Chapter 2
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REVIEW OF LITERATURE

The review of literature helps the researcher to know other research studies and projects on a similar subject and to relate the present study in hand in the context of larger panorama. In order to understand and review the existing literature on the study in hand, the researcher consulted a number of sources of information such as articles, monographs, books, conference proceedings, and electronic sources from the Internet, etc. and had gone through the content to know the related studies. For the present study, a systematic review of the literature on the study was carried out to identify related research and the development of the concepts and the sub-areas identified are: information technology in libraries; usage pattern of electronic information resources; and Satisfaction level of users on the information technology infrastructure and electronic resources with respect to Degree college libraries in Chandigarh.

Only the selected studies have been reviewed here on the information technology infrastructure and on the satisfaction of users on the usage of electronic resources and services. These studies presented and reviewed in this Chapter cannot be comprehensive.

Siddiqui (1997) reported the result of a survey of the availability and use of information technology (computers, networks, electronic mail, online information retrieval, CDROMs, facsimile transmission, personal computers (PCs) and the Internet) in seven University libraries in Saudi Arabia. He stated the diversity of computerized
library systems, databases and services used in the libraries. And listed the most widely used systems (DOBIS and MINISIS) and the numbers of online and CD-ROM databases acquired by specific libraries.

Sambasivan (1998) mentioned the sweeping changes brought about by information and communication technologies and discussed the phenomena of computer networking, emergence of potentialities of internet, emergence of list or mail server, application of e-mail and websites. Also highlighted the hypermedia links, and other revolutionary innovations and technologies, and their impact on libraries and information centres.

Mannan and Bose (1998) investigated the level of 100 users’ satisfaction of 24 libraries of Bangladesh and their networking and resource sharing services at the national and international levels. This study included: the existing status of infrastructures and facilities, collections, mode of subscription of journals, user’s visit to the libraries, availability of services and use of databases. The overall results suggested that the existing library and information services are below the expectation level of users despite quite a good number of rich academic and specialized libraries in the country. The problems identified were the lack of resources, lack of qualified staff, a lack of basic legislative support and the main problem is lack of authentic data. It was found important to take necessary measures to establish an efficient net-working and resource sharing system among the libraries for providing better services to the users of the country.

Moorthy and Krisiddappa (2001) undertook a study to find the use of information technology infrastructure and assessing the extent of use of electronic media in 153 libraries in India. The survey was with respect to the availability of information
technology infrastructure for accessing electronic media and dissemination of information, use of computers and the extent of progress in library automation, use of CD-ROM databases and electronic/online journals. It also dealt with the availability of telephone, fax, e-mail, Internet in Indian libraries as well as the perceived impact of digital libraries on library system and its functions.

Vijayalaxmi and Maheshwari (2001) surveyed the post graduate lady students of Gulbarga university on information usage pattern with regard to the types of information required, purposes of using information, methods used for keeping up-to-date, awareness, use and usefulness of information sources, information searching undertaken and the methods used for searching, use, frequency of use, purpose of using and the success in getting information from the university library, frequency of visits to other libraries, consultation with library staff, difficulties encountered in access and use of information, instructions received and the need for instructions in the use of library, its resources and services. They concluded that there was a need for educating these post-graduate students in the use of information sources, library, its resources and services.

Chetana (2002) found that there was gradual improvement in creating the IT infrastructure in the higher education institutions in Mysore. She also found that most of the users were aware of using information technology in the libraries.

Manjunatha and Shivalingaiah (2003) stated that in the age of digital evolution and escalating price of electronic information, resource sharing was critical for effective functioning of libraries. Increased availability of information in digital format and high costs of journal subscription compelled the libraries to work together. Technical advancements provided a platform for digital resource sharing and offer many
opportunities for librarians to become more technical and professional. This paper attempted to identify the needs and factors influencing the electronic resource sharing. Also presented were the requirements and strategies for effective resource sharing in academic libraries.

