Chapter -1
1.0 INTRODUCTION

No society can grow if it does not keep abreast with the developments within and outside. Information is one of the key components in development. It is a vital source that contributes towards the growth of a realm. The term “Information” can be defined in a number of ways depending upon the perception of the user. Dervin, and Nilan\(^1\) (1986) elaborated information as “something constructed by human beings”. Mowlana\(^2\) (1997) defined information as “being associated with the human situation, with a communication medium, with something that can be added and accumulated, with something factual, valuable, and with knowledge”. Bernatowicz\(^3\) (1987) defined it as “an instrumental value by which a man can achieve some values that contribute to basic elements of his system of values”. Information acts as a hub for the expansion of knowledge, foundation for novelty, the creation of resources for knowledgeable population, and as an outcome, becomes a key product for the extension of the society. Mode and sources of seeking information depends upon the literary status of the members of the society. Literate members obtain the requisite information from a variety of sources such as books, journals, databases, e-resources which are often dearer, intricate and complicated for acquisition and use. As Belkin\(^4\) (1978) defined that “the information associated with a text is the generator's modified (by purpose, intent, knowledge of recipient's state of knowledge) conceptual structure which underlines the surface structure (e.g., language) of that text”.

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The use of information is by and large ruled by the need of information. Information is generally sought to satisfy a need. Hence, it would be significant to point out little about it at this stage. Havelock\(^5\) (1969) explained that ‘needs’ are “very significant messages within the human system. They are dynamic forces which create instability within the person-system and which lead to a cycle of behaviours that ultimately will correct this instability”. Therefore, information needs arise in all aspects of life - at home, in office, in relationships, or at work. Likewise, faculty and scientists including that of social sciences need information for teaching and research purposes. Although many scholars have defined “information needs”, credible attempt has been made by Line\(^6\) (1974) to define certain terms related to information needs which are as follows:

- **Need**: What an individual ought to have
- **Want**: What an individual would like to have
- **Demand**: What an individual asks for
- **Use**: What an individual actually takes
- **Requirement**: All the above”.

Chen, and Hernon\(^7\) (1982) in their study defined information need as “that which arises whenever individuals find themselves in a situation requiring knowledge to deal with a situation”. Case\(^8\) (2007) explained that information need arises whenever there is some problem or information gap, and the individual’s personal knowledge and belief fails to satisfy his or her objective of seeking information. According to Wilson\(^9\) (2006), information needs occur at many levels - personal level (psychological and cognitive needs, etc.), the role level (social or work role, etc.) or

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the environmental level (physical or socio-cultural environment, etc.). These levels are complex which makes the study of information needs challenging due to the necessary explication of the context and level at which the needs operate.

According to Taylor\(^{10}\) (1968), there are four types of information needs, viz. visceral, conscious, formalized, and compromised. Visceral needs refer to tangible needs of the information users. The conscious and formalized needs refer to the semantic representation of the need. Compromised needs are the needs structured in the context of an information system where the “searcher must think in terms of the organization of particular files and of the discrete packages available”.

However, Wilson\(^{11}\) (2006) criticized the conception of information need, particularly the instrumentation of information needs in user studies. He highlighted the information need operations in many forms (wants, demands, etc.), which in turn are context-dependent. He concluded that what in fact is meant by information needs is “information behaviour”. He defined information behaviour “as the more common field of investigation, particularly concerned with the variety of methods people employed to discover”. Wilson\(^{12}\) (2000) defined information behaviour as “the totality of human behaviour in relation to source and channels of information, including both active and passive information-seeking and information use”. Allen\(^{13}\) (1996) elaborated that “there is a need to understand the user’s requirements because the root of any information-seeking is a result of need - for new information; need to expand or clarify the information obtained; and need to confirm or validate the information obtained”. Availability of variety of information sources and usability of such information sources were some of the reasons that have an effect on information needs and information-seeking of the users.

Information need is a pre-requisite for information-seeking which corresponds to a competitive area of information-seeking behaviour. According to Marchionini\(^{14}\)


(1995), information-seeking is a “process driven by life itself”. That is, information-seeking is an essential and ongoing activity where humans seek to address their needs through the information-seeking process. Information-seeking occurs in a wide range of environments, both online and offline. Wilson15 (1999) defines information seeking “as a result of the recognition of some need perceived by the user. The behaviour may take several forms, such as demanding information from a formal or informal system like a library or some other people.” Similarly, Case16 (2002) observed that “information-seeking is an important part of being human and that it is something that we do on a regular basis”. Hence, information-seeking refers to the measures people adopt to obtain needed information. It indicates a cognizant endeavor to obtain requisite information needed by the user in order to fill a gap in his / her knowledge. However, Case17 (2002) further defined information behaviour as “information behaviour encompasses information seeking as well as the totality of other unintentional or passive behaviours (such as glimpsing or encountering information), as well as purposive behaviour that do not involve seeking such as actively avoiding information”.

Distinct from actual information need, individuals have to follow certain course of action in order to seek information such as defining their information needs, seeking information, evaluating and selecting information and last of all, utilize this information to satisfy their information needs. Wilson18 (1981) observed that “information-seeking behaviour results from the recognition of some need”. Krikelas19 (1983) defined it “as any activity of an individual that is undertaken to identify a message that satisfies a perceived need. Information-seeking begins when someone perceives that the current state of possessed knowledge is less than that

needed to deal with some issue (or problem)". Patitungkho, and Deshpade\(^2\) (2005) explained that "information-seeking behaviour involves personal reason for seeking information, the kinds of information sought for and the ways and resources with which the needed information is being sought". The information source chosen by the user depends on the information need. Therefore, the user may access information from variety of sources which may be available in print / non-print / electronic form.

1.1 INFORMATION SOURCES

Information sources are important component of contemporary libraries. As there is exponential growth of information resources worldwide, information-seeking has become an extremely intricate chore concerning communication amid the user, the information need and the information resources. Information can be obtained through diverse means. “A source that provides any kind of information is called an information source” (Wikipedia\(^2\), 2014). The Free Dictionary defines information sources (as cited in Great Soviet Encyclopedia\(^2\), 1970-1979) as “any system producing information or containing information intended for transmission; in information science, the conventional designation for scholarly documents or publications, which serve not only as important sources but also as the means of transmission of information in space and time”.

