was conducted to understand the information needs, information gathering behaviour and use pattern of information of the humanities scholars. It is apropos to understand the definitions, connotations and scope of the humanities as a field of the study.

Sunil Singh Chandel’s\textsuperscript{50} study is a users study of the libraries of ICSSR Institutes in Madhya Pradesh. Dr. Baba Saheb Ambedkar National Institute of Social sciences (BANISS), Mhow and Madya Pradesh Institute of Social Science Research (MPISSR), Ujjain are two ICSSR Institutes in Madhya Pradesh. The author conducted the survey to know the users’ views regarding the available information & resources in the libraries for their use and the effectiveness of the services rendered by the libraries to the users.
S. V. Sangameshwaran and M. V. Gopinath outlines the need and objectives of user study and review the various activities of National information Centre for Food Science and Technology (NICFOS), CFTRI, Mysore in this regard. The authors in the study identify the potential users and categorise them, also identify the information requirements and evaluate the various existing services in respect of their utility to users to effect suitable modifications and introduce new services whenever necessary.

**Information Needs and Use Pattern:**

L. O. Adedibu and G. Adio reports a questionnaire survey of medical students at Ladoke Akintola University of Technology (Lautech) Ogbomoso, Oyo State, Nigeria, to investigate their information needs and information seeking patterns. The survey revealed that 70 per cent of respondents spent 3-8 hours per week in the library consulting books relevant to their areas of specialization, and 68 per cent of this category approached library staff for assistance in searching for the books of their choice. All of the samples agreed that the library staffs are always willing to assist. The respondent made various suggestions for the improvement of the library and staff alike.

M. A. Anwar portrays results of a questionnaire survey of academic librarians' perceptions of their continuing professional development needs in Malaysia. The study concentrated on the continuing professional development environment in academic libraries; constraints affecting participation; suitable period and duration for continuing professional development activities; and potential competencies for developing continuing professional development programmes in the areas of professional, information and communication technology, management, and research skills. It presents a
range of recommendations to develop these continuing professional
development programmes.

L. Banwell and P. Dixon\textsuperscript{54} present the findings of the GINN project
"Governors Information Needs", which took place between January 1996 and
December 1997. The central hypothesis underlying the project was that
individual school governors, in England and Wales, have individual information
needs, which are not being well met at present. The research has found this
hypothesis to be the case. The project was designed to study whether: governors
get the information they need; governors know what they need; and if they get
it, whether they use it effectively. The study considers whether the information
they use is the best available in relation to the decisions they must make.
Findings indicate that school governors mostly do not use information or have
much notion of operating in an information culture. They state the opinion that it
is important for them to be well informed; and yet the main source of
information used by school governors is the head teacher, whose management of
the school the governors are legislated to oversee.

P. K. Barooah\textsuperscript{55} discusses the pattern of information use followed
by scientists in the field of entomology through citation analysis of Indian
Journal of Entomology for the year 1989. Identifies the various sources of
information and their country of origin. A ranked list of Indian entomology
journals and another ranked list of journals, irrespective of their country of
origin, in the field of entomology from the view point of use by the Indian
entomologists are given.

B. S. Biradar and T. Vijayalaxmi\textsuperscript{56} discusses the pattern of
information use adopted by researchers in the field of Neurology as indicated by
citations in the D. M. (Neurology) dissertations submitted to the National
Institute of Mental Health and Neuro Sciences (NIMHANS), Deemed University, Bangalore, for the period from 1979 to 1996. The study identifies the average number of references per dissertation, the use of different sources of information, states the obsolescence of literature and lists the most frequently cited periodicals by neurological scientists. It also notes the implications of the findings for the development of need based collections in library and information centres in the field of Neurology.

D. S. Brandt describes an approach to managing user technology training that separates the material into three distinct compartments: technology, information technology, and information literacy. Information literacy relates broadly to how technology is used to fill information needs and covers topics such as determining which search engine to use, creating or refining search statements, and evaluating sources. Technology relates specifically to the underlying technology (software or hardware) used to support applications and covers topics such as operating systems, TCP/IP protocols, and how to print and download. Information technology relates specifically to the mechanics of how information is manipulated by the computer and covers topics such as indexing, precision/recall, how search engines work, Web page construction, and using a Web browser. Compartmentalizing information technology is a way to define needs, establish prerequisites, anticipate problems and provide pointers to help in the training process.

