Study of related literature is one of the important aspects of investigation. In many areas of work, the literature is so extensive that it becomes difficult indeed to know where to stop. Credit is not attached to sheer length in the literature search, but to breadth and depth of coverage of areas selected, evidence of selectivity in the references discussed and critical approach to the literature.

Literature study helps to know what is done by the other researchers in the specific subject and its related areas. It aims apart from others to have general understanding on a specific subject and to group the essence of the work done by others.

The investigator has made an attempt in this chapter to present some of the important studies regarding the Impact of Information Technology on Technical and User Services in the University Libraries.

Singh (2013) in his article Impact of Technology on Library Services stated that the digital library movement in India is rapidly increasing and the traditional libraries are on their way to digitization in a phased manner. The financial constraint of different institutions and government departments creates problem to acquire necessary information technology equipment and infrastructure. This paper highlighted that UGC and INFLIBNET centre have taken steps to develop a consortium where college, university and research library can join for subscription to online journals.

Millawithanachch (2012) conducted a study on Electronic Resource Usage by Postgraduates at the University of Colombo: Identifying the critical success factors. This case study was carried out at the University of Colombo to investigate the Critical Success Factors (CSFs) on e-resources usage of postgraduates. A questionnaire based survey was carried out using 302 postgraduates belonging to seven faculties. Explanatory factor analysis with Verimax rotation was employed to identify the CSFs on e-resource usage and multiple regression analysis was carried out to determine the relationship of those factor with overall e-resource usage. The study concludes that teachers, influence, ease of use and accessibility are not significant in using e-resources. This indicates that priority should be given to develop IT infrastructure, to improve IT and computer skills among students and to update the library staff with technology advancements.
Talab and Tajafari (2012) conducted a study on Impact of Information and Communication Technology on Library Staff Training. The study concludes that 75.8 % respondents are professionals and 24.2% are paraprofessionals. The study also found that both Indian and Iranian library staff are interested in ICT training and 97% respondents believe that introduction of ICT in libraries has affected their training need.

Uddin and Hassan (2012) conducted a study on use of Information Technology in Library Service: A study on some selected libraries in Northern part of Bangladesh. The study reveals that 54.55% of the libraries and information centers in northern part of Bangladesh are using computers for their library operations. 90.91% of the libraries are providing photocopying services. The study also found that 72.73% of libraries have telecommunication system. But no single respondent library has E-mail and on-line communication system for document and information delivering and acquisitioning process.

Jayaprakash & Balasubramani (2011) said that automation of library operations and services is essential for efficient functioning of the library and for saving the library users' time. Hence a study was conducted to Investigate the Automation in University Libraries in Tamilnadu, India. It discusses automation, its need, and application in university libraries. The study explains the various problems faced by authorities and the staff during the process of automation.

Krubu and Osawaru (2011) conducted a study on The Impact of Information and Communication Technology in Nigerian University Libraries. The study concluded that both university libraries and academic libraries are computerized/automated and both of them apply strategic library automation management in their libraries. The study also found that majority of respondents agreed the concept of capacity building by way of staff training in librarianship and ICT would go a long way in keeping librarianship profession at the top edge especially in this epoch of globalization.

Marimuthu and paraman (2011) conducted a study on Analysis of Information Technology Applications in Academic Libraries in Kuwait. The study summarizes that the development and use of information technology enables the libraries to offer their clientele not only the appropriate resources available within their own libraries but also to provide access to information in other libraries. The study also reveals that technology remains one of the primary drivers of change
in the way that people work, seek information, communicate and entertain themselves. Libraries need to reorganize their physical space to make technology enabled resources readily available and more widely used.

Peyala (2011) conducted a study on Impact of using Information Technology in Central University Libraries in India. The study showed that information technology had a tremendous impact on the efficiency of library operations and the delivery of information services. The study also concluded that use of information technology has facilitated networking and resource sharing, increased the speed of operations, access to information resources and improved the quality of information services.