Three broad categories of information sources include primary, secondary and tertiary information sources. Primary sources of information are those that contain the primary information which comes directly from person or organization and is completely original. Examples include patents, diaries, journal articles, theses, artefacts, photographs, novels, poems, plays, speeches, music, art, parliamentary papers and so on. Secondary information sources are those sources which are the interpretations based on the primary information. Examples include books, articles that summarize the work of others, literature reviews, biographies, newspapers and so on. Tertiary information sources “are those sources that are based on the primary and secondary sources of information. Hence, the information obtained from the tertiary


sources is immensely condensed as they are primarily the aids to search primary and secondary sources” (Ravichandra Rao23, 2000).

The information in above categories may be made available through a variety of formats. In the past, the information was largely available in hard copy through print such as books, serials, official publications and so on. Nowadays, introduction of Information and Communication Technology (ICT) has enabled the traditional print sources to be augmented with electronic resources. The information providers may provide information only in print format or only electronic format or may provide the same content parallel in print as well as in electronic format.

Formerly, the traditional sources of information in any specified discipline were cited as “literature” which included journals, encyclopedias, handbooks, textbooks, monographs, dissertations, etc. With the growth of other forms of dissemination of information especially in electronic media, the term information sources is increasingly being used in reference to the term “literature”. Furthermore, owing to the escalation in the cost of information resources, it has become difficult for the libraries and information centres and other research organizations in the world to meet the expenses for all the resources they necessitate for their library users. Therefore, there has been a launch of resource sharing throughout the world. The concept of resource sharing among libraries also necessitates the knowledge and use of electronic resources among information seekers and professionals. These days, all types of libraries endeavor to make available not only print resources but also electronic information resources to execute the research and academic exigencies of the users. Thus, the contemporary electronic era is an expansion of the resources encountered by the users for research purposes. The information-seeking behaviour focused on electronic resources forms the basis of the present study.

1.1.1 Electronic Resources

IFLA ISBD (ER), defines electronic resources (as cited in Sethi, and Panda24, 2011) "as all those materials that are computer-controlled, including materials that

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required the use of a peripheral (e.g., a CD-ROM player) attached to a computer; the items may or not be used in the interactive mode”. On the other hand, Saye\(^{25}\) (2001) explains that “electronic resources are the resources that are generated through some electronic medium and made available to a wide range of viewers both on-site and off-site via some electronic transferring machine or Internet.” This means that all such publications which are in electronic or digital format are known as electronic sources of information. In the beginning of 1970s, most of the electronic resources were available on magnetic tapes and some were online. These were by and large secondary sources, i.e., bibliographical databases. In this day and age, the electronic resources are available as online databases, on CD-ROMs as well as on the Internet. The sources which are available on the Internet are ordinarily cited as online sources. (Ravichandra Rao\(^{26}\), 2000).

Electronic resources encompass online and offline resources (Vasishta, and Navjyot\(^{27}\), 2007, Forms of EIR section, point 1 & 2). Online resources consists of e-books, e-journals, e-encyclopedias, e-dictionaries, e-directories, e-handbooks, e-theses, e-databases, web OPACs, digital archives, virtual conferences, web exhibitions, virtual help desks, etc., and offline resources include CD-ROM’s, jukebox, audio visual aids, etc.

Such resources available in libraries and information centres help the users in searching a range of topics. Besides, more than one person can use the same electronic resources concurrently. Many of the e-resources are accessible by means of open access over the Internet or through profit making enterprises. The electronic resources used in the present study are discussed in the following section:


1.1.1.1 Online Databases

The purpose of online databases is to make available to the user the collection of articles, books, graphics and multimedia in mechanized form so that they can have access to a large repository for online search and retrieval of the information. Online databases can be general or subject specific. These can be in the form of abstracts or full text. Some of the online databases in the subject of social sciences covered in the present study on which the respondents were expected to respond are detailed as under:

1.1.1.1 (i) Directory of Open Access Journals (DOAJ)

DOAJ (http://www.doaj.org) is the most commonly used online resource. It was created with an endeavor to amplify the usage of open access journals. Upto August 2014, DOAJ included nearly 9,959 open access scholarly journals in the subjects of sciences, humanities and social sciences. About 5,845 of these periodicals are searchable at the article level from 134 countries and it includes 17,05,759 articles. All journals are peer-reviewed and have high editorial quality. Content includes full text scientific and scholarly research publications. DOAJ includes publications from intercontinental scholarly, administration, profitable and non-profitable private sources. To be included in the DOAJ, an open access journal must use a financial support model vide which access of articles for the readers and their institutions is gratuitous.

1.1.1.1 (ii) Open J-Gate

Open J-Gate (http://openj-gate.org/) is the preferred database. With an initiative of Informatics (India) Ltd, it was launched as Open J-Gate (OJ) in February 2006 to encourage and support Open Access (OA) movement. It is an electronic gateway which provides access to millions of online journal articles. Upto August 2014, the database indexed more than 39,180 scholarly and popular domain articles along with hyperlinks to full-text articles at 11,837 publisher websites. It covers both peer reviewed as well as professional journals including industry and trade journals. It is updated every day.
1.1.1.1 (iii) EBSCOhost

EbscoHost (http://www.ebscohost.com) is an important online database which gratifies the information needs of the researchers. It provides an online access to a number of periodical indexes/databases which consists of citations, abstracts and full-text articles from magazines, journals, and newspapers. Academic databases provided through EBSCOhost are Academic Search Complete, Business Source Complete, DynaMed, EconLit with full text, ERIC, Library and Information Science Source, MasterFILE Complete and CINAHL Plus with full text, etc. It is a foremost and most important database and e-book contributor for the libraries and other establishments. Till August 2014, this database provided more than 375 full-text and secondary research databases, more than 5,50,000 e-books and audio books, 3,60,000 e-journals, e-journal packages and print journals along with digital archives, print books from Salem Press, DynaMed, (an evidence-based clinical reference tool) and NoveList division are available via the EBSCOhost platform.