Gupta (2004) explained the role of universities and colleges and the importance of libraries as resource centres. He discussed the computer efficiency in information dissemination under the purview of UGC referring to the development of INFONET and evaluated the role of Internet and the emergence of digital information. He further stated the issues relating to electronic material and the establishment of Data Centre by UGC.

Maheshwarappa and Tadasad (2004) surveyed 571 out of 931 college libraries in Karnataka state with regard to the availability of information resources and found that a majority of college libraries neither have a separate reference collection nor have back volumes of periodicals nor have maps nor have microforms nor have audio-visuals nor subscribe to periodicals nor on gratis nor an exchange nor subscribe to abstracting journals. The study observed that print media dominates the present collection of the college libraries which was very meager and inadequate to support the requirements of under-graduate education. They concluded that college libraries should adopt a strategic plan for the development of an integrated collection (print, non-print, digitized and networked) by focusing their attention towards developing information resources.

Venkata Ramana (2004) discussed about the study he conducted on the current state of use of information technology in Central University libraries in India. He concluded that the Central University libraries, in general, were better placed in terms of resources and the major reasons for using information technology were to improve access
to collection, to improve quality of existing resources and to reduce routine and time consuming clerical operations.

Cholin (2005) gave an overview of information technology implementation in different university libraries in India that provided effective access to resources available within universities and elsewhere. The role of INFLIBNET in the overall development of university libraries across the country with special emphasis on UGC-INFONET was also discussed.

Ani, Esin and Edem (2005) investigated the extent of adoption of information and communication technology (ICT) in 29 university libraries in Nigeria. The results of the survey showed that the major obstacles that influence effective adoption of ICT in university libraries are inadequate funds and the poor state of electricity in Nigeria. They proposed that computer networking of university libraries was feasible and recommends the development of the Nigerian university libraries network and academic libraries network.

Tubaishat and El-Qawasme (2006) explored the impact of technology and culture on higher education in two Arab countries. The survey results showed that adoption of technology had (a) improved the motivation and confidence level of students, (b) improved their communication and technical skills, (c) encouraged students to collaborate using Information and Communication Technology (ICT) tools, and (d) allowed students to be more independent. These improvements would not have been possible without technology in a gender-segregated society. Some of the important findings from the case study were: (a) use of technology improved students communication skills, (b) use of technology allowed students to be more independent,
(c) it also improved motivation and confidence levels of students, and (d) allowed students to express their feelings and ideas more openly with others.

Balwant Singh, Kapila and Pateria (2007) stated that the libraries were adopting the ICT to make their services better. University Libraries were also collecting digital information because it is easy to access on 24/7 from anywhere. This digital environment was changing the shape of the libraries and their activities such as acquisition, cataloguing classification, issue/return, and reference service. Staff and building were no exception. Collection of print media may reduce, as digital resources will take its place. RFID (Radio Frequency Identification Device) technology has not only made possible self-issuing, but also checks thefts and helpful in tracing the misplaced books on the shelves of the library.

Mulla and Chandrashakara (2007) made an attempt to explain the important aspects of Internet. The Internet based information resources were essential to overcome the distance barrier in information explosion, and it also saves the time, when searching the literature in electronic form and allows identifying the resources. The teachers, research scholars and students of higher education use the Internet to keep themselves up to date. The present study gave an insight into why they were interested and what was their attitude towards the use of Internet based information resources and Internet use.

Smitha and Chethana (2007) explained the influence of digital technology on information users of higher education and Research centres in Mysore district. They indicated that existing digital technology in higher education had drastically improved. There was great demand for digital technology in terms of digital resources and services
such as full text online journals, Reference works on CDs, Leased line internet facility, additional browsing terminals including training on digital technology.

Hanchinal and Hanchinal (2008) reported the effect of information technology on resources and services of 83 Academic College Libraries of Mumbai and its suburban area. The study emphasized that the implementation of IT infrastructure mainly depends on interest of management; students response; librarians’ willingness to adopt the IT; and above all the budget.

Sivasubramanian and Nikam (2008) looked into the various electronic facilities and services offered in 63 university libraries in Karnataka and Tamil Nadu. In brief, it dealt with the training provided for web access to the users and user communities. It was suggested that adequate IT-oriented training and continuing education programmes to be provided for library professionals in electronic applications in libraries.