—Ginny Brember and Peter Leggate outline the pattern of library services available to staff in the UK National Health Service (N.H.S.) and give a preliminary report of a study of library usage and of attitudes toward libraries among clinical and pre-clinical staff at Oxford University. Libraries serving N.H.S. staff are numerous but these are very small, most commonly being
staffed by a single librarian, and receive little publicity. In spite of their small size a significant number has a 'special library' character. Teaching hospital libraries represent the intersection between the university and the N.H.S. library systems and are the largest of the libraries serving N.H.S. staff. Data on usage and attitudes were collected by several different methods in the expectation that this would give a richer picture than would be provided by any one of conventional survey techniques. The study discusses the use of modeling methods for interpreting data.

E. Butterwick\textsuperscript{59} reports the findings of a survey of business information needs in Northern Ireland and investigates information topics of most interest to business, topics posing difficulties; the availability of internal facilities for acquiring information; attitudes to business information provision; types of sources used; satisfaction ratings for sources used; information gathering habits; spending on information and preferred media.

Biplab Chakrabarti and Asok Basu\textsuperscript{60} explain that information need of any community is incumbent upon its economic conditions and its reactions to these conditions. Socio-economic aspects include various needs of the community media, stratification in the community leadership, roles of different groups e.g. women, men, etc., information on political conditions, relationship with the community, the electoral process and the government needs for infrastructural resources such as roads, electricity, markets, schools, health facilities.

F. J. Devadason and P. P. Lingam\textsuperscript{61} propose a step by step procedure, to be used by the Information Needs Identifier (INI), for studying the information needs of users. The procedure involved: studying the organization and its environment; studying the users specific environment; studying the users
themselves; conducting formal interviews with users; and refining and updating information needs on a continuous basis.

K. Dillon\textsuperscript{62} describes a study, which examine the information needs of secondary school teachers in rural New South Wales, Australia, particularly in relation to their professional development. The study explored 3 aspects of professional development: needs for, use of, and access to professional information. The study concludes that teacher librarians have a pivotal role to play in serving the professional information needs of rural secondary school teachers and that computer networks provide an important means of overcoming these teachers' professional and geographical isolation.

C. A. Hert, H. Rosenbaum and S. C. Skutnik\textsuperscript{63} describes about the data on information needs and uses that were collected during Internet training from students in information networking classes at Indiana University, USA, during 1993 and 1994. Information needs, events, which led to the needs, and the sources used to resolve the needs were identified and categorized. The study discusses several implications for Internet trainers.

Jessi John\textsuperscript{64}, describes the information needs, use pattern and use behaviour of social scientists and delineates the investigation on aspects like objectives, methodology, analysis and interpretation and general trends with areas of research augmented to give supporting via-media and data that benefit them. The study reveals the information needs of social scientists in respect of documents in their variety of bibliographic form, their organisation and other services rendered by the library. The study adopts the survey method based on the questionnaire. The author distributed 130 copies of questionnaires among the research scholars in Social science, of which 91 were responded. The data analysed in respect of researchers information needs, use pattern and use
behaviour in various disciplines in social sciences are brought as a consolidated one so as to understand a comparative view of information use of social scientists in various disciplines and social scientists in general.

M. S. Karkri\textsuperscript{65} based on the queries received by the Industrial Information Service (IIS) of the publications & Information Directorate (PID), New Delhi, an attempt has been made to analyse information needs of Indian industry and to identify the types of industrial information frequently sought after by it.

S. D. Kogotkov\textsuperscript{66} discusses the objective and subjective problems of information needs and the pattern of their manifestation. The study describes relations between information need and information interest, attitude, and motivation and compares information need study directions (which depend on the user's scientific production) and information activities. Looks at a classification which groups information needs into social, corporate, and personal, and mentions the ambiguous use of the term 'social needs'. It also demonstrates the relationship between social and objective/subjective properties of information needs.

B. Kolozs\textsuperscript{67} reports a questionnaire survey of the teachers of a large vocational secondary school about their information needs. Findings indicate that teachers have the greatest need for information related to the subject they are teaching, and the second greatest need for teaching information. They satisfy their special literature first of all in the school library, which is, however, able to meet just 1/2 of their demand.

A. C. Korah and G. Devarajan\textsuperscript{68} report the results of a study of the information needs and use patterns of scientists using literature on rubber technology at the Rubber Research Institute of India. The study investigated use
patterns of different types of materials, the adequacy of the library collection and services, information strategies and other aspects. Findings indicate that there is a need to expand the library services in areas such as the acquisition of foreign language periodicals, filling in of gaps in titles, organising user training programmes and the building up of collections of dissertations.

D. C. Kuruppu\textsuperscript{69} explains understanding the information needs and behaviour of workers in an organization is the basis for designing and developing information systems and services to adequately satisfy their needs. The study discusses information needs, information seeking behaviour, and methods used in studying them, especially in research organizations, and the importance of such studies. It also considers the use of the findings of such studies in making decisions relating to the design of information systems and services, as well as the impact of emerging information technology on information users and their information seeking behaviour.