Nisha and Ali (2011) conducted a study on the Application and Use of Library Intranet Services at the Indian Institute of Technology, Delhi on a sample of 400 users and tools used were questionnaires, observation and informal interview. The survey reveals that all the users are aware of internet in IIT, Delhi. They found that 75% users are availing internet facilities in computer centers and 37.5% from their departmental computer laboratory not only for research purpose but also for preparing assignment and to update their knowledge. About 36.75% users are using electronic journals in IIT, Delhi and 75% users are aware of web OPAC.

Vijayakumar and Vijayan (2011) discussed in their paper Application of Information Technology in Libraries: An Overview that utilization of IT in present libraries is optimistic to gain right information at the right time in the right place and at the right cost. Information technology helps to progress the rank of the library and it condense the work stack of library professions. They also highlighted that information technology has broken the world wide boundaries, new apparatus and methods help to provide better services to our clients.

Adeyemi (2010) studied on ICT facilities: Ergonomic Effects on Academic Library Staff. The study found that the most prevalent problems are poorly-designed seats, stress at work place, awkward posture and exposure to computer screen on a regular basis without protector. The study also found that respondents from both institutions are faced with variety of ergonomic problems that have led to tension, stress, headaches and other pains. The study suggests that proper positioning of computers is crucial to prevent pain and injury. Make
sure computers are situated directly in front of workers as to void uncomfortable positions.

**Mohanta and Thooyamani (2010)** conducted a study on the use of IT-related Technologies in Hyderabad – based DRDO laboratories and concluded that information related technologies have given a new fillip to increase the productivity to those who are working in a knowledge intensive organization. The study reveals that majority of scientists were not formally trained in most of identified technologies that can improve their productivity of scientists. The study also found that e-learning, IT, Internet, ICT Mobile and Wireless ICT help to improve the productivity of scientists.

**Kannapanavar and Manjunatha (2010)** conducted a study on Library use Pattern by the Faculty Members of the Engineering Colleges in Karnataka and found that 53.2% of users are using online public access catalogue (OPAC) to locate their reading materials, 48.8% of the users are consulting the librarian and library staff for locating the documents. 28.4% of users visiting the library once in a week followed by 7.4% visiting twice a week. 75% of all the users are spending less than 5 hour per week in the library, 61.86% users are using reference services, and 48.5% of users are opined that they are getting their required reading materials within time.

**Mondal and Bandyopadhyay (2010)** conducted a study on the Application of ICT and Related Manpower Problems in the College Libraries of Burdwan. The study reveals that out of the nine libraries only three had completed retro-conversion work while work was in various stages of progress. No library had computerized the record of periodicals. Though Free and Open Source Software (FOSS) like KOHA was available, still one-third of the libraries used local non-standard software. The study suggests that the authority should consider the need of improvement of the library condition with priority and make provision of adequate fund for IT applications.

**Ahmad and Fatima (2009)** conducted a study on the usage of ICT Products and Services for Research in Social Sciences at Aligarh Muslim University. The study found that respondents used a variety of ICT products and services for their research work as it is helpful in finding information quickly and also help the researchers to access, manage, integrate, evaluate, create and communicate information more easily. The study reveals that 93.33% male and
90.90% female researchers use computer for their research work. The study identified that researchers are not getting proper training/guidance and assistance from the staffs/librarians, which is very necessary for the effective use of ICT products and services. The library should arrange and organize training programmes related to ICT.

**Emojorho and Nwalo (2009)** conducted a study on availability and use of ICT in Collection Management in University and Special Libraries in the Niger-Delta region, Nigeria. The questionnaire method was used to collect and analyse the data. The findings provide an insight to the low level of availability and use of ICT for collection management. The study shows that Niger-Delta region have more ICT facilities rather than the special libraries but mere availability of ICT facilities does not guarantee their use for collection management in the libraries.