Chowdappa, Chandrashekara and Ramasesh (2009) depicted the extent of dependency of users of educational and research institutions of Mysore city on the electronic/digital media. The responses of 1000 users and the critical evaluation of 24 subject experts under Delphi study have been gathered to render valid findings and suggestions. Analysis showed that there were several reasons for inadequate ICT facilities like, financial inadequacy, lack of awareness, lack of training. The study recommends that for effective implementation of digital facilities, orientation and training to be organized on regular basis.

Sampath Kumar and Biradar (2010) examined the use of information communication technology (ICT) in 31 college libraries in Karnataka, India by investigating the ICT infrastructure, current status of library automation, barriers to
implementation of library automation and also librarians' attitudes towards the use of ICT. The findings revealed that lack of budget, lack of manpower, lack of skilled staff and lack of training were the main constraints for not automating library activities. Even though library professionals shown a positive attitude towards the use of ICT applications and library automation, they needed extensive and appropriate training to make use of ICT tools.

Farahi and Gandhi (2011) carried out to investigate and compare the current state of information technology in medical libraries in Karnataka, India and Iran. It was found that the medical libraries in both countries have hardware, software, and communication facilities to some extent, however, only few medical libraries in both countries were fully automated. Iranian librarians ranked lack of institutional support, funds, trained and skilled professionals, and absence of planning and training courses, as the most important problems in IT application, while none of the options were rated as the most important problems militating against effective use of information technology by Indian medical librarians.

The electronic resources available in a library play a prominent role in facilitating access to required information to the users in an easy and expeditious manner. The electronic resources, like CD-ROM databases, online journals, online books, OPACs, and the Internet, are slowly replacing the importance and usage of print media. It is imperative that one should be familiar with the use and exploitation of electronic resources for their quicker and effective usage for promotion of academic excellence and research. Some of the studies related to this aspect are presented below:
Majid and Abazova (1998) investigated the relationship between computing skills of 114 academic staff in International Islamic University Malaysia and their use of electronic information sources such as OPACs, CD-ROM and the Internet. The study revealed that a majority of IIUM faculty members had been using computers. Use of CD-ROM was very low, possibly due to lack of awareness about the service. A statistically significant relationship is found between computer literacy and the use of electronic information sources and services. The study revealed that computer literature academics use electronic information sources more frequently. Similarly, a significant relationship was noted between the age of academics and their use of electronic information sources. The need was felt for user education programmes, computer literacy courses and training sessions on using OPAC, CD-ROM, Internet and other electronic products for enhancing computing skills of their users.

Vara Lakshmi (2003) attempted a study on the use of the Internet by the 129 faculty members of Andhra University and their opinion on its usefulness. The findings revealed that the primary purpose of using the Internet was for research; Full text was the most suitable format; consulting e-journals was infrequent; Yahoo and Google were the favourite search engines. Among other findings, the study revealed that searching the World Wide Web was not without difficulty and though the Internet was a good information source, it had not replaced print and was not a panacea for all information questions.

Jeevan and Nair (2004) presented the results of survey conducted among 18 premier libraries in Thiruvananthapuram city of Kerala to assess the information technology adoption in these libraries. Results revealed that the libraries were very
positive about the use of IT in libraries and many of the libraries were IT intensive. This study reflected the views of librarians only who might adopt an ideal stand even on those issues where the users had a poor opinion. Therefore, there was a need to take into account the feedback of the users in various categories to have a realistic assessment of the status of information facilities available and information services rendered by these libraries.

Chavez et al. (2005) carried out a survey of the students, faculty and staff to measure their satisfaction with the Paradise Valley Community College Library under title “Library User Survey: Resources, Facilities and Circulation Service”. The findings revealed that generally users were satisfied with the resources, facilities and circulation service. It was recommended to repeat survey in two years to compare satisfaction level of students.

