This chapter is concerned with the review of literature directly related to the present study. It is in two parts viz. review of foreign studies and review of Indian studies.

**Review of Foreign Studies**

Shaheen Majid (1999) investigated the relationship between computer literacy of academic staff and their use of electronic information sources. The impact of other factors such as age, gender and educational background on the use of electronic information sources was also investigated. The author found statistically significant relationship between computer literacy and the use of electronic information sources and services. A significant relationship was also noted between the age of academics and their use of electronic information sources.

The study conducted by Saeed (2000) on Internet use in university libraries of Pakistan highlighted the use of Internet tools viz., e-mail, World Wide Web, FTP, Telnet and Gopher. The results of the study showed that there were very few university libraries in Pakistan with access to the Internet. Even those who had Internet access suffered from an acute shortage of infrastructure (e.g. poor telecommunication, limited hardware and software, library personnel etc.). It was because of insufficient funds.

The study conducted by Zhang (2001) on scholarly use of Internet based electronic resources showed that e-mail was the most frequently used tools. Web browsers were the second most frequently used Internet tools. Nearly 94% of respondents used Web Browsers at least once in a week. Next to e-mail and Web browsers, mailing lists and Internet search engines were third and fourth most frequently used Internet tools.

Bar-Ilan, Judith, Bluma and Wolma (2003) conducted an extensive survey of the senior academic staff of the Israeli universities on their use of electronic journals and databases. The major findings were that the use of electronic sources was already widespread among the respondents and more than 50% found the electronic services indispensable. It was noted that 48.9% of the respondents preferred the electronic version of the titles, 28.2% the printed version, and 22.9% expressed no preference. It was also found that the most active users of electronic journals were the younger members of the teaching and research staff.
Mugwisi and Ocholla (2003)\(^5\) examined the Internet use trends by academics and librarians at the universities of Zimbabwe and Zululand with specific reference to the use of resources for research and training. Preliminary results indicated high computer and Internet skills among librarians from both the institutions. The results also indicated that e-mail and the web were used most for personal use, while telnet, other library OPACs and electronic journals were used most for work purposes. The study also highlighted problems facing the two institutions in terms of Internet accessibility.

The survey carried out by Tenopir (2003)\(^6\) analyzed the results of over 200 studies on the use of electronic resources in libraries published between 1995 and 2003. The study concluded that both the faculty and the students used and liked electronic resources and most readily were prepared to adopt them if perceived as convenient, relevant, and time saving to their natural workflow. It was also found that the printed material was still used for reading and was a part of research in almost every discipline.

Nyamboga, Ogonodo and Ongus (2004)\(^7\) conducted a research study on the use of Internet at Egerton university library, Njoro-Kenya. The study involved students, faculty members and library staff. The results of the study showed that female respondents used the Internet less as compared to male respondents. E-mail and search engines were the most frequently used applications of the Internet. The study also explored that the majority of the library staff and users had not received any instruction in the use of Internet. Besides, the charges for Internet within the university libraries and other university service points were exorbitant and somewhat prohibitive.

Asemi (2005)\(^8\) in his study reported that 55% of the respondents searched for scientific information through Internet because their university library had provided access to various databases and online journals for all students and staff. Internet was also used by the respondents for downloading software or text, chatting, discussion, e-mail services and for finding related references. She also observed that the Google and Yahoo search engines were more widely used as compared to other search engines. The analysis revealed that 54% of the Internet users always found useful information on the Internet. Thirty-one percent of respondents believed that quality information was
available on the Internet and 35% of the studied population used print, online and offline form of information for updating their subject knowledge.

A survey of eighty-one users of a cyber café owned and run by the Delta State University, Abraka was conducted by Igun (2005)⁹ to examine the self reported level of Internet skills. The results showed that 71% of respondents rated their Internet skills between average and very high. 78.8% acquired their Internet skills either online or through teaching by colleagues or friends. World Wide Web (WWW) skills were the most sought after additional skills (73%). Continuing education and self-study were the most preferred ways to acquire new skills.