Pratap P. Lingam\textsuperscript{70} provides an insight into the understanding of the decision making process and the types of decisions taken at different levels of management, the nature and kinds of information needed to take such decisions and a 'decision matrix' which will serve as a tool to identify and predict nine categories of decisions and the specific information needs of and use by managers in such decision situations.

It also indicates how this tool/framework can be improved to predict 27 categories of decisions into further three categories with the application of a new factor viz. the 'decision making phase' or the degree of structure in the decision situation. The author explains the decision making tool as a advantageous tool also facilitates the design, development and improvement of managers, information profiles, information products, systems and services.
Harpal Kaur Malhotra\textsuperscript{71} studies the role of the faculty in promoting library use by the post graduate students. Two independent samples of postgraduate students have been taken one each from Haryana Agricultural University, Hisar and Punjab Agricultural University, Ludhiana to make an in-depth study. This study identified and ranked statistically a total of nine variables which could be used to predict whether method of instruction of teachers is library based or otherwise. The stated hypothesis has been tested by the use of Spearman's Rank Correlation Coefficient in two different sample groups and their results compared.

R. Marcella\textsuperscript{72} describes the results of a Scottish Library and Information Council funded project into the business information needs of companies in the rural areas of the northeast of Scotland. Based on a survey by questionnaire, interviews and case studies, the study describes the information providers available to rural businesses, the pattern of present use of such agencies by companies, the nature of respondents' information needs, problems in accessing information and attitudes to IT.

R. Marcella, and G. Baxter\textsuperscript{73} report the results of a survey of information needs and information seeking behaviour of a national sample of the UK population. Major findings include that the majority of respondents had sought information in the past and that an even greater number predicted a future need for information. Over three quarter of respondents said that they would use public libraries and between half and three quarters would approach Citizens Advice Bureaux, Post Offices, Government departments or family and friends. Face to face communications and reading a book were the most popular means of accessing information, but a wide variety of other preferred options were cited. Only a small proportion expressed a preference for using a computer
to seek information, and there was a clear emphasis on public libraries as an appropriate location for accessing electronic information.

Yates P. Mercer and G. Wotherspoon\textsuperscript{74} report results of a questionnaire survey, conducted among UK rural communities, to examine the current information needs of users in these communities, their difficulties in obtaining information and to assess the acceptability of information provision through information technology (including the Internet and World Wide Web). The study took as its central point, the 1993 report, prepared by Capital Planning Information Ltd. for the British Library Research and Development Department (BLRDD) and Department of Heritage: Library and information in rural areas of England and Wales. It also concludes that there is currently a much greater awareness of the information needs of rural users, but this awareness is stifled to some extent by factors regarded as being beyond the control of library authorities and others. Great reliance is being placed on the use of information technology to provide information to and within rural communities.

A. Neelameghan\textsuperscript{75} presents a synoptic view of special problems of information provision, the variety of information needs and sources of information of small enterprises. The author explained in detail the various facets of the information problems of small entrepreneurs.

Z. A. Ngah and G. S. Sze\textsuperscript{76} presents a quantitative analysis of 100 references retrieved on the information use and needs of humanities researchers, consisting of journal articles (57 per cent), dissertations (26 per cent), conference proceedings (11 per cent) and books (6 per cent). Three journal titles were found to contribute more than one third of the articles on this subject. About 88 per cent (23) of the dissertations are doctoral theses submitted to universities in the USA. About 51 per cent of the retrieved items were published
between 1980-1989 which form the peak of studies in this area and the situation stabilizes to an average of about 2 studies a year in the post 1990 years. The bulk of the studies are about characteristics of information sources used and of these citation studies are predominant. Information needs and use in the field of literature, history and music (62 per cent; 41) constitute the majority of studies in this area. The review studies come under 3 categories; the library and humanities scholars; research and information seeking behaviour of the humanities researchers and the characteristics of sources used.

D. Nicholas and H. Martin\textsuperscript{77} outline a structure for analysing information needs. The purpose of the structure is to enable data on users to be collected in a systematic and routine manner. The form of analysis is demonstrated through a consideration of the information needs of newspaper journalists. Aspects of information need considered are: subject, nature, function, viewpoint, authority, quantity, quality, place of origin, speed of delivery, and processing/packaging. The study considers the barriers in meeting information needs and training, time, resources, access and information overload. It also assesses the library's role in meeting information needs.