Adikata and Anwar (2006) ascertained the perceptions of faculty members on the students’ library use and their role in motivating students to use libraries. Their findings revealed that teachers played an important role in promoting the use of libraries by students. Authors were not satisfied with students’ library use skills, available information resources and expected from librarians to provide a comfortable academic environment in library.

Li (2006) explored key issues involved with opportunities, challenges, and future developing trends of delivering dynamic and distributed web-based academic library information resources, services, and instructions for library users in the digital age with respect to leverage quality library user services in the digital age: roles of academic libraries; funding support; information resources; information access; information
services; instructions and trainings; impacts of cutting-edge technologies and emerging technologies; web contents management and knowledge base; assessment and evaluation; and Librarians.

Doraswamy (2007) attempted to determine the present status of knowledge and use of digital resources by 160 faculty members through CD-ROM databases, online databases, online journals OPAC etc available in the engineering college libraries. It was observed that use of digital resources was still inadequate among the engineering faculty of the universities in entire developing countries.

Gbaja (2007) carried an online survey to collect data from ten academic universities in order to know which academic libraries in Nigeria provide online services to the growing Internet savvy patrons. The study revealed that the shortage of web technologies skilled librarians, poor information technology infrastructure and high cost of equipment hindered the Nigerian academic libraries from providing online information services.

Hadagali, Kumbar and Lakshmiraddy (2007) examined the use of the Internet by 42 members of the Social Science Faculty of Karnatak University in Dharwad, India. They dealt with frequency of the Internet use, purpose of using the Internet, use of different Internet services and impact of the Internet on research / teaching. The results indicated that the use of the Internet services by the faculty members was associated with an increase in the number of research papers and with improvement in the quality of research and teaching. They recommended high speed network connections to access the electronic information resources and providing more orientation/training programmes in the use of the Internet.
Sivaraj and Esmail (2007) demonstrated and elaborated the various aspects of Internet use, such as frequency of Internet use, methods used for accessing Internet resources, the frequently used places for Internet access, purposes for Internet search and use of Internet services, ways to browse the Internet, problems faced and satisfaction level of the 145 students, 45 faculty members and research scholars with the Internet facilities provided at the Bannari Amman Institute of Technology. Responses of users showed that the Internet was being used by students, faculty members, and research scholars to gather a variety of information and gain more extensive knowledge as part of their learning, teaching, and research activities. Lack of experience, misconceptions about the Internet, misuse of Web sites, and authenticity of information, censorship, copyright, constraints, insufficient high quality terminals and language problems were among the prime reasons limiting the optimal use of the Internet.

Ansari and Jilani (2008) investigated the patterns of the Internet use by 115 students, including the purposes of use, Internet resources used, and the problems faced while using the Internet. Findings of the study showed that students spent a reasonable time using the Internet for various purposes such as retrieval of WWW resources, receiving and sending e-mails, preparation of assignments and searching job related information.

Sujatha and Mudhol (2008) depicted that in the college of fisheries, 88.9% users used electronic information sources for thesis/ project work and 87.6% were using for ongoing research work. Majority of the respondents comprising 79.0% browsed the Internet for subject specific information websites and 75.3% for international regional
institution websites. E-mail was the most frequently used electronic information source followed by web resources.

Dhanavandan, Esmail and Mani (2008) attempted to identify the usage of CD ROM data bases and the INTERNET resources by the engineering students in Engineering Institutions in Cuddalore District. Responses of 190 users showed that the CDROM databases and the Internet resources were useful and very much required, whereas print resources were also required alongside, as they were found convenient to use.

Nazim (2008) reported the results of a survey conducted on 405 postgraduate students, research scholars and academic staff at Aligarh Muslim University (AMU) to determine the extent to which Internet users were aware and make use of the Internet resources and services. The study found that the majority of respondents had a 5 year history of Internet access and although Internet search engines were the preferred information searching tool, other methods such as databases, gateways and World Wide Web (WWW) were also used. Online journals and databases were the preferred information sources among the Internet users. Respondents chose e-mail, WWW and search engines as important Internet services. Slow speeds, lack of training and information overload were indicated as some of the factors affecting the Internet usage.