Medical science faculties at the University of the West Indies were surveyed by Renwick (2005)¹⁰. The findings showed that 73% of the respondents used computers daily and 82% felt that their computer literacy level was average or beyond average. Overall, it was found that faculty had high awareness of the electronic resources available. Many respondents felt that e-resources were important and many felt that they were competent users, 83% were self-taught and many still expressed a need for training.

Abouserie (2006)¹¹ surveyed the use of electronic journals by library and information science faculty members at the school of Information Science at the University of Pittsburgh. The study showed that faculty members considered electronic journals highly creditable, most accurate, highly reasonable and most supportive and convenient to meet their needs.

Atilgan and Bayram (2006)¹² reported the results of a survey on the use of e-databases at Ankara University, Turkey. They surveyed faculty in 2002 to determine the level of awareness of digital library resources, particularly journal articles, along with their usage rate, and to evaluate the preferences of faculty for specific electronic databases. The main findings were that the majority of respondents indicated that they were aware of digital library resources. Majority of the faculty members (88%) used electronic databases. The most preferred databases were Web of Science and Science Direct.

Asemi and Riyahiniya (2007)¹³ investigated the relationship between awareness and use of digital resources among students in Isfahan university of medical sciences, Iran. The results showed that 70% of students were aware of digital resources, but only 69% of them had used them, 62% were aware of
offline databases, whereas only about 19% used them through the central library LAN network. About 70% were aware of online databases, accessible viz. the Central Library website and about 53% of respondents had used them. In total 87% of students felt that the available data resources met their information needs. Students had less use of offline databases, attributed to factors such as infrequent periodic orientation and lack of education on use of offline databases and fewer terminals connected to the server in the central library. Users were faced with problems like low speed connectivity and shortage of hardware facilities.

Istanbul University faculty was surveyed to examine their use of electronic journals by Dilek-Kayaoglu (2008)\textsuperscript{14}. It was a web based user study. The majority of the respondents supported the transition from print to e-only. The faculty in the field of natural sciences and health sciences gave the strongest support for the transition from print to e-only, while the humanities and social scientists gave the least support. Three-fifth of the respondents, regardless of discipline, reported that the major barrier to use of e-journals was the lack of sufficient subscriptions in their discipline.

\textbf{Jange and Pasha (2009)}\textsuperscript{15} explored the development of research universities to study how information was effectively managed and the extent of information services extended to the users in the libraries of Dubai with respect to their technological infrastructure, status of automation, networking and information services. The results revealed that the universities of recent origin had strong ICT infrastructure and most of the libraries were automated. 91.6% of research universities in Dubai had established Local Area Network (LAN) in libraries and had wireless Internet facilities in their libraries. It was also found that all the libraries were extending reference service (100%), followed by e-mail (91.6%) World Wide Web (91.6%) and access to e-journals/online databases (91.6%). 41.6% of the libraries were of the opinion that they did not face difficulties in extending IT based information services.

\textbf{Mashrooa and Jayasundara (2010)}\textsuperscript{16} evaluated the information services based on social science journals in university libraries of Sri Lanka. The results showed that university library staff was prompt and helpful in delivering most of the services to their users. The study also found that the universities had user education programmes through trainings, library tours,
orientation programmes etc. Considering the usages of e-journals; 93.75% from University of Colombo and 72.7% of from University of Peradeniya, 63.63% of South-Eastern University of Sri Lanka as well as in Sabaragamuwa University of Sri Lanka, academic staff used e-journals. Variations in service levels were seen in the periodicals based information service rendered by the four university libraries. It was also noticed from the responses of the staff and students that the service levels were apparently different for the two groups of users. The majority of the academic users were satisfied with the services provided by their respective libraries.

**Review of Indian Studies**

*Soma Raju (1992)* conducted a research study to know the awareness, adequacy and the extent to the use of the library sources, tools, facilities and services in the Andhra University Library. The study found that 47.9% of the respondents of all the faculties viewed the library collection average, 28.3% satisfied and 21.4% dissatisfied. 41.4% of the scholars were aware of the special collection and 46.4% of them used it rarely. The majority of the respondents considered the books (41.1%), reference books (33%) and periodicals (30.3%) inadequate and abstracting periodicals (36%) and indexing periodicals (33%) as adequate. The study also found that 26.8% of the respondents were average satisfied with the reading facilities and 55.6% were satisfied with library working hours. 63.1% of the respondents were getting staff help ‘sometimes’ only. The study further revealed that 56.5% of the respondents were satisfied with the reference service. They were average satisfied with the inter library loan, reprographic, translation and microfilm reading facilities.