L. N. Niongmeta and F. A. Ehikhamenor\textsuperscript{78} report results of a questionnaire survey of the needs for information and its availability to 200 health professionals in Cameroon. These reveal need for health information for the purpose of current awareness, diagnosis, effective patient management, and about new drugs, while informal channels of information such as discussion with professional colleagues and allied health specialists, seminars, workshops and conferences have been quite useful, printed sources are indispensable and the high cost of information materials and the non-availability of effective information systems in Cameroon are serious constraints to accessing and using
health information. The study argues that the starting point for addressing the problem of health information services would be the articulation of a health information policy as a vital component of health care delivery at all levels of the healthcare system.

B. L. Oosthuizen\textsuperscript{79} reports on a research project of which purpose was to determine the information needs of teachers in a black metropolitan informal settlement in South Africa. A survey was conducted on a sample of 206 teachers from 42 primary and secondary schools in the Orange Farm area. The survey report discusses the findings and in view of the complete lack of library services or any other available resources, makes recommendations. The most important recommendation is that a mobile library service for the teachers should be started with the cooperation of the educational authorities, local government and the Provincial Library Services.

Zaaiton Osman and et al.\textsuperscript{80} survey user needs in the Law Library, University of Malaya. The survey was undertaken to obtain feedback on 4 aspects of library use, user pattern and behaviour, adequacy of the existing collection, retrieval strategies and usefulness of library services. It was an attempt to assess how effective the Law Library has been in meeting the needs of its users. The results of the survey are discussed and recommendations are made for improvement of collection and services and more effective utilisation of resources.

L. Patterson\textsuperscript{81} discusses the status of tribal libraries in the USA and summarizes the information needs identified by Native Americans. The study looks at current developments and explores the future of library services to Native Americans. It presents a brief historical overview of the development of tribal libraries on reservations. Today 200 of the 500 or so tribes and Alaskan
Native Villages have libraries, but most of them are struggling to survive. Information needs identified by tribal members, having high importance include those dealing with employment, vocational training, legal and civil rights and health. Local tribal history and culture also ranked as strong interests. It also considers how this information needs can be met and discusses the future of Native American library services. Although technology offers the potential to bring library services, materials and resources to Indian people in large numbers, there are significant barriers, such as lack of funding or leadership that can prevent this becoming a reality.

N. L. Pelzer, W. H. Wiese and J. M. Leysen report results of a questionnaire survey, conducted with veterinary medical students at Iowa State University in 1997, to determine their general use of the Veterinary Medical Library and how they sought information in an electronic environment. Comparisons were made between this study and an earlier study (Bulletin of the Medical Library Association, 76 (4) 1988, 328-333). Basic patterns of student activities in the library were found to be unchanged. The 1997 students used the library most frequently for photocopying, office supplies, and studying coursework; and they preferred textbooks and handouts for current information. However, a major shift was seen from the use of print indexes and abstracts in 1987 towards the use of computerized indexes and other electronic resources in 1997. 60 per cent of the students reported using the Internet for current information. Overall use of electronic materials was highest among students receiving the problem based learning method of instruction. Most of the 1997 students indicated that electronic resources would be important for future education needs, particularly the wealth of information and services available on the Internet and World Wide Web.
R. Raddon and C. Smith\textsuperscript{83} report results of a questionnaire survey designed to identify the information needs of refugees residing in the UK and to develop strategies to meet these needs. 319 questionnaires were sent to library and information services in 189 UK local authority library services and 445 questionnaires were sent to identify refugee support organizations to obtain information about services provided. In addition, 174 follow up letters were sent to 174 chief librarians to encourage a higher return. Information and feedback was obtained from participants at a conference held to discuss the preliminary results.

Karuna Saha\textsuperscript{84} describes in brief a survey conducted at the I.I.T. Delhi library to find out the use pattern of the library and other related aspects. It starts with the purpose of data collection and explains methodology used, period of data, tabulation and the results obtained. Based on the findings, some important observations relating to the functioning of the library were made to make its services more need oriented and satisfy greater percentage of demand in a better way.

S. L. Sangam and B. S. Biradar\textsuperscript{85} reports results of a citation analysis study, involving MS theses submitted to Gulbarga University during 1982 to 1989, in the field of surgery, to determine the pattern of information use by researchers. The study identifies the use of different sources of information, their languages, countries of origin and subjects. It also discusses the obsolescence of the literature and applies Bradford’s Law of Scattering. The findings of the study have implications for the development of needs based collection in library and Information centres in the field of surgery.

S. L. Sangam\textsuperscript{86} studies the information use pattern of researchers in the field of psychology as indicated by citations in the doctoral theses submitted
to the Karnatak University, Dharwad, 1982-84. Identifies the use of different sources of information; important journals and their availability at Karnatak University Library, obsolescence of literature, and applies Bradford's Law of Scattering. The findings of the study have implications in the development of need-based collection in libraries in the field of psychology.