Jegede (2008) investigated the nature of relationship between ICT attitudinal constructs and use level of 467 Nigerian teachers from teachers Training Institutions. It was discussed that ICT use level of teachers is significantly related with each and the combination of attitude constructs. The findings also revealed that perceived control
factor, behavioral factors and defense factors contributed mostly to the prediction of ICT use level of teachers.

Kanniyappan, Nithyanandam and Ravichandran (2008) described a survey conducted at Anna University Library, Chennai (Tamil Nadu) to find out the use of different types of electronic resources and services and the impact of these resources on the academic development of 153 faculty members of Engineering and Technology. Findings showed that most of the faculty members were aware of the availability of electronic resources which they used frequently for their teaching purposes. It was concluded that most of the respondents faced problems mainly because most of the respondent did not get proper training to use electronic resources in the library.

Koovakkai (2008) reported the user satisfaction scale developed by him for measuring the user satisfaction of academic libraries. The scale can be adapted and used for measuring user satisfaction in other types of libraries as well. Satisfying the users was prime concern of every modern library as it was mandatory part of the libraries to measure the satisfaction of the users in order to provide better services.

Rajput, Naidu and Jadon (2008) focused on the use of online public access catalogue in Devi Ahilya University Library by its 364 members. They made an attempt to know the information requirements of the students and how these are met out by the OPAC of the university central library. The study revealed that the tool was useful and at the same time respondents felt that there must be someone near the OPAC to help in retrieving the required documents. It was suggested to provide training in the use of OPAC.
Margam (2008) focused on the use of e-resources by 64 research scholars and students of Kurukshetra University, Kurukshetra (India). It was found that the e-resources could be good substitutes for conventional resources, if the access was fast, and more computer terminals were installed to provide fast access to e-resources. Google was the most widely used search engine for locating information electronically. The author highlighted the use of e-resources in research at Kurukshetra University with some constructive suggestions for improvement of electronic resources and service.

Rao and Babu (2008) executed a survey of the faculty members of autonomous colleges in Chennai to examine the provision and use of library services, resources and facilities. The survey revealed that more than three fourth respondents were visiting libraries for research studies and to write research papers. A few users were using e-resources. They recommended that the right choice between print and electronic sources of information for the collection development in these libraries.

Kumar and Jasbir Singh (2009) examined the use of the Internet and electronic resources in LRC Jaypee University of Information Technology, Waknaghat to analyze the patterns of use of Internet and Electronic Resources for care of 110 students and teachers, the Internet skills of the LRC users, and problems faced by them while using the Internet and Electronic Resources. The study was conducted to find the satisfaction derived by the researchers with the Internet and Electronic Resources Results show the frequency, availability of resources and it reveals the purposes, reasons and broad areas of problems.

Joteen Singh, Madhuri Devi and Raychaudhury (2009) conducted a survey on the use of electronic information focusing on the internet services by 548 users of Manipur
University Library. They examined the utilization, purpose, difficulties and satisfaction level of users about the Internet based e-resource services provided by the library. The problems identified with regard to the use of internet based e-resources were that of low speed internet access, erratic power supply and lack of required full text journals.

Malik and Khalid (2009) explored different aspects of web search behavior of university students, in terms of user's background and experience with web, purpose of use, searching skills, query formulation, frequency of use, favorite search engine, etc. All these factors contributed to the way in which the students search the web. Key findings include the use of web for academic tasks, preference of Google, reformulation of query, use of basic and advance search features, browsing of first ten hits and problem of slow speed.

Patil and Parameshwar (2009) explained about the electronic resources and their use by 151 faculty members and 268 research scholars in the Gulbarga University, Gulbarga. They revealed that the electronic resources available in the Gulbarga University Library were helpful in fulfilling their information needs. There was need to train the faculty members and research scholars in using the electronic resources and need to improve the Internet facility in Gulbarga University, Gulbarga.