*Amritpal Kaur (1995)* conducted a research study to assess the adequacy of the existing information services in the libraries of agricultural universities and research institutes in the states of Punjab, Haryana and Himachal Pradesh. The investigator found that periodicals and books formed the most popular sources of information in all the universities and institutes. About one third of the respondents from both the universities and institutes considered the information sources as adequate and about one fifth of them considered these as inadequate for their studies and research purposes. The investigator also found that about one third of the respondents in the institutes and universities
considered the information services as satisfactory and 28% dissatisfactory. The study further revealed that the current awareness, reference and reprographic services ranked high in order of preference by the respondents and were considered either highly desirable or desirable.

Jessi (1997) described the information needs, use pattern and use behaviour of social scientists in various disciplines. The study revealed that books and periodicals were ranked as first and second positions respectively as important sources of information. These sources were found to be relevant for social science researchers compared to other kinds of documentary sources. It was found that majority of the scholars in social science did not use microforms. Only 10% of social scientists utilized the microform collection. Maximum number of scholars expressed that periodical collection was partially adequate. A high rate of inadequacy was felt in the collection of non-book materials and in abstracting and reviewing periodicals. 50% of social scientists found difficulties in conducting literature search and visited other libraries to meet their research requirements.

Kooganurmath and Jange (1999) conducted a study, which revealed that a majority of the users used the Internet for communication followed by access to information. More than 70% of the users used Internet for higher studies and only 39% used it for discussions with peer groups. The most used services of Internet were e-mail, WWW, discussion forums, FTP and Telnet.

Amritpal Kaur (2000) in her study revealed that more than 60% of the respondents used Internet for primary information, 38% for secondary information and only 15% for consulting OPACs. A majority of the respondents (75.6%) faced the problem of slow Internet connectivity. All respondents used search engines to browse the required information. More than one third of the respondents typed the web addresses directly, more than 80% of the respondents felt that in comparison to traditional documents, Internet is time saving, easy to use, more informative, useful and more preferred.

Biradar and Sampath Kumar (2000) conducted a case study to identify the periodicals use pattern by teachers and research scholars in the university environment. The results of the study showed that large number of teachers and research scholars used the subject periodicals most frequently. It was also
observed that good number of users expressed their general opinion about the lack of secondary periodicals and lack of online and CD-ROM database search facility in their library. The authors had also tried to trace out the impact of personal attitudes on the use of periodicals.

**Bhaskara Rao and Kumar (2001)**[^23] made an assessment of effectiveness of information services in the library through a survey conducted during January 2001. The survey identified a new concept of library service, initiated in the library called Competitive Examination Reference Library (CERL). It was found that the students of Osmania University were more dependent on text books and reference books as main sources of information. The significant findings in this study were that majority (75%) of the students were not using periodicals. Only about a quarter expressed that the library was ‘sufficient for most of their requirements. Further, the survey showed that about 63% students were having computer knowledge/literacy and 45% of them were using the Internet facility in the library.

**Kannappanavar (2001)**[^24] conducted a study to know the existing situation, resources, facilities and services of the agricultural universities in Karnataka. The study found a balanced and steady growth of collections in these libraries. Financial management had been tested with Karl Pearson correlation method. A positive correlation between total university expenditure and total library expenditure over the eleven years was found. The study also found that almost all traditional library services were available where as the automated library and information services were totally missing. Hence, it was suggested that the concerned authorities should appoint a committee for the purpose and introduce the information technology and provide effective services to their users.

**Tadasad and Metesheela (2001)**[^25] conducted a survey on the use pattern of information sources by post-graduate students in a university environment. The study found that books (65.68%), newspapers (50%), class notes (40.2%), popular magazines (39.71%), notes of seniors (39.2%), subject dictionaries (34.8%) were some of the most frequently used sources.