G. S. Sze, and Z. A. Ngah\textsuperscript{87} reports results of a study of research trends in the humanities based on master and doctoral dissertations submitted to the Malaya University Library between 1984 and 1994. Dissertation submission pattern increased 6 fold since the 1960s and the main contributors are postgraduate students enrolled at the Faculty of Arts and Social Sciences and the Faculty of Education. Within the former faculty, the top 3 contributors are the Departments of Malay Studies, Islamic Studies and English Studies. Researches are focused on local studies and the highest research activity was indicated by researchers in language and literature. Results of the analysis helped to identify the humanities research population, research trends and strength for effective resource allocation and formulation of plans to meet information needs amongst humanities researchers.

Neerja Verma\textsuperscript{88} emphasises proper development of human resources deployed by Indian Public Sector Banks (PSBs). Using the instrument of 'questionnaire' she makes a survey of the information needs of the bank employees of Greater Gwalior and identifies the often-sought sources of information by different levels of staff working in Public Sector banks. The study discusses the role of various organisations and associations engaged in the career development of Bank employees. It suggests establishment of a national Banking Information Service with model points in different cities to take care of information needs of the employees of PSBs.
Brenda White\textsuperscript{89} reports of a 2-year study into the information needs of small manufacturing firms in the UK and the current pattern of information provision. The work was carried out by Capital Planning Information Ltd. between 1980 and 1982 and was funded by the British Library Research and Development Department. The purpose of the study was to determine the range of national and local sources of information available to small firms, to investigate the awareness and use made of these sources and where possible to identify factors leading to gaps and deficiencies in the provision of information.

Jadwiga Wozniak, and Zagadnienia Informacji Naukowej\textsuperscript{90} discusses the meaning of the term 'information needs' which is widespread in information science. This term is criticised in view of its theoretical incorrectness and operational unhelpfulness. The outline of the most frequently used patterns of the investigation of information needs is presented. The study formulates a proposal aiming at the building of a pattern in which the enigmatic concept of information need could be replaced by the analysis of goals to be achieved by means of information and by the analysis of the users' behaviour when storing the information.

H. W. Yang\textsuperscript{91} explains a review of studies related to the information needs and communication behaviour of scientists which aims to explore the factors that influence their needs and methods of problem solving. Particular work environments affect needs. Information seeking and basic requirements are comprehensiveness, precision and availability. Convenience of information access has a direct effect on the efficiency of a scientist's research but a lack of confidence in applying the solutions to information problems which are employed by librarians limits scientists to the more traditional ways of finding information in libraries. An awareness of this should lead librarians to
improve collections and user services for the benefit of scientists and thus win their trust.

W. Zhang\textsuperscript{92} reports results of a questionnaire survey, conducted among college faculty and staff at the Olin Library, Rollins College, Florida, to study the use of electronic library and information technologies and evaluate users' information needs, expectations, and the quality of services. Results revealed that the college library played a vital role in providing information access to the campus community, and the Internet was increasingly becoming a very important source for information. The majority of respondents were satisfied with the Olin Library services. To meet faculty and staff's needs and expectation requires library information service professionals to seek new and better ways to deliver value added information services to library users. The questionnaire itself is included in an appendix.

W. Zumer and Knjiznica\textsuperscript{93} give a short overview of research on information needs and information behaviour of scientists. The studies began shortly after World War 2; now they are becoming more specialized and interdisciplinary. The present study offers a summary of essential results of different prominent studies, in the hope that this will improve information systems planning in Slovenia.

A. Durvasa Babu\textsuperscript{94} conducted a survey of academic community of the university, which includes Professors, Readers and Lecturers and who are involved in teaching on the one hand and research activity on the other. S.V. University, college of Engineering under the direct management of S. V. University situated at Tirupati in the State of Andra Pradesh. All cadres of faculty members working in S.V.U. College of Arts and Sciences were taken into account for the present study. The author broadly divided the study in to
two parts. The first deals with the theoretical background for the work and the second part with the data analysis. The subject is of vital importance since it exposes the possibilities of library use by the university teachers, which influences the teaching and research of the teachers.

K. C Mahapatra and K. C. Panda\textsuperscript{95} in the article “Information needs of the working Journalists in Orissa: A study” provide an insight into the various information needs of working journalists in Orissa. They also analyse data received from 226 working journalists representing 40 newspaper organisations. The study depicts the specialisation of working journalists, their frequency of information requirement, mode of dissemination preferred, information sources explored, mode of services opted, and their information privations. The study asserts that subjects primarily concerned with the professional work and image of the working journalists are rated utmost significant.