Syamalamba Rani (2009) conducted a study on 17 minority aided degree colleges to reveal the nature and the extent of use of college libraries in Andhra Pradesh by 1705 undergraduate students. The study showed the problems of lack of computer training to library staff, complete automation of library and low budget etc were found common in libraries. This study gave a clear picture of the use of college libraries in AP by undergraduate students. The study recommended that utilization of college libraries in
this state could be enhanced by adopting the modern formats like audiovisual materials and electronic resources such as CD, DVDs and the Internet. Automation of libraries according to new technologies was very essential to cope up with the present scenario.

Ossai-Ugbah (2010) examined the extent to which the use of automated electronic information services by students influenced the academic performance of students in three tertiary institutions in Nigeria. The majority of the users agreed that there is a significant relationship between educational academic exposures with the use of the automated library services, and they were satisfied with these automated electronic library services. However, the major constraints identified by the respondents were slow internet speed, access and automated library facilities are not up and running at all times to meet the varied time students prefer to browse the internet. The research recommended institutions to enlarge their Internet bandwidth and make it available anytime of the day or night when the students are free to make use of it.

Ani (2010) investigated the extent and level of internet access and use by undergraduate students in three Nigerian universities as well as the electronic resources used by these students on the Internet. The findings of the study revealed that the Internet was extensively used by undergraduate students in the surveyed universities. In spite of the extensive use of the internet, there existed a poor level of use of electronic resources such as the electronic journals and online databases which were essential for learning and research. The findings of the study also revealed the need for effective user education on the Internet access and use in university libraries in Nigeria for optimal utilization of electronic information sources.
Sampath Kumar and Biradar (2010) examined the use of information communication technology (ICT) in 31 college libraries in Karnataka, India by investigating the ICT infrastructure, current status of library automation, barriers to implementation of library automation and also librarians' attitudes towards the use of ICT. The findings revealed that lack of budget, lack of manpower, lack of skilled staff and lack of training were the main constraints for not automating library activities. Even though library professionals shown a positive attitude towards the use of ICT applications and library automation, they needed extensive and appropriate training to make use of ICT tools.

Natarajan, et al. (2010) conducted a survey of 117 teachers and research scholars at Annamalai University on the user perception of electronic resources. They found that the use of electronic resources was significant and felt the need to maximise the use of e-resources by training the teachers and publicising the e-resources within the user community.

Kadli, Kumbar and Kanamadi (2010) undertook a study to understand 74 students’ views about Internet usage in Lala Lajpat Rai College of Commerce and Economics, Mumbai. The concluded the study with the following findings. (1) a high degree of awareness about the benefits of Internet among students; (2) the library, computer lab, Cyber café and home were deemed the most convenient places to access Internet; (3). The major purpose of students’ accessing Internet was education and entertainment; (4) students strongly agreed that project work, quick and reliable communication, and the availability of updated information were motivating factors for using the Internet; (5). The study confirmed that Google was the most used search engine,
followed by Yahoo; however, students were not aware of the advanced search strategy provided by these search engines, thus failing to make informed searches on the Internet.;

(6) Internet use skills were acquired by majority of student by self-study and what they learnt through their friends; the study revealed that in the present the Internet influenced academic environment, information literacy skills to use Internet effectively was a necessity. (7) Though students consider themselves smart enough to use the Internet, there were several problems they faced in accessing the Internet. While they knew that the needed information was available on the Internet, they were not sure about its completeness. And also, students felt that they lacked the knowledge and skills needed to make informed searches to retrieve reliable and complete information.

Swain (2010) evaluated the level of electronic information services offered by the primary information reserves of the respective business schools with an opinion pool of sample respondents. The study found that students expressed keen interest in the use of e-journals, followed by e-books, e-newspapers, e-reports, and e-articles. Least interest was shown towards the use of electronic theses and dissertations. The study also revealed that the majority of students were aware of EBSCO, and Emerald Management Xtra. The study highlighted the practicality of the use of electronic resources, compared to print, among the students of business schools of Orissa (India).