1.1.1.1 (iv) ProQuest

ProQuest (http://www.proquest.com), a part of Cambridge Information Group is the most preferred online database especially for the researchers. Upto August 2014, the content of ProQuest comprises approximately 125 billion digital pages covering periodicals, theses and dissertations, governmental and cultural archives, historical publications, e-books, newspapers, etc. It is accessed recurrently through web-based interfaces and library Internet gateways and the users can navigate along array of search platforms such as ProQuest, CSA Illumina, Dialog, Datastar, Chadwyck-Healey, eLibrary and SIRS. Therefore, it is considered essential for the libraries and other organizations. The databases provided by ProQuest include ABI/INFORM archive, ABI/INFORM dateline, ABI/INFORM global, ABI/INFORM trade and industry, Inside, ProQuest digital dissertations, ProQuest Gender watch, ProQuest historical annual reports, Safari textbooks online, Chicago tribune, etc.

1.1.1.1 (v) UGC-Infonet E-Resources

UGC-Infonet e-resources (http://www.inflibnet.ac.in) is an initiative of University Grants Commission under ‘UGC-Infonet Digital Library Consortium’ to open the door for access to online resources and bibliographic databases in each and
every discipline from different publishers to the selected universities of India for the benefit of the academic community. Present-day and retrospective access to above 7,500 core and peer-reviewed journals in diverse disciplines have been extended to the users along with 10 bibliographic databases from 26 publishers and aggregators. The coverage includes nearly every discipline, viz. arts, physical sciences, social sciences, life sciences, humanities, computer sciences, chemical sciences, mathematics and statistics, etc. It is entirely sponsored by the UGC and implemented by INFLIBNET (i.e., Information and Library Network Centre).

1.1.1.1 (vi) JSTOR

JSTOR (http://www.jstor.org) is an important online database. It is non-profit electronic library set-up in 1995. It provides access to full-text journals ever since late 17th century. Most of the significant scholarly journals are also accessible covering 50 disciplines such as arts, sciences, humanities and the social sciences. Selected titles are covered in the recent issues. Till August 2014, JSTOR covered above 2,000 academic journals, large number of monographs and other pertinent resources. It has digitized 50 million pages and is expected to digitize more than 3 million pages per annum.

1.1.1.1 (vii) Scopus

Scopus (http://www.elsevier.com/online-tools/scopus/), officially called SciVerse Scopus provides online access to its users on payment basis. It is an important online bibliographic database of Elsevier encompassing citations and abstracts for peer-reviewed scientific journal articles, books, conference proceedings and web sources. Upto August 2014, it covered almost 21,000 titles across 5,000+ publishers of international repute. It comprises approximately 20,000 peer-reviewed journals together with 2800 gold open access journals in the subjects of social sciences (arts and humanities), medical, scientific and technical sciences, 365 trade publications, over 40,000 books, more than 420 book series and 6.5 million conference papers from 17000 world events. Scopus can be searched on the basis of affiliation data also. Search by author profiles, their publications, bibliographic details, references, and the related citations are also available through the Scopus database.
1.1.1.1 (viii) Web of Science

Web of Science (http://wokinfo.eom/products_tools/multidisciplinary/webof science/) is a subscription based multidisciplinary online scientific citation indexing database. It facilitates access to Science Citation Expanded, Social Sciences Citation Index and Arts & Humanities Citation Index available under the aegis of Thomson Reuters ISI (Institute for Scientific Information). It covers the literature pertaining to journal articles in the subject of social sciences, arts and humanities as well as sciences. Till August 2014, Web of Science covered 12,000 high impact factor journals inclusive of 160,000+ conference proceedings and open access journals. The up-to-date and archival coverage dating back to 1900 from more than 250 disciplines of social sciences, sciences and arts and humanities is also available. Science Citation Expanded (1900- present) indexes more than 8,500 journals from 150 disciplines, Social Sciences Citation Index (1900-present) indexes around 3,000 journals across 55 social science disciplines, as well as articles chosen from 3,500 scientific and technical journals. The Arts & Humanities Citation Index (1975-present) indexes 1,700 and above journals belonging to arts and humanities, as well as articles chosen from 250 social sciences and scientific journals. It also includes Index Chemicus, Current Chemical reactions, Book Citation Index and conference Proceedings Citation Index.

1.1.1.1 (ix) ScienceDirect

ScienceDirect (http://www.elsevier.com/online-tools/sciencedirect) is a significant scientific database owned by Elsevier. It comprises full-text of articles from journals and book chapters. It consists of 26,000 and more e-books, book series, reference works and handbooks. The articles are clustered in four key segments: Physical Sciences and Engineering, Life Sciences, Health Sciences, and Social Sciences and Humanities. “For most of the articles on website, abstracts are freely available; access to the full text of the article (in PDF, and also HTML for newer publications) requires a subscription or pay-per-view purchase” (Wikipedia\(^\text{28}\), 2014).

1.1.1.2 Internet Resources

The resources which incorporate documents as well as non-documents in electronic format are understood to mean the Internet resources. Such resources bring forth the information and are simply accessible over the Internet. The Internet resources covered in the present study on which the respondents were expected to respond are detailed as under:

1.1.1.2 (i) Websites

Websites are a network of a vast and growing number of information servers. “A website is a set of related web pages served from a single web domain. It is hosted on at least one web server, accessible via a network such as the Internet or a private local area network through an Internet address known as a Uniform Resource Locator” (Wikipedia29, 2014).

1.1.1.2 (ii) E-Mail

Electronic mail or e-mail is the frequently used Internet application. It allows a message to be sent electronically among individuals connected to the Internet or some other computer networks. E-mail provides the ability to distribute information to large number of people virtually, instantly and inexpensively. Besides, people use e-mail not only to send and receive text messages but depending upon the software, they may exchange audio and video messages also. (Gupta, and Sharma30, 2007). The multipurpose Internet Mail Extension (MIME) program such as PINE developed by the University of Washington allows multimedia documents to be attached with the e-mail. The user can setup e-mail account by creating a unique user name which identifies postal mailbox on the Internet. Popular e-mail programs include Eudora, Microsoft Outlook Express, Netscape Messenger and others (Norton31, 2006).