H. N. Prasad\textsuperscript{96} in his book explained the various dimensions of information, types of users, information needs and use, methodology of user studies. The author felt that to serve readers better, information needs and users must become the central focus of attention. He had made an attempt to present clear exposition of the fundamental elements of information needs and users.

Bikika Tariang Laloo\textsuperscript{97} explains the terms ‘information’, ‘information needs’, ‘information seeking’ and the ‘user’ and discusses who needs what type of information and for what purpose. The book also explains the studies on technology transfer, The impact of information on the quality of life and user education.

Veena Saraf, Md. Mostafizur and J. C. Binwal\textsuperscript{98} explains that the main premise of this study is information used by scientists and technologists is conditioned by factors such as nature of work, availability of information
sources and other organizational and personal variables. The authors identify the relationship among information needs, channels and sources and their impact on background variables, namely age, sex, qualifications and status. The study identifies three factors each of information needs and information channels and five factors of information sources. Analysis shows that information needs, channels and sources are bound together in a mutually interdependent system.

B. S. Biradar, S. Anita and D. K. Ushalata\textsuperscript{99} conducted the survey to know the use pattern of periodicals by Medical practitioners. The study reveals that 76.67\% and 75\% of medical practitioners need current information on new procedures and medicine respectively, 56.67\% of medical practitioners get periodicals through medical associations while major percent (86.67\%) of them get current information through seminars, conferences and workshops. Besides 57.67\% and 53.33\% of doctors use e-mail and Internet as a major communication media.

Jaideep Sharma\textsuperscript{100} explains that the curricula of library and information science education at various levels should support the needs of the profession such as requirement of the profession are properly understood by the activity analysis of the professionals in their workplace.

\textbf{Information Seeking Behaviour:}

B. T. Fidzani\textsuperscript{101} reports results of a questionnaire survey to determine the information seeking behaviour and use of information resources by graduate students at Botswana University. The purpose of the survey was to determine their information requirements and their awareness of library services available to them. Data were gathered from 144 students out of a total of 223 part time and full time graduate students. Findings indicated that guidance in the
use of library resources and services is necessary and that periodicals and textbooks are the most popular sources of information for course work and research and that students need to be taught how to use the library. The study recommends that a further questionnaire survey be conducted on students' ability to use information resources and administered during registration to all master students.

C. Hammond and E. Mitchell report a survey on the information seeking behaviour of practitioners in accounting, architecture, psychology and recreation/tourism. The aim was to improve information skills instruction programmes for students. Fewer than half of the survey respondents had discipline-specific library instruction. Practitioners identify a need for information but a low use of electronic resources. Data support the necessity of information skills for those entering the professions. Instruction should be information centred rather than library centred. Continuing education for professional's information finding is needed.

Ibrahim Haruna and Iyabo Mabawonku examine the information needs and seeking behaviour of lawyers in Lagos, Nigeria. Results reveal that many lawyers perceived the need to know the latest decisions of superior courts as their greatest professional information need. Other expressed needs include knowing recent legislation, obtaining information on local and international seminars and conferences and on acquisition and application of legal "Know-how". The library has been identified as the most heavily consulted information source for job-related information. However, libraries do not fulfill their role in meeting the information needs of lawyers. Recommendations are made on the basis of the findings.
Eti Herman\textsuperscript{104} examines the transition to the electronic information era in academia and seeks to establish from the published literature, as to what extent university researchers have accepted, and adapted to the changes wrought in information activity by seemingly endless technological developments. Within the wider context of the impact of the changing information environment on each of three clearly discernible components of academic research (the creation of knowledge and standards, the preservation of information, and the communication of knowledge and information to others.) disciplinary rooted differences in the conduct of research and their influence on information needs are identified and the resulting inter and intra individual variations in researchers' information seeking behaviour are explored. Reviewing a large number of studies investigating the integration of electronic media into academic work, an attempt is made to paint the picture of academics progressively harnessing the new technologies to scholarly information gathering endeavours, with the expressed hope of affording some insight into the directions and basic trends characterizing the information activity of university faculty in an increasingly electronic environment.

Neena Talwar Kanungo\textsuperscript{105} made an attempt to investigate the methods of seeking information by the women researchers in the disciplines of history and political science in the University of Delhi (DU) and Jawaharlal Nehru University (JNU). The study attempts to make a comparative analysis of the methods adopted by these researchers in finding, accessing and acquiring information. Being empirical in nature, the study has been conducted in the form of a 'user survey' using questionnaire and interview methods.