Santhi, Radhakrishnan and Swaroop Rani (2010) investigated the relationship between computer literacy of 114 Academic Staff of affiliated engineering colleges under Coimbatore Anna University at Karur District, Tamil Nadu (India) and their use of electronic information sources. The study was aimed at investigating the relationship between computing skills of academic staff and their use of electronic information
sources such as OPACs, and the Internet. The study revealed that a majority of faculty members were using computers. It was suggested that adequate emphasis should be given to developing basic computing skills among library users through user education programmes and user training on using OPAC, Internet and other electronic products.

Sarasvathy and Giddiaiah (2010) elicited the opinions from 88 users of Internet Centre of University Library, Mysore, regarding the exploitation of Internet resources. The analysis of the data thus covered “characteristics of study population, purposes of Internet use, most used Internet services, problems faced by the users while using the Internet services and suggestion made by the users for the future improvement of Internet services at Internet Centre, University Library- Mysore.

Hussain and Ansari (2010) surveyed the usage of electronic resources by faculty members and students of Library and Information Centre (LIC) at Institute of Management Technology (IMT), Ghaziabad to explore the use of e-resources, role of e-resources in research and teaching activity, level of satisfaction, evaluation and quality of search result and assistance provided by LIC for the maximum use of e-resources. It was found that the faculty members and students demand online resources for their study and teaching needs. It was concluded that the library should also take more initiatives for developing awareness about e-resources so that the use of electronic resources could be made to its fullest extent.

Saravanan, Ushadevi and Senthil Kumar (2010) presented the results of a survey of users’ awareness of and skills in using various features of the Google search engine. 150 users, who were pursuing their PG degree in Annamalai University were selected. The aim of this user survey was to get some idea of how much users of any discipline
were aware of the sources of information, what search method so they used most and from where they received most of their information.

Maharana, Sethi and Behera (2010) designed a study to find out the necessity and usage of the Internet and e-resources by 91 students undertaking the master’s course in Business Administration in Sambalpur University, Orissa, India. The investigation result showed that majority of the students have a long experience of using Internet for 2 - 4 years and all were more or less aware of the applications of Internet technology. More than half of the students surveyed in the study strongly felt that management study would be severely affected without the use of the Internet and e-resources.

Negahban (2010) assessed the extent of utilization and familiarity in accessing digital technologies of information among 97 post graduate students in Shiraz city. The results revealed that in familiarity with accessing digital sources, more familiarity was found in journals on the Internet and less familiarity was observed for encyclopedia on net, directories and yellow pages and digital libraries. The selected sample had more familiarity with book search and book shops on net, internet relay chatting and email and less of teleconferencing on the net. Research scholars had higher familiarity with book search and book shops on the Internet than students.

Walmiki, Ramakrishnegowda and Prithviraj (2010) explored whether the 931 faculty members were making use of the UGC-Infonet Digital Library Consortium resources, the frequency and purpose of its use, problems faced in using and reasons for non-use. Lack of knowledge to use, insufficient internet nodes, slow bandwidth and lack of relevant information sources were found to be the major problems faced. User education programmes conducted by the University libraries were found to be inadequate
and not focussed. It was suggested that there was an urgent need on the part of the UGC to review the resources included in the consortium in order to fulfil the needs of the faculty members belonging to all subject disciplines that were taught in the conventional universities covered under the UGC-Infonet programme.

Balasubramanian and Batcha (2011) evaluated and analyzed the perception of 900 users of academic libraries of Puducherry region on quality of various types of services provided in academic libraries and also analyzed their satisfaction. They found that the inadequate fund allocation factor had an impact upon providing the effective and efficient library services, followed by inadequate staff structure; lack of adequate management; lack of adequate infrastructure facilities; delay in implementing IT initiatives; lack of coordination among library staff; lack of technical knowhow in ICT enabled services; and subscription of international journals. Moreover the nature and level of library and information services are not having any correlation between the nature of institution and the services.