1.1.1.2 (iii) Listservs

Listserv is the most common list server program. It is a mail server program frequently used when setting up mailing lists (Prytherch, 2000). A message sent to a list is copied and forwarded to each user who subscribes to the list. Any subscriber can contribute actively to the list by posting his / her own messages, by reading the messages of other users when it arrives by e-mail and the outcome is an ongoing discussion that the entire group can see and join (Norton, 2006). A large number of listservers are available that can run on a variety of operating systems including Windows, Macintosh, Unix, etc. Some of the commonly used Listservers are Listserv, LISTPROC, Majordomo, Lyris, Listar, Mailman, etc. (Gupta, 2007).

1.1.1.2 (iv) Online Catalogs

The ALA Glossary of Library and Information Science (1983) defines online catalog (as cited in Wanigasooriya, 2008) as “a computer-based and supported library catalogue. It is designed to be accessible via terminals, so that library users may directly and effectively search for and retrieve bibliographic records without the assistance of a human intermediary”. Wikipedia (2013) describes it as “an online database of materials held by a library or group of libraries which provide a platform for users to search and to locate books and other materials physically available in the library”. This means that online catalog is an online bibliography of the library collection which includes prints and non-prints such as books, journals, magazines, newspapers, audio-visuals, government publications, theses and electronic resources. Therefore, users can access bibliographical records of a variety of available information resources independently from online catalog.

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1.1.1.2 (v) E-journals

Harrod’s Librarian’s Glossary and Reference Book defined e-journal (as cited in Singh and Bebi[37, 2012]) as “strictly a journal in which all aspects of preparation, refereeing, assembly and distribution are carried out electronically”. “E-journals are frequently called virtual journals, paperless journals, online journals, scholarly electronic journals, networked journals, CD-ROM journals, etc” (Khan[38, 2012]). These are usually made available through the web as some of them are delivered over World Wide Web and some by e-mail. E-journals are available in a variety of formats, viz. subscribed print journals with free electronic / online access, subscribed electronic-only journals with no print equivalents and freely available open access journals.

1.1.1.2 (vi) Web Portals

The Joint Information Systems Committee defines portal (as cited in Konnur, and Kacherki, [39, 2006]) as “a network service that brings together content from diverse distributed resources using technologies such as cross searching, harvesting and altering, and collates this in an amalgamated form for presentation via a web browser to the user”. It is a means to gain access to all the electronic services that the user requires to carry out the tasks related to a particular organization, discipline or interest (Prytherch[40, 2000]). “The importance of any web portal lies in the currency of information provided in its ability to locate information of high relevance, and provision of a powerful search engine with instant access to full text” (Letha[41, 2006]).

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1.2 INFORMATION SEEKING BEHAVIOUR OF THE SOCIAL SCIENTISTS

“The social science disciplines are branches of knowledge which are taught at school level and are also researched at the college or university level. Such disciplines are defined and recognized by the academic journals (in which the research output is published), and the learned social science societies and academic departments or faculties to which their practitioners belong” (Wikipedia42, 2014). Seligman43 (1948) introduced the concept of social sciences as “the phenomenon thus related to group activities are commonly called social phenomenon, and the sciences which classify and interpret such activities are the social sciences. The social sciences may thus be defined as those mental or cultural sciences which deal with the activities of the individuals as a member of a group”. There are several sub-disciplines or branches of social science, distinguished by lines which are often both arbitrary and ambiguous. (Wikipedia44, 2011). World Book Encyclopedia45 (1997) elucidates that “the social sciences focus on our life with other people in groups. They include anthropology, economics, history, political science, sociology, social psychology, criminology, and the science of law. Some scholars also include education, ethics, and philosophy as social sciences, whereas for some other scholars, biology, geography, medicine, art, and linguistics are also included within the broad category of social sciences”.

Social sciences differ from other fields of sciences in respect of homogeneity and integration, meaning thereby that as compared to natural sciences and humanities, social science information sources are extensively used encircling various inter-disciplines. The publication and dissemination of social science information is expounding and informal to a greater extent than in natural sciences. The publications in social sciences and humanities are itself the research, whereas in other field of sciences, their investigations and results are reported in scientific research. The subject matter in social sciences – new as well as so far examined for centuries, possibly might re-emerge and the social scientists may make reference to the archival

collection and other thoughts for studying the same. According to Brittain\textsuperscript{46} (1986), social sciences are ‘parochial’ and “Information providers… continue to plan and develop databanks and bibliographical services with worldwide coverage, but there is no convincing evidence that social scientists themselves want such systems”.

Studies on information-seeking behaviour reveal that information-seeking activity especially for the social scientists and humanists always begin from the personal collection of documents. It is believed to be the most significant source of information. Social scientists often resort to libraries for more expensive and rarely used material. The exemplar change of delivering the library services just in time has become possible only with the advent of ICT.

“Social scientists do not use formal information tools like bibliographies or reference databases, but rather rely on personal recommendations, browsing in journals and citation chaining. They rely on monographs as well as periodical literature” (Line\textsuperscript{47}, 1971). Social scientists habitually use literature outside their own disciplines because they postulate that one cannot come across the most significant resources and the relevant information by searching a single database or information system. The data utilized by the social scientists is usually taken from other perspective not indexed in social science information systems and not necessarily drawn from social science research. To wrap up, social science research process is individualized in such a compartment that one cannot develop a universal model of information-seeking behaviour and secondly, information systems representing information usage criterion in natural sciences may possibly be entirely inapt for social sciences.

Social scientists generally refer to the library systems for seeking information which best serve their needs. Formerly, social scientists, in general, relied more upon some vital reference sources such as books, magazines, newspapers and journals for seeking information. They were inclined to refer to the public library, university library or some other academic library. But the most convenient library for a social scientist was special library sustained by social science establishment as a self-


governing information centre. But the advent of the Internet has led to new and interesting developments in the field of social sciences.