**Siddiqui (2002)**[^26] conducted a users’ survey regarding their opinion on different aspects of adequacy of collection and its use in the Jawaharlal Nehru University Library, New Delhi. The study revealed that 86.8% of the users

[^23]: Bhaskara Rao and Kumar (2001)
[^24]: Kannappanavar (2001)
[^25]: Tadasad and Metesheela (2001)
[^26]: Siddiqui (2002)
were regular visitors of the library and consulted the library for course material, research material and for updating their knowledge. It also showed that 49.8% of users were satisfied with the library collection. 82.8% of users were adequately aware about the services provided by the library. The users suggested for weeding out the old and little used documents to improve the quality of collection in the library.

The study by Choukhande and Kumar (2004)\textsuperscript{27} showed that 1149 (95.75\%) users visited the library to borrow books, 981 (81.75\%) to locate information from books and journals, 961 (80.08\%) for study/research/training purpose, 683 (56.91\%) to read some light reading materials and 183 (15.25\%) to spend leisure time. Text/handbook, encyclopedias, periodicals, dictionaries were preferred by majority of the users. The study further revealed that 917 (76.41\%) faculty members and research scholars faced difficulty in accessing information due to the lack of knowledge in use of library services, and 813 (67.75\%) due to lack of knowledge of information sources.

Kannappanavar and Swami (2004)\textsuperscript{28} conducted a survey on the use pattern of information services by the post-graduate students, research scholars and faculty members in the university environment. The study revealed that 18.98\% of the respondents used text books most frequently, 33.54\% frequently, 34.17\% sometimes and 13.29\% rarely. 50\% of the respondents used the reference books most frequently. The study also revealed that the users were unaware of the majority of the library services and needed restructuring user education programmes.

Khot and Patil (2004)\textsuperscript{29} conducted a survey to know the use pattern of library sources and services by the research scholars in the Shivaji University Library, Kolhapur. The study revealed that 90\% of the respondents visited the library to use theses and dissertations. The study found that reference books, followed by theses and dissertations were the most preferred resources used by the researchers. The study also found that 95\% of the respondents were satisfied with the reader guidance/assistance service and 90\% with reference service. Regarding library facilities, 90\% of the respondents were satisfied with the space for reading facility, 85\% with cleanliness, 80\% with drinking water and 75\% with lighting facility.
Mahender Pratap Singh and Gajender Singh (2004) conducted a study with a sample of 220 research scholars of the University of Delhi using questionnaire method to identify the impression of scholars towards the adequacy of library resources, their use of the library and their view on library services. The findings of the study were that majority of the users (52.27%) visited the library daily for consulting the reference materials. There was significant difference in the attitude of scholars towards the use of library resources and services as being adequate compared to their needs, level of awareness towards the existing facilities was at par and scholars wanted improvement in the library sources and services.

Sangam and Hadimani (2004) conducted a study to know the use of Online Public Access Catalogue (OPAC) by the research scholars in Karnataka University Library, Dharwad. The study revealed that majority (82.67%) of the respondents were using OPAC to seek up-to-date information. The study showed that the use of OPAC by research scholars had increased their information retrieval rate especially in locating books and other reading material in the library. This was evident from the fact that all the respondents were satisfied with their search outputs. The study also revealed that the major access point used in retrieval of information on the OPAC was the author. It was found that the tool was useful and at the same time respondents felt that there must be someone near the OPAC to help researchers in retrieving the required document(s).

Vajjaramatti, Keshava and Ramesha (2004) focused on the information seeking behaviour of the research scholars of science and technology faculty of Karnataka University, Dharwad. The results of this study clearly indicated that more than 85% of the researchers used library catalogue and more than 60% used OPAC to locate the required documents, but more than 50% of them faced difficulties in locating documents in existing arrangement of library. Another important finding was that the majority of researchers (more than 60%) complained about the non-availability of current journals in the library. The researchers also felt that the resources of the university library were inadequate to meet their needs and requirements. In this regard they suggested for Inter Library Loan (ILL) service among the libraries situated in the region.
Mahajan (2005) conducted a study on Internet use by researchers at Panjab University, Chandigarh in all the three fields of knowledge- sciences, social sciences and humanities. All the researchers in sciences had a positive attitude toward the internet and felt comfortable gaining information through it for academic and personal purposes. About 70% of the researchers in social sciences and 20% in humanities also agreed with them. 90% of the Internet use was for academic purposes by the researchers in sciences, whereas 30% in social sciences and 5% in humanities used it for academic purposes. The study also indicated that all the researchers in sciences frequently looked for emails whereas 62% researchers in social sciences and 20% researchers in humanities had email accounts.