Thanuskodi and Ravi (2011) discussed utilisation of digital resources by 140 faculty and research scholars of Manonmaniam Sundaranar University, Tirunelveli. Results showed that most of the faculty was familiar with the use of digital resources, and majority of these members were using digital resources for research purpose. They revealed that majority of the faculty members were learning the required skills for the usage of digital resources through self-study. It was concluded that library and information science professionals should be well aware of the digital resources available in the concerned field of study and evaluate these before subscribing these for their library users.
Loan (2011) surveyed the Internet use among college students in Kashmir Valley and found that students of computer science make use of the Internet most of all followed by students of business and commerce, general science, social science and humanities students respectively. It was found that the students of business and commerce leads in using the Internet for information, students of computer science use it predominantly for communication purposes and students of social science and humanities use it for education purposes compared to others. Information overload was the most common problem faced by students of all faculties while searching the relevant information. The students of general science, social sciences and humanities found the Internet illiteracy as the major limitation in using the Internet. The students of general sciences, social sciences and humanities, and business and commerce faced intuitional curbs to the Internet access. It was needed to make students of all faculties aware about the information and communication technologies (ICTs) and to train them in using these technologies to bridge the gap.

Mostofa (2011) examined the use of internet among 137 business students in Darul Ihsan University, Bangladesh. The findings revealed a high percentage of internet use among students. More than half of the respondents used the Internet for educational purpose at the University. Google and Yahoo search engines were found to be more widely used than other search engines. The major problem faced by students in their use of the Internet included slow access speed and recommended that the bandwidth should be increased to overcome the problems of slow connectivity and more computers with latest specifications and multimedia facilities should be provided.
Loan (2011) compared the use of Internet by the rural and urban academic college students of Kashmir Valley and identified the problems faced while searching the Internet. The findings revealed that the rural students mainly accessed the Internet at home whereas urban students highly accessed the Internet at commercial cyber cafes. Majority of the urban students used the internet primarily for specific information whereas rural students mostly used for education. The findings also indicated that both the rural and urban students faced the same problems with slight variations like information overload (too many hits) followed by internet illiteracy (lack of internet operating searching skills), financial barrier (paid information), and information pollution (too many irrelevant hits).

Shuva and Akhter (2011) undertook a study to analyze the use of the Internet among the 461 students of the Faculty of Arts of the University of Dhaka. The present study demonstrated and elaborated the various aspects of the Internet use, such as frequency of internet use, most frequently used place for internet browsing, most frequently used search engines, purposes for which the internet is used, use of internet services, problems faced by the students and satisfaction level of students with the internet facilities provided.

Baikadi and Mudhol (2011) investigated the perception of Web as a learning resource by the faculty members and postgraduate students in medical college libraries of Coastal Karnataka. They found that the respondents’ preferred using the Web more to the traditional library and also they perceived that Web contains exhaustive knowledge and was easy to use.
Sujatha (2011) analyzed the patterns of use of the Internet among 335 teachers and students of the five colleges in Mangalore city. The study investigated the level of academic community’s access to the Internet, reasons for non-use of Internet, satisfaction with the Internet facilities provided in these institutions as well as the problems faced in the use of the Internet. The study revealed that the level of student’s access to the Internet was low and the major reason was that at the time of the study, computers with Internet facilities were inadequate. The findings also revealed that the rate of Internet use was more among the teachers and students of Commerce and Science faculty as compared to the faculty of Arts. However, majority of the students expressed their interest in the use of the Internet and its resources and were enthusiastic in improving their skills in the use of the Internet. The study recommended provision for more computers with Internet facilities, better access speed, and providing more orientation/training programmes in the use of the Internet in these institutions.

From the above review, the researcher had the clarity of research area under study and the benefits of IT that it offers to the college libraries, from improving efficiency to providing instant access to information resources to the end users. Though the researcher had come across a number of studies on the application of IT in different types of libraries, yet the researcher could not find the relevant studies in the chosen area of research on the college libraries in general and on the degree college libraries in Chandigarh in particular. As the technology is not very stable and keeps advancing for better, the present study is of great importance to document the IT application in degree college libraries in Chandigarh and the level of users’ satisfaction in these libraries.
As such, the researcher has undertaken the present study on “Application of information technology in Degree College Libraries in Chandigarh: An Analytical Study”.
References