Research in social sciences depends greatly upon the accessibility of information resources. Social science research has turned out to be extended, leading to derivation of several innovative research fields. “Information needs of social scientists have become both discipline-oriented and mission-oriented. Information in the form of data, both raw and processed, is overwhelmingly relied upon by social science information users. Information explosion or the variety of information sources in social sciences is greater than in the sciences” (Kumar, Singh, and Yadav, 2011). Hemminger, Lu, Vaughan and Adams (2007) explained that “the information seeking behavior of social scientists is being transformed by the availability of electronic resources for searching, retrieving, and reading scholarly materials”. Social scientists now progressively use official records, Internet, online databases, e-resources, newspapers and bulletins along with the accustomed documents like books, conference proceedings, journals, research papers, etc.

Therefore, understanding the information-seeking behaviour of social science faculty is essential for information professionals to meet their information needs. To grow up as the potent information providers, an inclusive understanding of the information-seeking behaviour of the users is anticipated. Such understanding would lead to innovation of novel information behaviours which can be used to augment prevailing information models and amplify new ones.

1.3 SIGNIFICANCE OF THE STUDY

With the advent of web based ICT, the practice of managing and accessing the information has become extremely demanding. In an electronic information environment, in order to deliver an effectual information service to its users, an understanding of information-seeking behaviour of social scientists is significant for the information professionals. They must be observant as to how information-seeking behaviour of social scientists is altering in the IT (Information Technology) era. Most

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of the earlier information-seeking studies by faculty members did not include Internet and e-resources usage as a component of their study. The exclusion of this new technology would lead to imperfect observations and drawing inaccurate picture of the information-seeking behaviour and usage of information sources by the faculty members. Therefore, there is a need for continuous evaluation of library access behaviour of the faculty members. Orange (2001) rightly observed that “libraries are to ensure access to information for all and they must respond to information needs of everyone in their communities.”

This study would assist the librarians in developing complete understanding of information needs of social science faculty members in electronic era. The libraries would be able to incorporate new services such as user education, customization of search services, redesign study and research facilities and obtain new collections. Thus, the information generated by the proposed study would facilitate the development of wide information service base to serve the present and future social scientists. The study in hand would serve as an appraisal of the electronic resources now-a-days being utilized by the social science faculty. The present study would be used to evaluate and provide suggestions to improve the services of the libraries in order to cater to the information-seeking behaviour of the social science faculty.

1.4 THEORETICAL FRAMEWORK/ THEORY LINKING RESEARCH PROBLEM

Familiarity with the information-seeking behaviour and information use by the social science faculty is fundamental for adeptly meeting their information needs. The information-seeking behaviour of social science faculty is built on their information needs and information use. The knowledge of the latter two aspects governs the unearthing of innovative information behaviour which can be used to boost up the extant information needs or extend new ones. This can help to assist libraries in reorienting their services, collections and activities for quick and effective utilization.

Further, in view of the multifaceted information needs of the social science faculty such as the Internet and electronic resources, information explosion, growth in number of publications and interdisciplinary research, libraries can acquire appropriate need based literature for effective library services. In the light of above, the present study has been designed to explore the current library resource utilization and preference behaviour of the social science faculty of the universities of Punjab, Haryana and Chandigarh in terms of their information-seeking.

1.5 STATEMENT OF THE PROBLEM

The 21st century has been characterized by the challenges of information explosion, exponential growth of printed material worldwide, increasing costs of publications, information handling, change in publishing trends from print to electronic, and advent of e-resources. This paradigm shift has made it difficult for the users to keep up to date with the growing information. With increase in the availability of information, user expectations have also raised substantially. Therefore, the promising role of information professional is imperative to lend a helping hand to information-seekers.

Acquaintance with the information needs and information-seeking behaviour of the end user is essential for enhancing the library facilities, strengthening the collections and brushing up the services to satisfy their information needs. A review of the related literature reveal that all-inclusive study on information needs and information-seeking behaviour of social science faculty has not been conducted specifically in the context of the Internet and electronic resources in the universities of Punjab, Haryana and Chandigarh. Hence, this research discovers the range and variety of information-seeking behaviour of social science faculty as well as their exceptional abilities to locate information. This study, therefore, explore the methods adopted by the faculty in seeking information, types of information sought, purpose for seeking information, types of tools used and problems they encounter and how the Internet effects faculty members information searching behaviour and activities, etc.
1.6 OBJECTIVES OF THE STUDY

The aim of the study was to achieve the following objectives:

i. To identify and investigate the information-seeking behaviour of social science faculty in universities of Punjab, Haryana and Chandigarh.

ii. To study various available information resources and the purpose for which social science faculty use such resources.

iii. To study the extent and pattern of use of electronic resources, that is, online resources and Internet resources.

iv. To study the factors influencing the use of electronic resources, that is, online resources and Internet resources.

v. To explore the electronic information infrastructural facilities available in the university libraries.

vi. To identify the problems faced by social science faculty in seeking information.

vii. To provide suggestions for upgrading the library services as per needs of the social science faculty.

1.7 HYPOTHESES

The researcher tested the following hypotheses in order to achieve the above mentioned objectives:

i. There is no significant difference in the information-seeking behaviour of social science faculty of five sample universities.

ii. As far as electronic resources are concerned, there is no significant difference in the quantum of usage by the social science faculty within five sample universities.

iii. There is no significant difference between the purpose of seeking information by the social science faculty of the sample universities.
iv. There is no significant difference in the usage of print and electronic resources by the social science faculty of the sample universities.

v. There is no significant difference in the usage of journals / periodicals and textbooks by the social science faculty of all the sample universities.

vi. There is no significant relationship between the age, seniority, experience, discipline and usage of various electronic resources of information by the social science faculty of sample universities.

vii. There is no significant difference between the type of discipline and the method of obtaining the information within social sciences for all sample universities.

viii. There is no significant difference between the availability of the infrastructural facilities for seeking electronic information for all sample universities.