Amritpal kaur (2006) examined the use of e-resources at Guru Nanak Dev University. The study found that 90% of the respondents used e-resources for research work and found the information always adequate (51.17%). The study also revealed that the most common problem faced by the respondents was that of slow access speed (85.83%). The study suggested that the awareness among teachers and research scholars should be created to use e-resources to obtain current information.

Amar Nath and Sharma (2006) made an attempt to know the use of Online Public Access Catalogue (OPAC) by the research scholars in A.C. Joshi Library, Chandigarh. The study revealed how far the users were utilizing the OPAC. The respondents found OPAC useful and at the same time felt the need of someone to help them in retrieving the required information. The researchers also suggested the need to arrange the OPAC for primary literature such as periodical articles, technical reports etc. systematically and make these accessible to the use.

Mohamed and Sreelatha (2006) studied the use of e-journals and INFONET consortium by doctoral students of Calicut University and found that most (93.40%) of the doctoral students had access to e-journals and a sizeable number (48.83%) of the male doctoral students used e-journals every day. The majority (52.75%) of the doctoral students indicated that the INFONET was helpful for their research work. The major problem faced by the doctoral students in the INFONET centre was the lack of sufficient number of useful e-journals. Analysis of data revealed that most (93.40%) of the
doctoral students had access to e-journals through the INFONET Consortium. They were accessing e-journals daily or twice or thrice a week. The features like easy and speedy access to back volumes and hyperlinks attracted the researchers towards accessing e-journals. Access to full text of journals was the major problem faced while browsing e-journals. The study also brings out some major suggestions for improving the use of e-journals and the services rendered by the INFONET centre, such as to increase the number of core journals, to provide orientation classes and training programmes in accessing, searching and downloading of e-journals and to appoint properly trained and skilled library professionals in the INFONET centre.

Raza and Upadhyay (2006)37 conducted a study on “Usage of e-journals by researchers in Aligarh Muslim University” and found that all the researchers were aware of e-journals in Aligarh Muslim University. Many research scholars were consulting e-journals from their departmental labs and computer centers, not only for research purposes but also to update their own knowledge. Most of the researchers used both printed journals and e-journals. A large number of researchers were storing e-journals by downloading them onto discs and lack of training and slow downloading were the problems faced by the researchers while using e-journals. The study concluded with the statement that e-journals would not replace the traditional print format but rather complement it as a new medium of communication.

Bhardwaj (2007)38 conducted a study to know historians’ information needs at Kurukshetra University, Kurukshetra. The study revealed that 51.13% of respondents visited the library for the issue/return of books and 34.05% to read their own books. The study also showed that 71.69% respondents accessed the journals subscribed by university library and 49.30% got these through personal subscription. Researchers made some suggestions to improve the functioning of library such as formation of historical data bases, expert database, co-ordination and co-operation among various institutions/libraries, automation of library, news clip database and institutional repositories.

Kanungo (2007)39 made a study to ascertain the use of libraries by the research scholars in History and Political Science in Delhi. The study revealed that the first two services with high awareness were photocopy and reference service in both the disciplines. In case of History, microfilm service got third
rank and in Political Science it was newspaper clipping service. The study also found that the services such as photocopy, reference, microfilm, bibliographic and current awareness services were highly used by the respondents in History while photocopy, newspaper clipping, reference, bibliographic and current awareness services in Political Science. The study further observed that the awareness of the services was closely linked with their usage.

Khaiser and Pramodini (2007) described the use of e-journals and databases (subscribed by UGC-InfoNet consortium) by the users of University of Mysore. The results of the study indicated that UGC InfoNet was used only to ‘some extent’ to access information (65.5%). The level of satisfaction among the respondents regarding the use of e-journals and e-databases offered at UGC Infonet indicated that nearly 50% of the respondents were ‘a little satisfied’ and very few were ‘highly satisfied’ (2%). The study revealed that 99% users have not had an opportunity to attend training and orientation programme.