Ramansu Lahiri\textsuperscript{106} conducted the survey during 1987-88 among the users of the Periodical section of Manipur University Library to identify their
information seeking behaviour and their accessibility to the holdings of the section. It also attempts to examine the factors, which influence the users to formulate their information seeking behaviour. The responses of 162 out of 200 (through questionnaire) are analysed with tables, figures and a side reference of the responses received by others in other countries. The study concludes with the idea that mutual cooperation between used community and library management and proper understanding in between all levels of management (lower, middle and higher) could formulate a better 'information -marketing' mechanism.

R. K. Mahapatra and K. C. Panda\textsuperscript{107} explains theory of Information Seeking Behaviour (ISB) at length and provides an insight into the myriad miens of ISB such as its concept, associated psychological attributes, behavioural options and ecological influence, impact of dissonance theory, different methods and categories of information seeking. The article reflects different models of ISB and their implications along with the findings of some of the useful research carried out on ISB.

C. Sasikala\textsuperscript{108} studies information and library use behaviour of 436 managers from 20 industrial organisations in Andra Pradesh of India. The managers were grouped in 3 levels: Senior (30), Middle (138) and Junior (268). The survey shows that the managers occasionally visit libraries, they try to satisfy their information needs from other sources. Managers mostly need data type information and descriptive information on specific topics. They collect information for keeping themselves abreast of current knowledge, solving immediate practical problems. They also need additional information relating to job. There are some differences in searching and using behaviour among the three groups of managers.
N. G. Satish and N. B. Inamdar examined the nature of use of sources of information by researchers at National Institute of Rural development (Hyderabad) and mention that the data was collected on the basis of a structured questionnaire from 93 researchers. The study examines the rank order importance of information sources and frequency of source use and points out the constraints experienced by the researchers in information use. It also suggests the need for intensive documentation services and user education.

A. R. Sethi describes the importance of studying information seeking behaviour of users and points out that this area has been neglected by librarians particularly in developing countries. He further analyses the information requirements of area specialists working at the school of International studies of the Jawaharlal Nehru University and mentions that knowledge regarding information seeking behaviour has implications for collection development, material organisation and staff organisation.

M. S. Sridhar states the objectives and hypothesis of the study and highlights the scope and limitations. The study explains the research design; multiple methods and data collection tools used; enumerates significant findings of the study under three main objectives, namely the information seeking behaviour, characteristics and correlation on information seeking behaviour with characteristics of the space technologists. Various aspects of information seeking behaviour examined include motives and purposes of seeking information, nature and type of information sought, sources of bibliographic information used, delegation of information gathering work, time spent on information gathering activities, dependence on different sources of information, inter-personal information sharing, intra and inter organisational communication, informal and formal communication behaviour, use of and user
interactions with the 'primary library'. The study compares and contrasts the results with results of other similar studies and finally concludes by highlighting the implications of the results and by projecting the areas for further research.

H.S. Padmamma, M. Vijaykumar and Vasudevan\textsuperscript{112} conducted a survey on information seeking behaviour of 84 Vishwesvaraih Iron & Steel Limited (VISL) scientists, Bhadravathi, Karnataka, which reveals that, roughly one-third of the scientists visit the information centre to satisfy the information needs of research activity, about 31% scientists opined that education of the dependents is one of the factors which hinders their information seeking behaviour.

R. K. Mahapatra and K. C. Panda\textsuperscript{113} in the article "State of information seeking and searching behaviour of working Journalists in Orrissa: A study" provides an insight into various behavioural approaches of working journalists (WJs) in seeking and searching information. It describes the pattern of their searching and locating information sources and services, mode of communication and strategy employed in seeking needed information, their priority on information sources, and constraints encountered by them in locating information. It analyses data received from 226 WJs representing the leading news dailies of the state.

B. S. Garg's\textsuperscript{114} study reveals Information seeking patterns of users of Engineering Institutions in Rajasthan. The author has drawn from the realisation that user is supreme in any library and information system. The study therefore, purports to determine the information seeking patterns of users of engineering institutions in Rajasthan, employing multi-method approach. It also identifies in terms of relative importance, various aspects of information seeking such as motives of seeking information, use of formal, informal and electronic
information sources, sources for generation of ideas, interpersonal sharing of information, information sources instantly turned to, for the needed information.

Abimbola Abifarin\textsuperscript{115} examines the Information seeking behaviour of agricultural students in selected Nigerian Universities. Information was sought through the use of questionnaire distributed to students in five universities offering agricultural courses including a University of Agriculture. The analysis of the study shows that students make less use of the library than expected as over 58.5\% of respondents indicated that after attending formal lectures, they first turn to their lecturers for further information rather than to library. Thus the study corroborates the general finding that the library shelves are disorganised because users have a little idea about the systematic library usage. The author also recommends that the library orientation, strongly focused on information gathering, be established where they are non-existent and intensified where they are already in place.