1.8 RESEARCH QUESTIONS

The present study addressed the research problems by positioning users’ information-seeking behaviour within a broader framework and externalizing their behaviour to generate empirical findings. The answers to the following questions were sought in this study:

i. What types of search strategies the social science faculty are likely to employ in their search for information?

ii. What are the purposes for which the faculty members of social sciences use variety of sources of information?

iii. What type of information resources are preferred by the social science faculty?

iv. What is the satisfaction level of the social science faculty members with the information acquired from various information sources?

v. How do social scientists use electronic information resources, that is, online resources and Internet resources in their information-seeking?
vi. What factors affect the use of electronic resources, that is, online resources and Internet resources?

vii. What problems the social science faculty members encounter while seeking the requisite information?

viii. Are there any training courses being run by the libraries for honing the information-seeking skills of social scientists?

1.9 RESEARCH DESIGN AND METHODOLOGY

The rationale of the present study was to investigate the information-seeking behaviour of social science faculty in selected five universities and to quantify the extent to which the electronic resources provided by the university libraries fulfilled their needs. The study was descriptive and exploratory using questionnaires to collect data to help understand how social science faculty obtained information to meet their needs. The study in hand focused on information-seeking behaviour of the social science faculty and their use of electronic resources.

1.9.1 Variables of the Study

In the present study, the dependent variable included the survey scores that measured the experience of social science faculty members in an electronic environment. The research questions explored how social science faculty seek information by using electronic information resources in terms of some of the independent variables like gender, age, degree level, discipline, experience, designation, etc.

1.9.2 Research Population

At the start of the investigation, the researcher noted that there were 757 social science faculty members from 13 social science teaching departments in five universities under study in Punjab, Haryana and Chandigarh. The five universities selected for the present study included Panjab University (Chandigarh), Punjabi University (Patiala), Guru Nanak Dev University (Amritsar), Maharishi Dayanand University (Rohtak) and Kurukshetra University (Kurukshetra). Table 1.1 below
depicts a view of the discipline-wise distribution of the respondents in universities of Punjab, Haryana and Chandigarh as a population of study:

<table>
<thead>
<tr>
<th>Department</th>
<th>PU Faculty</th>
<th>PbiU Faculty</th>
<th>GNDU Faculty</th>
<th>MDU Faculty</th>
<th>KU Faculty</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commerce &amp; Management</td>
<td>35</td>
<td>37</td>
<td>23</td>
<td>46</td>
<td>40</td>
<td>181</td>
</tr>
<tr>
<td>Economics</td>
<td>12</td>
<td>19</td>
<td>14</td>
<td>12</td>
<td>11</td>
<td>68</td>
</tr>
<tr>
<td>Education</td>
<td>10</td>
<td>08</td>
<td>-</td>
<td>12</td>
<td>13</td>
<td>43</td>
</tr>
<tr>
<td>Geography</td>
<td>13</td>
<td>07</td>
<td>-</td>
<td>15</td>
<td>08</td>
<td>43</td>
</tr>
<tr>
<td>History</td>
<td>09</td>
<td>07</td>
<td>10</td>
<td>11</td>
<td>07</td>
<td>44</td>
</tr>
<tr>
<td>Journalism</td>
<td>08</td>
<td>06</td>
<td>-</td>
<td>06</td>
<td>-</td>
<td>20</td>
</tr>
<tr>
<td>Law</td>
<td>43</td>
<td>16</td>
<td>09</td>
<td>29</td>
<td>31</td>
<td>128</td>
</tr>
<tr>
<td>Philosophy</td>
<td>10</td>
<td>06</td>
<td>09</td>
<td>-</td>
<td>04</td>
<td>29</td>
</tr>
<tr>
<td>Political Science</td>
<td>12</td>
<td>10</td>
<td>07</td>
<td>06</td>
<td>06</td>
<td>41</td>
</tr>
<tr>
<td>Psychology</td>
<td>08</td>
<td>16</td>
<td>07</td>
<td>17</td>
<td>09</td>
<td>57</td>
</tr>
<tr>
<td>Public Administration</td>
<td>07</td>
<td>06</td>
<td>-</td>
<td>08</td>
<td>08</td>
<td>29</td>
</tr>
<tr>
<td>Sociology</td>
<td>12</td>
<td>09</td>
<td>09</td>
<td>11</td>
<td>03</td>
<td>44</td>
</tr>
<tr>
<td>Library and Information Science</td>
<td>05</td>
<td>06</td>
<td>05</td>
<td>06</td>
<td>08</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>184</strong></td>
<td><strong>153</strong></td>
<td><strong>93</strong></td>
<td><strong>179</strong></td>
<td><strong>148</strong></td>
<td><strong>757</strong></td>
</tr>
</tbody>
</table>

Source: Respective websites, telephonic information and personal visits.

Table 1.1: Distribution of social science faculty members in five universities under study

1.9.3 Research Sample

In the present study, the faculty of social sciences of five universities from Punjab, Haryana and Chandigarh were studied. The representative sample was taken on the basis of a ‘table for determining sample size from a given population’ given by Krejcie, and Morgan\(^3\) (1970). The researcher made an effort to ensure a sample that was representative of the disciplines of social sciences by randomly selecting 34.35% of the respondents from each discipline of social sciences from each university. After applying “Proportionate Stratified Random Sampling Technique”, the representative sample of 260 respondents was taken out of a population of 757 faculty members.

from five universities. The distribution of each category of respondents in five universities by proportion is shown in table 1.2 below:

<table>
<thead>
<tr>
<th>Department</th>
<th>PU Faculty</th>
<th>PbiU Faculty</th>
<th>GNDU Faculty</th>
<th>MDU Faculty</th>
<th>KU Faculty</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commerce and Management</td>
<td>12</td>
<td>13</td>
<td>8</td>
<td>16</td>
<td>14</td>
<td>63</td>
</tr>
<tr>
<td>Economics</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>23</td>
</tr>
<tr>
<td>Education</td>
<td>3</td>
<td>3</td>
<td>--</td>
<td>4</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>Geography</td>
<td>4</td>
<td>2</td>
<td>--</td>
<td>5</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>History</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>Journalism</td>
<td>3</td>
<td>2</td>
<td>--</td>
<td>2</td>
<td>--</td>
<td>7</td>
</tr>
<tr>
<td>Law</td>
<td>15</td>
<td>5</td>
<td>3</td>
<td>10</td>
<td>10</td>
<td>43</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>--</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Political Science</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>Psychology</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td>19</td>
</tr>
<tr>
<td>Public Administration</td>
<td>3</td>
<td>2</td>
<td>--</td>
<td>3</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Sociology</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>Library and Information</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Science</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>63</strong></td>
<td><strong>51</strong></td>
<td><strong>32</strong></td>
<td><strong>62</strong></td>
<td><strong>52</strong></td>
<td><strong>260</strong></td>
</tr>
</tbody>
</table>

Source: Krejcie and Morgan (1970). Table for determining sample size from a given population.