**Singh, Sharma and Negi (2009)** in their paper on the Availability, Use and Barriers to ICT in the R & D Institutions: a case study of the libraries and information centers in Noida found that majority of the LIC’s of NOIDA have the basic hardware facilities such as servers, computers, printers, photocopier, Internet connectivity etc. except one library, i.e., Network Programs library. About half of the LIC’s have better hardware facilities including scanner, barcode printer, barcode scanner, etc., but the hardware facilities in the majority of LIC’s are not being properly utilized.

**Haneefa (2008)** conducted a study on the Application of Information and Communication Technologies in Special Libraries. The study reveals that though the libraries had hardware, software and communication facilities to some extent but ICT based resources and services were not reaching the users to the expected extent. The use of internet for library and information services was found to be very less. The study concluded that most of the special libraries in Kerala needed proper ICT infrastructure including hardware & software and library staff had to be trained properly to make use of the resources optimally both conventional and digital resources.

**Hayati and Jowker (2008)** conducted a study on the Adoption of Electronic Reference Materials in Academic Libraries of Iran and investigated the effects of different features of electronic reference materials on the rate of their adoption. The result of the study shows that the most effective attribution of electronic reference resources are the ability to facilitate information retrieval,
shortening the time of searching and fair cost of resources. The survey’s result suggests that the users previous experience and knowledge are often not applicable to new information technologies and to take full advantage of electronic resources it is advisable to draw up programs to facilitate their adoption and understanding of them.

**Borang and Sarma (2008)** conducted a survey on application of ICT in two Major Academic Institution Libraries in Arunachal Pradesh: The study reveals that, although, some significant developments in the use of ICT in the RGU Library and NERIST Library have been seen recently but still lags behind in the development and in the application of the automation software required for this purpose. Implementation of ICT in library operations are very complex, stressful and continuous process. Both the libraries have been trying their level best to elevate their services to the great height. Both the libraries have their own problems i.e inadequate trained manpower, shortage of fund and irregular power supply that are the main hurdles in the application of ICT in these institutes.

**Lohar and Kumbar (2008)** conducted a survey on the Use of CD-ROMS and Internet Resources by the students in JNN College of Engineering Shimoga. The study found that majority of the respondents (86.36%) observed that the CD-ROMS were available on different subjects for their studies. The study shows that 46.55% of students were using CD-ROMS in their subject often to know the latest information. The study also found that the main intention using CD and internet resources and services has been the academic interest of the student community.

**Shivalingaiah and Manjunatha (2008)** conducted a study on Current Trends in IT and its Application in Academic Libraries. The study reveals that Information Technology (IT) supported the devices, resources and services that are constantly changing the information landscape. The potential of the internet offers the possibility of universal access to everything. The adoption and use of information and communication technologies depends on the organization’s technology, assets, their action and their attitudes toward the same. Institutions and libraries cannot just keep up; they have to explore and keep pace with new technology applicable for library setting. LIS professionals should not lag behind to embrace the current technologies and devote them to make best use of IT for serving academic community.
Dhanavandan, Esmail and Mani (2008) conducted a survey on the use of information and Communication Technology (ICT) Tools by Librarians. Out of 175 structure questionnaires distributed, 170 responses (97%) received. The study reveals that all respondents use some kind of ICT tools, particularly the internet (94.12%) and mobile phone (92.35%). The use of ICT by the female respondents is somewhat higher than that of the male respondents. Respondents strongly believe that ICT tools play a significant role in supporting and enhancing their professional and research activities. The study also suggest that the use of ICT as potentially going well beyond the use of internet to search for resources and the use of e-mail to stay in touch with friends, colleagues and experts.

Ogbomo and Ogbomo (2008) studied the Importance of Information and Communication Technologies (ICT’s) in making a Healthy Information Society. The data collected through questionnaires from respondents of Ethiopian East Local Government Area of Delta State, Nigeria. A majority of the respondents are literate and can be able to use ICT’s. The study reveals that 90% respondents use computers, almost half use scanners and a little more than one third use the electronic mail and printers. The study also reveals that respondents use ICT’s for capacity building, improvement of teaching conditions, job creation, increased in income, improvement of agriculture production, greater involvement in community matters, better use of information, improvements in contact with relatives and friends and time saving.