Raza and Amar Nath (2007) measured the use of Information Technology (IT) in the university libraries of Punjab, Himachal Pradesh and Chandigarh to establish some co-relation between quality in libraries and use of IT. The study highlighted the use of hardware and software facilities, access of networks, information services and barriers in IT applications in university libraries. The authors found that only Panjab University Library, Chandigarh and Guru Nanak Dev University Library, Amritsar had provided computerized access to in-house databases.

Shinde and Ingale (2007) conducted a survey in order to know the opinion of users on different aspects of modern library services in Mahatma Phule Krishi Vidyapeeth Library, Rahuri, Maharashtra. The study revealed that nearly 88% of the respondents expressed their satisfaction on the collection of the journals and 85.83% respondents emphasized the necessity to subscribe more foreign journals. The study also revealed that 38.33% readers felt that collection of CD-ROM databases was excellent whereas 50% readers termed it as a good collection. The Internet facility became useful to meet study requirements of the 79% of the users. About 30% of the respondents suggested to increase the number of computers, to subscribe more journals and purchase new books (26.66%) and increase in Internet access timing (14.16%).
Tilwani and Satish Kumar (2007) discussed the information needs of social scientists for web-based information resources. The study revealed that highly used resources were e-mail 10 (33.33%), followed by open source literature 7 (23.33%) and electronic journals 6 (20%). The analysis also showed that majority of the respondents (73.33%) wanted the print version, 33.33% only web-based information resources and 40% preferred both the versions. This study showed that social scientists still maintained the traditional methods of keeping the academic literature with them.

Ravichandran and Balasubramani (2008) focused on the use of Online Public Access Catalogue (OPAC) in Annamalai University Library by the research scholars. The main focus of this study was to describe the needs and requirements in general and analyze the use of OPAC in Annamalai University Library by the research scholars in particular. The study showed that OPAC increased the information retrieval rate especially in locating books and other reading materials in the library. It was evident that all respondents were satisfied with their search work. The study also revealed that the major access point used in retrieval of information on the OPAC was the author. Further, research scholars suggested to keep the OPAC up-to-date by adding the new entries quickly which will help in the effective use of OPAC.

Sharma (2008) examined the status and use of the Internet in Punjab Agricultural University and Haryana Agricultural University. The study revealed that 66% of the respondents from both the universities found Internet as an important tool of research. Majority of the users i.e. 72% in CCSHAU and 68% in PAU used Internet for the primary information. 26% users from each of the universities access Internet to browse the secondary information. The study also revealed that 22% respondents of CCSHAU and 30% from PAU were able to locate the desired information frequently.

Singh, Nazim and Singh (2008) conducted a survey to know the awareness and use of e-resources of UGC INFONET Consortium by faculty members, researchers and students. They found that 85.71% of the respondents were aware and 14.29% were not aware of the availability of online journals. Majority of the respondents (58.57%) were using online journals for research work, followed by 57.14% for course work, 32.86% to update subject knowledge, 27.14% for writing papers and 15.71% for teaching.
Ahmad and Fatima (2009) investigated the use of Information and Communication Technologies (ICTs) by the research scholars at the faculty of social sciences at Aligarh Muslim University (AMU). The study found that respondents used a variety of ICT products and services for their research work as these were helpful in finding information quickly and also helped the researchers to access, manage, integrate, evaluate, create and communicate information more easily. The study revealed that 93.33% male and 90.90% female researchers used computer for their research work. The study also identified that researchers were not getting proper training/guidance and assistance from the staff/librarians, which was necessary for the effective use of ICT products and services. The major suggestion was that the library should arrange and organize training programmes relating to ICT.

Baljinder Kaur and Verma (2009) conducted a study of 485 users from the undergraduate, postgraduate, research scholars and faculty members at the Thapar University, Patiala. The response of respondents with regard to awareness about e-resources and services of library showed that 36.29% were not aware of it. Among the users who were aware of UGC-Infonet consortium, only 55.65% were using these e-resources. The authors found that the impact of e-resources was visible from the decrease in number of printed journals in comparison to the increase in number of electronic journals. The use of e-journals increased manifold.