Table 1.2: Distribution of participants in five universities under study

It was convenient to use 34.35% of the social science faculty population comprising 260 social science faculty members at five universities under investigation, in order to ensure a cross-section of faculty at these universities. Further, the 34.35% perspective yielded substantial absolute numbers to survey as follows: at Panjab University (Chandigarh), 34.35% of 184 was 63 faculty members; at Punjabi University (Patiala), 34.35% of 153 faculty members was 51; at Guru Nanak Dev University (Amritsar), 34.35% of 93 faculty members was 32; at Maharishi Dayanand University (Rohtak), 34.35% of 179 faculty members was 62 and at Kurukshetra University (Kurukshetra), 34.35% of 148 faculty members was 52, yielding a total of 260 social science faculty members.
1.9.4 Research Design

“A research design is the conceptual structure within which the research is conducted; it constitutes the blueprint for the collection, measurement and analysis of data” (Kothari52, 2004). Keeping in view the objectives of the study, various available research methods were studied in detail. The survey method based upon the questionnaire instrument was found to be the most prevalent in social science research (Ary, Jacobs, and Razavieh53, 1996). Therefore, in the present study, in order to attain the research objectives and to address the research problems, the researcher performed quantitative research and considered survey design to be the most appropriate research design.

1.9.5 Survey Instrument

As per the requirement of survey method, a traditional technique of self-administered questionnaire for investigation into social science faculty information-seeking behaviour was employed as a tool for data collection. The questionnaire prepared was a careful endeavor to translate the objectives of the investigation into a set of questions in a simple, lucid and explicit language. First and foremost, a 47-question instrument was tailored from Shrivastava54 (2007) and Xuemei55 (2005) to gather data as manifestation of the problem. The survey questionnaire was modified twice in consultation with the supervisor. The questionnaire for the present study included already developed closed-ended and open ended questions. The three-part and five-part Likert scale with the pre-arranged response options were also included. The final survey instrument, after modifications had 39 questions divided into the 3 sections as below:

Section – 1: Demographics

Demographics section of the survey was designed to obtain basic user characteristics including gender, age group, designation, qualifications, discipline, university in which the respondents were working at the time of data collection.

Section – 2: Usage of Information Sources

This section of information resources is sub-divided into two sections, i.e., printed sources and electronic sources of information. Therefore, the survey inquired whether social science faculty used printed resources or electronic resources, viz. online databases and Internet resources for satisfying their information needs, and, if so, what were the specific needs which were fulfilled from such resources. In printed sources section, a five-part Likert scale asked the participants whether they use printed sources of information or not along with the reasons of usage and non-usage of the same. The participants were also asked about the sources of information they consulted while seeking information. In second section of electronic resources, a five-part and three-part Likert scale asked the participants to specify whether they use electronic sources of information, what are the reasons for using such resources, which sources of information they used; which search strategy they used while searching the information and what are the possible reasons for using the electronic resources. The scale ranged from “most preferred” to “least preferred”, “strongly disagree” to “strongly agree”, “none” to “essential”, and “least important” to “most important”. Electronic resources included online databases and Internet resources available in the library.

Section – 3: Information-seeking behaviour

This section included information about the information-seeking behaviour of social science faculty and their frequency and purpose of visit to the library. A three-part and five-part likert scale was used to know the purpose for which the participants seek information and finally the barriers they encountered while seeking information. The scale ranged from “least preferred” to “most preferred”, “not at all important” to “extremely important”, “frequently used” to “rarely used”, and “never” to “always”. The questions addressed the difficulties faced by the respondents while accessing the sources including the non-availability of e-resources, inadequate library resources,
non-availability of computers, and not enough help and instructions on using or searching from the library. Finally, the overall satisfaction from the services and electronic resources available in the library was also measured. A few open-ended questions were also framed which facilitated the faculty members to append their spontaneous opinions and suggestions concerning their use of electronic resources.

Furthermore, an appropriate covering letter stating the purpose of study was also accompanied by the questionnaire soliciting respondents’ reply. The questionnaire was then distributed to 260 social science faculty members personally (as depicted in table 1.2) so as to brief the population about the study being undertaken.

Similarly, another questionnaire for the university librarians was also employed which identified the infrastructure provided by the selected university libraries to the users relevant for the present study and it was compatible with the research questions in this study.

1.9.5.1 Instrument Validity

To determine the instrument validity is a complex phenomenon. Validity means “the degree to which an instrument measures what it is supposed to be measuring” (Polit, and Beck, 2004). Construct validity and content validity are the two frequently used methods in various researches, of which the content validity is more practical especially for large samples. In the present study, the validity of the instrument was assisted by the factuality that the parts of the questionnaire were modified from a questionnaire successfully used by Shrivastava (2007) and Xuemei (2005) in their study.

1.9.5.2 Instrument Reliability

“An instrument can be said to be reliable if its measurement accurately reflects the true scores of the attribute under investigation” (Polit, and Beck, 2004). “Even though unreliability is always present to a certain extent, but at the same time

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consistency in the results of a quality instrument is usually found" (Key58, 1997). Every effort has been made in the present study to polish up the validity of the questionnaire such as adaptation and use of successful instruments like survey method. In order to ensure the reliability of the questionnaire, the researcher adopted the LaFon’s (as cited in Al-Saleh59, 2004) measurement of reliability to further support its validity.