Singh and Nazim (2008) discuss in their paper entitled Impact of Information Technology and Role of the Libraries in the age of information and knowledge societies stated that the modern libraries certainly can not be passive repository for books and other printed materials. The opposite requirements of storing increasing collection in various forms and of maintaining easy access to most part of it can only be balanced by deploying information and communication technologies. This also suggests that libraries should upgrade their services by digitizing their resources for online use. These services should be accessible to anyone, regardless of time or location, through digital communication devices.

Kanamadi and Kumber (2007) conducted a study on Impact of Information Technology Innovations on Resources and Services of Management Institute Libraries in Mumbai. The study revealed that the majority of librarians
have automated their functions and the remaining libraries are partially automated. The study also found that the majority of librarians agree that computer based information services are better than manual services because they are accurate, consistent and can be provided in much less time. They agreed that computerization has a positive effect and improves the image of the libraries.

Ayanda and Taiwo (2006) conducted a study on the Impact of Information Technology on Library Management. The study concluded that the critical success factor for university libraries in the strategic time frame will be a type of technology management that requires a high degree of integration within the areas of marketing and personal competence. The study also found that the majority of the respondents strongly agree that there is need to improve internet facility and proper training and guidance.

Reddy and Ali (2006) conducted a survey on Information Technology based services in a University library. Out of 250 questionnaires circulated, 181 responses (72%) were received. The study reveals that 76% to 88% students were satisfied with the physical facilities and 74% to 100% student’s responded that the computers are immediately available for use. With regard to hardware, software, OPAC and LAN, the responses ranges between 71% to 94%. About internet and related services it ranges between 87% to 96% who use internet for academic purpose. Regarding web-site 77% to 90% of students were using search engine- Google and 40% to 60% used – Yahoo. With regard to E-mail 65% to 72% used it for academic purpose and regarding CD-ROM data bases it ranges between 77% to 82%. Finally 82% to 94% of students are satisfied with staff performance and rated the library services in IT environment as outstanding.

Selvam (2006) studied the Information Technology and its usage in Libraries. She found that Information Technology (IT) has its impact on almost all disciplines, especially computer and telecommunication technology have highly revolutionized in the field of Library and Information Science. It provides several new materials, media and modes of storing and communicating the information. Digital Libraries reduce the dredger of repeated material efforts in Library routine. By the use of digital libraries, the users can access information irrespective of time and location of the information sources. The cost and lack of training are the main problems faced by the library professionals in using IT skills in libraries.
Koovakkai and Jalaja (2004) conducted a user study on the Application of IT in University Libraries in Kerala. The study reveals that the university libraries which are meant to serve academic community are expected to provide up-to-date information with greater speed in order to satisfy the need of academics. IT has its vast impact on the libraries all over the world. But University libraries in Kerala are still in the stage of infancy in the application of IT. Though most of the university libraries have automated their library in house-keeping operations and connected with the net, the provision of information services has not reached the expected level. The computerizations of library operations are incapable of saving the time of the users. CD-ROM and on-line search facilities have not developed to the fuller extent.

Ramzan (2004) conducted a study entitled Does Level of Knowledge Impact Librarians’ Attitude toward Information Technology (IT) Applications? The data was collected through a questionnaire survey of 244 librarians of libraries in Pakistan. The study revealed that awareness of the potential of IT, recency of attaining professional qualifications and knowledge in IT had a significant relationship with librarian’s attitudes. The study also revealed that librarian’s level of knowledge in technology is a good predictor of their attitude toward application of information technology in libraries.
REFERENCES


Ogbomo, Monday obaidievwe and Esoswo Francisca Ogbomo. 2008. Importance of Information and Communication Technologies (ICTs) in making a Healthy