Gowda and Shivalingaiah (2009) made an analytical study to know the library facilities and services required by the research scholars in the traditional universities in Karnataka State. The analysis showed that more than 65% respondents were the users of UGC-Infonet facility. The discipline-wise responses showed that in humanities discipline about 38% of the respondents were the users. In social sciences and science disciplines it was about 59% and 79% respectively. It was found that 45% of the respondents were the users of full text journal. In all the disciplines, the respondents showed the similar views. The hypotheses formulated in this connection were partially proved by the study. Results showed that there were significant differences in the satisfaction level of facilities and services among the research scholars of various disciplines.
Haridasan and Khan (2009) revealed the awareness of e-resources among the faculty members and research scholars. They found that all the respondents were aware of the online public access catalogue, 39 (90.69%) research scholars and 9 (100%) faculty members were aware of the Internet, 9 (100%) faculty members and 38 (88.37%) research scholars were aware of e-mail and discussion groups and also e-journals, 9 (100%) faculty members and 33 (76.74%) research scholars were aware of CD-ROM databases, all faculty members including 26 (60.47%) research scholars were aware of e-books, 8 (88.89%) faculty members and 26 (60.47%) research scholars were aware of e-encyclopedia and e-theses, 8 (88.89%) faculty members and 18 (41.86%) research scholars were aware of e-dictionaries, and 8 (88.89%) faculty members and 15 (34.88%) research scholars were aware of e-newspapers.

Khan and Zaidi (2009) carried out a survey to find out the level of awareness and use of online databases as well as to ascertain research scholar’s satisfaction with the infrastructure to support accessing online databases in the Aligarh Muslim University (AMU) campus, Uttar Pradesh. The survey revealed that most of the research scholars were aware of the availability of online databases and largely used them for their research work and to update their subject knowledge. It was further found from analysis that a high percentage of research scholars (84.72%) search and access online databases directly, followed by links through search engines (76.38%), links through library web site (56.94%) whereas links through publisher website received low priority. The study identified that the main problem faced by the research scholars in using online databases was lack of online databases subscribed by the university on science and technology as well as social sciences. It was also noticed that nearly 50% research scholars were satisfied with the infrastructure to support accessing online databases in the AMU campus.

Khan, Zaidi and Bharati (2009) focused on finding out the level of use of on-line databases by faculty members and research scholars of the Jawaharlal Nehru University (JNU) and Jamia Millia Islamia (JMI), Delhi (India). The survey revealed that all the faculty members and research scholars from JNU and JMI were aware of the availability of on-line databases and largely used them for reference purposes in their research work and for updating
knowledge. The degree of usefulness and utilization of online databases was high among the faculty members and research scholars. The survey further revealed that the respondents from both the universities were aware of the search options for accessing on-line databases. It was also found that a large number of respondents of JNU and JMI were using field searching and Boolean Operators to access information from on-line databases.

**Kumbar and Hadagali (2009)** conducted a study on the usage of UGC-Infonet e-Journals consortium by the faculty members and research scholars of Karnataka University, Dharwad. It was observed that 39 (92.86%) faculty members and 57 (95%) research scholars were well aware of the UGC-Infonet consortium programme. 20 (47.61%) faculty members and 37 (61.66%) research scholars indicated that the content was better in electronic sources than in print version. This survey clearly indicated that electronic sources of information were highly useful for research, teaching and learning process. A majority of the respondents suggested that UGC-Infonet should provide pdf files of most of the important journal publishers.

**Mallaiah and Gowda (2009)** focused on studying the use of library collection of Mangalore University Library from the users’ point of view. Findings of the study revealed that a good number of research scholars and teachers visited the library to borrow books and periodicals. The study also revealed that the library OPAC, printed catalogue and the assistance of library staff were the primary means to locate documents needed by the users. It was observed that a good number of research scholars (58.96%) had expressed their satisfaction about the accessibility of UGC-Infonet e-journals in the library.