The first test of reliability was to measure the differences with respect to the response to questionnaire received from the respondents due to personal factors such as temperament, mood, etc. Such aspect had nominal effect from subject to subject seeing that it required only 5-7 minutes for completing the questionnaire. LaFon’s second factor that can cause differences was the considerations of situation-based factors such as anonymity. The respondents were assured on the cover page of the survey / questionnaire that their responses would be kept secret and that they were given the choice of writing their names on the questionnaire as optional. The third factor was dissimilarity of administration process. Not as much of risk was posed from this factor as the organizational surroundings were homogeneous for all the respondents. The fourth likely risk to reliability was the questions included in the survey. To cover the risk, firstly, the instrument was modified from a successful study and secondly, after some modifications, it was used for the present study. The fifth test of reliability was related to the clarity in the instalment. It was already established that the respondents were intimately homogeneous in background, i.e., all of the respondents were the social science faculty members. Sixth test was about the factors that affect the presentation such as typing errors, formatting, presentation, designing the questionnaire, etc. The instrument was designed and printed using good quality printers with adequate formatting. Hence, this was not a threat to reliability in the present study. The final test of reliability was differences from errors in processing and analyzing the data. This factor was not a threat to reliability as there was a careful

coding of data with SPSS (Statistical Package for the Social Sciences) statistical software.

1.9.5.3 Instrument Pre-Testing

The researcher conducted a pilot study with 35% of stratified random sample taken from the total population. The pilot study was conducted on the faculty of Panjab University (Chandigarh) that included a quantitative survey of 22 faculty members. The purpose of the pre-test was to authenticate the clarity of the questions, and modify them based on feedback received. Accordingly, some modifications, deletions, additions were made and final questionnaire consisting of 39 questions was formulated. The pre-testing of the instrument indicated that the instrument was appropriate. It was accomplished that the survey questions were a valid method of collecting data, and would offer a valid empirical approach to testing the research questions.

1.9.6 Data Collection

The primary data was collected by administering the questionnaire to the social science faculty members in the five universities of Punjab, Haryana and Chandigarh. In the first phase, the researcher chose the option of “directly-administered” questionnaire as the primary and most appropriate method. The researcher distributed 260 questionnaires to the social science faculty members from the selected five universities and 242 filled questionnaires were received back. Similarly, in the second phase, the questionnaires were administered and collected from the librarians of the five selected universities by e-mail and personal telephonic communication with them.

1.9.7 Statistical Analysis

SPSS software was used to work out the descriptive and inferential statistics of the quantitative data thus collected from the questionnaires. Subsequently, the data was coded, analyzed and exhibited in tabular form. The data was interpreted appropriately to highlight the findings. The analysis of the survey data occurred in two stages. Firstly, descriptive statistics was used to provide frequencies and
percentages to describe the characteristics of population as well as to determine trends and patterns. Secondly, chi square analysis was conducted to test the hypotheses and to investigate if there were statistically significant relationships between social science faculty variables and their use / non-use of electronic resources. Factorial Analysis of Variance (ANOVA) test and t-test were applied to discover if there were statistically significant differences between the participants’ disciplines and frequency of their use of library’s electronic resources.

1.10 LIMITATIONS

Since, it was not possible for the researcher to cover all the universities of India, the present study was confined to the five universities in Punjab, Haryana and Chandigarh. Since all the universities do not offer the similar courses or all the disciplines, therefore, the disciplines which were covered included Commerce and Management, Economics, Education, Geography, History, Journalism, Law, Library and Information Science, Political Science, Public Administration, Psychology, Sociology, and Philosophy. Moreover, only regular full-time employed faculty members including Assistant Professors, Associate Professors and Professors were covered under the study. The newly established Central Universities in these states were also excluded since they neither have regular full-time faculty nor the well established libraries. Hence, the present study is limited to the five universities in Punjab, Haryana and Chandigarh as a representative sample. Moreover, the study initially included the usage of CD-ROM / DVD databases as well. However, later on it was noted that most of such databases are now available online. Hence, they have been included under online databases in the present study.

1.11 DESIGN OF CHAPTERS

The present study has been divided into five chapters. The first chapter entitled “Information-Seeking Behaviour: Introduction, Problem and Methodology” describes the concept of information-seeking behaviour, information sources, electronic information sources, information-seeking behaviour of social scientists, theory linking research problem, statement of the problem, significance of the study, objectives of the study, hypotheses, research questions, and scope of the study.
research design and methodology used for the collection of primary data. It also discusses the statistical tools used to analyze the data so collected along with the limitations and the design of chapters.

Chapter 2 covers the “Review of Literature” which is given in the chronological order under three parts. The first part include the studies related to models of information-seeking, second part include studies conducted in the field of sciences and the third part reviews the works done in the field of social sciences. The emphasis has been laid on the review of literature that is directly related to the study to avoid duplication and to have a comprehensive study of the problem. Finally, inferences were drawn at the end of the chapter.

In Chapter 3 entitled “Profiles of the Participating Universities: A Comparative Analysis”, an attempt has been made to provide the brief profiles of five universities selected for the present study including their establishment, objectives, courses offered, availability of various electronic resources. The infrastructure of the selected five universities has also been compared in this chapter.

Chapter 4 entitled “Data Analysis and Discussion” provides the analysis of the responses of faculty members with respect to the use of print and electronic resources, that is, online databases and Internet resources, the responses of faculty members regarding their preferences on sources of information they consult, the frequency and purpose of use, factors influencing use, importance, role of intermediaries, preferences on search results and reasons for not using the same, information-seeking behaviour of the respondents, various tools and services they use to access the documents, the problems they encountered while seeking information and whether they are satisfied with the services and electronic resources provided by their respective libraries. It also includes testing of hypotheses.

Chapter 5 entitled “Findings, Conclusion and Suggestions” provides the findings, conclusion and recommendations for using electronic resources and to provide more efficient services. It also includes suggestions for further study.

A comprehensive list of Bibliography in APA Style listing alphabetically of various books, periodicals, electronic resources have been provided at the end. Care has been taken to maintain uniformity throughout the listing of bibliography. The
references within the text of this study have been given in the footnotes, wherever required. The bibliography also included websites that were referred during the investigation.

The questionnaires sent to the university librarians and social science faculty of the selected five universities for the present study has been appended at the end for ready reference.