Binod Bihari Das and Nanda Dulal Basak\textsuperscript{116} made an attempt to delineate the scope of various trends related to Information Seeking Behaviour and discuss its various aspects. The author also points out the change in the trend of research in the field.

P. Burua and Tridib Tripathi\textsuperscript{117} give an overview of the information products in the form of sources and services that are being marketed by the Burdwan University library to its target consumers, particularly to the research scholars. The author explains that for this purpose, various strategies were adopted by the library in order to effect better marketing of its products, resources and services to its consumers.

Sukhdev Singh (Dr.), Prof. M. P. Satija and Kulwant singh Sandhu\textsuperscript{118} conducted a survey study to seek information behaviour of the farmers
of Punjab. The study reveals that more than 60% of its population still lives in rural areas. There are 12,780 villages in Punjab. Farmers are progressive and they have since 1960s adopted the new technology relating to agriculture, comparatively earlier and faster than their counterparts in other states.

S. H. Reddy and C. K. Karsidappa\textsuperscript{119} conducted a survey on information seeking behaviour of 160 medical scientists on the use of formal and informal channels of communication which showed that journals are preferred for formal source on information for preparing course/teaching materials. Books are used more for providing consultation and offering therapeutic/diagnostic services. The time spent in borrowing/reading literature for various purposes has also been studied.

II. N. Prasad and M. Tripathi\textsuperscript{120} conducted a study with physical and social scientists to find out their information seeking behaviour. They also enumerated the various sources of information used by the scientists. The primary journals were used by both groups of scientists, but there was a difference in the usage of abstracting and indexing periodicals.

C. K. Mick\textsuperscript{121} observed that the information producing and information seeking behaviours are closely linked and are the reasons why most information systems are not better accepted as they fail to provide linkage between the two activities.

**Information Gathering Habit:**

S. Herner\textsuperscript{122} conducted a study with 450 medical scientists on the use of formal and informal channels of communication which showed majority of them got the idea of a new project through personal contacts/discussions with their colleagues and the remaining got the same from their own personal work.
Kailash Chandra Garg and Ashok Kumar\textsuperscript{123} describes the present analysis is a case study depicting information gathering habits (IGH) of R & D scientists, viz. Physicists, chemists and mathematicians. An effort has been made to examine the factors which may have some bearing on IGH. The results are based on a survey of 75 scientists working in three different laboratories of Delhi.

P. G. Tadasad and Metesheela\textsuperscript{124} emphasises on the study of two hundred and four post-graduate students of Gulbarga University, the relative importance of information sources among the post-graduate students in a university environment. The study reveals that books, newspapers, popular magazines, class notes, notes of seniors, are the most useful sources of information. General dictionaries, subject dictionaries, subject encyclopaedia and scientific periodicals are also useful sources for the post-graduate students. Memoranda, diaries and letters, CD databases, trade catalogs, theses/dissertations, microforms, laboratory notes, handbooks, human sources, course materials of Open Universities, guide to subject literature, directories, statistical sources, research reports are never used by a majority of post-graduate students. Based on statistical tests, the study concludes that the personal attributes viz. Gender, year of study, medium of instruction at under-graduate and post-graduate level, area of habitation, stay at hostels, marital status, and frequency of visits to University library have no bearing on the use of specific sources of information.

A. Tejomurthy\textsuperscript{125} analyses the information requirements and information services to the engineers in Dewas. An attempt is made to know the interests of respondents about new developments in their field of work. Various
aspects such as users needs and services, awareness about knowledge, sources of information required etc were taken into consideration.

Conclusion:

After going through all the reviews of books and journals, it is found that the research has been done to find out the information needs, use pattern, information seeking behaviour of various categories of users of information systems. User studies based on electronic sources were found less as compared to the user study of formal and informal sources. User studies are now being recognised as an important part of the information package. Information providers, like the library, need to be aware of their users’ information requirements as well as their information seeking and information retrieving methods in order that they might be able to provide better services.

The researcher concludes that such a user study would result in improving the existing system and generating new ideas and thoughts related to information products and services.

REFERENCES


73 Marcella, Rita and Baxter, G. A national survey of the citizenship information needs of the general public. ASLIB proceedings, v.51, No 4, April 1999. p.115.


80 Osman, Zaaiont Pilot survey of user needs in the law library, University of Malaya, v.6, No. 1, March 1987. p. 12-21


96 Prasad, H. N. *Information needs and users*. Varanasi: Indian Bibliographic Centre. p. 29