**Natarajan, Suresh and Sivaraman (2009)** conducted an evaluative study to identify the availability of e-resources in Annamalai university library in Tamil Nadu. The results of the study showed that out of 750 total respondents, 510 respondents (68%) were using e-resources. The frequently used e-resources were e-mail and discussion groups (37.47%), e-journals (20.80%), e-newspapers (12.40%), etc. From the results drawn, it was concluded that e-resources were an accepted means of information sources in the present information society.
Patil and Parameshwar (2009) explained the electronic resources and their use by the faculty members and research scholars in the Gulbarga University, Gulbarga. The study revealed that the electronic resources available in the Gulbarga University Library were much helpful in fulfilling the information needs. The study found that 66.83% of the respondents needed printed journals for their study in addition to the electronic journals. It was also reported that the UGC-INFONET Consortium was satisfactory. There was need to train the faculty members and research scholars in using the electronic resources. Further, there was need to include more journals in the UGC-INFONET Consortium.

Singh (2009) reported the result of a survey conducted at Jamia Millia Islamia (JMI), Library to determine the extent to which users were aware and made use of online journals. The study also examined the search pattern of online journals. The study revealed that majority of the users was aware about the availability of online journals. 54.67% of the respondents wanted to use online version of journals whereas a few wanted to use printed journals. Majority (52%) of the respondents used online journals for research work. It was proved that online journals saved time of the users. Lack of training among users and proper infrastructure in the library was a major de-motivating factor in the use of online journals.

Vishala and Bhandi (2009) made an attempt to report the advantages and disadvantages of e-journals as perceived by the academicians of universities of Karnataka. The main objective of the study was to determine the frequency of the use of e-journals by faculty and research scholars. The findings of the study revealed that 123(24.7%) respondents among faculty and 127(26.3%) among research scholars used e-journals ‘several times a week’, followed by 65(13.1%) faculty ‘once in a week’ and 91(18.9%) research scholars ‘daily’. The major advantages of e-journals perceived by the respondents were ‘provide current and up-to-date information’ (48.3%), ‘ease of search’ (39.6%) and the major disadvantages stated were ‘site license problem’ (43.2%) and ‘reading on the screen’ (34.5%).

Amrtipal Kaur and Randhawa (2010) analyzed the use of electronic databases in three university libraries of British Columbia, Canada. The study revealed that 43.49% respondents got guidance from the library staff for using
the databases and 37.28% learnt it through self-instructions. The study also revealed that 82.85% students used the databases for their home work or assignments, whereas 59.09% of the teachers used for their teaching purposes. The study suggested that databases should be full text with authentic and up-to-date information.

**Gowda and Shivalingaiah (2010)** analyzed the information seeking pattern of the researchers of various disciplines in the university libraries in Karnataka State. The results showed that the ‘research supervisors’ were the first preferred mode for literature search followed by ‘websites/databases’ and ‘catalogues/OPACs’. The responses also revealed that ‘library websites/pages’ were highly preferred mode of communication.

**Walmiki, Ramakrishnegowda and Prithviraj (2010)** conducted a study to know the extent of awareness and use of the UGC-Infonet digital library consortium by faculty members in universities in Karnataka. The study found that 75.78% of the faculty members were aware of the UGC-Infonet digital library consortium resources and 24.22% were not at all aware of the availability of the consortium resources. Majority of the non-users belong to social sciences and humanities and those who had not undergone formal computer training. Comparatively the science faculty used the consortium resources more frequently than those belonging to social sciences and humanities. Lack of knowledge to use, insufficient Internet nodes, slow bandwidth and lack of relevant information sources were found to be the major problems faced. Only 5.22% of the faculty members indicated that they had necessary expertise to use the digital resources. About 37% of the faculty members were aware of and participated in user education programmes conducted by their university libraries.

**Panneerselvam (2011)** presented the study of library users, their needs and library services of B. S. Abdur Rahman University Library, Chennai. The study revealed that most of the research scholars (68%) were visiting the library regularly for their research activities whereas 50% of teaching staff were utilizing the library once in a week for academic and research activities. The majority of the library users (60%) expressed satisfaction. The study also revealed that the services offered by the library at present were useful, because of the impact of the electronic media.
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