CHAPTER- 2

REVIEW OF LITERATURE

2.1 Definitions of Review of Literature

The term 'review of literature' has been defined in the following ways:

According to Good, Ban and Scales
"The competent physician must keep abreast of the latest discoveries in the field of medicine. Obviously, the careful student of education, the research worker and investigator should become familiar with location and use of sources of educational information."

According to W.R. Borg
"The literature in any field forms the foundation upon which all future work will be built. If we fail to build the foundation of knowledge provided by the review of literature our work is likely to be shallow and naive and will often duplicate work that has already been done better by someone else.

According to Charter V. Good
"The keys to the vast storehouse of published literature may open doors to sources of significant problem and explanatory hypotheses and provide helpful orientation for definition of the problem background for selection of procedure, and comparative data for interpretation of results. In order to be creative and original, one must read extensively and critically as a stimulus to thinking."

According to John W. Best
"Practically, all human knowledge can be found in books and libraries. Unlike other animals that must start a new with each generation, man builds upon the accumulated and recorded knowledge of the past. His constant adding to the vast store of knowledge makes possible progress in all areas of human endeavour."

According to Bruce
"Typically, the literature review forms an important chapter in the thesis, where its purpose is to provide the background to any justification for the research undertaken."

From these definitions, we can see that the literature review serves many different purposes and entails a wide verity of activities. It is therefore not surprising that it may seem a formidable task – particularly at beginning.
2.2 Need of Review of Literature

The review of literature is the following reasons:
One of the early steps in planning a research work is to review research done previously in the particular area of interest and relevant area quantitative and qualitative analysis of this research usually gives the worker an indication of the direction.
It is very essential for every investigator to be up-to-date in his information about the literature, related to his own problem already done by others. It is considered the most important pre-requisite to actual planning and conducting the study.
It avoids the replication of the study of findings to take an advantage from similar or related literature as regards, to methodology, techniques of data collection, procedure adopted and conclusions drawn. He can justify his own endeavor in the field.
It provides as source of problem of study, an analogy may be drawn for identifying and selecting his own problem of research. The researcher formulates his hypothesis on the basis of review of literature. It also provides the rationale for the study. The results and findings of the study can also be discussed at length.

2.3 Functions of the Review of Literature

There are five functions of review of literature:

- The conceptual frame of reference for the contemplated research.
- An understanding of the status of research in problem area.
- Clues to the research approach, method, instrumentation and data analysis.
- An estimate of the probability of success of the contemplated research and the significance or usefulness of the findings and, assuming the decision is made to continue.
- Specific information required to interpret the definitions, assumptions, limitations and hypothesis of research.

2.4 Literature Search

An attempt has been made here to identify the related literature published in the area of study. Libraries have undergone a remarkable transformation over the year due to the introduction of computer based information and communication technology. Information and communication technology has expended rapidly in libraries during the past few years.
The information sources consulted for the review includes Books, Dissertation, Abstracts, Journal Articles publishers’ site viz. emerald and public search engine i.e., Google, National and International Conference proceeding.

2.5 Review of Literature

A. Arogia Mary & P. Balasubramanian (2018) discuss in this research paper entitle “Level of Using of Electronic Information Resources among Users of Universities in Tamil Nadu”. The main focus of this study is to determine the awareness and usage of EIRs; impact of EIRs; problems faced by users. The study reveals that it is identified from the table the highest number of respondents were in the category of Male 196 (22.53%) were visit the library ‘Twice a week’. The highest number of respondents 224 (25.75%) were in the category of science and they were ‘average’ in the Level of using the Electronic information resources.

A. P. Shanmugam & P. Shanmugamoorthy (2016) Explain in his research article entitle “ICT Based Resources and Services by Research Scholars in Arts and Science College Libraries in Coimbatore Dt”. This paper highlights the Comparison of ICT based Resources and Services with print sources in Research Scholar of Arts and Science College Coimbatore Dt. ICT based resources and services are resources in which information is stored electronically and which are accessible through electronic systems and networks. ICT based resources and services is a very broad term that includes a variety of different publishing models, including OPACs, CD-ROMs, online database, e-journals, e-books, internet resource, print on demand (POD), e-mail publishing, wireless publishing, electronic link and web publishing etc.

Ahmed and Fatima (2009) both conducted a study on “Usage of ICT products and services for research in Social Sciences at Aligarh Muslim University”. The purpose of the study was to find out the use and purpose of using various ICT products and services and problems faced by the users while using ICTs. The findings of the study reveal that respondents used a variety of ICT products and services for their research work and these also help the researchers to access, manage, evaluate, create, and communicate information more easily. The study reveals that majority of the respondents use computer for their research work. The study suggests that proper training/guidance and assistance from the
staffs/librarians are very necessary for the effective use of ICT products and services. The library should arrange and organize training programmes related to ICT.

**Ajul Sharma & Margam Madhusudhan (2017)** this articles focus on Use of Mobile Devices by Library and Information Science Students in Central Universities of Uttar Pradesh. This paper provides an insight of actual use of mobile devices by into LIS students’ in everyday life and their perceptions regarding the usefulness and effectiveness of mobile phones for academic purpose in Central universities in Uttar Pradesh state, India. The findings of the study reveal that most of the respondents use mobile devices daily for more than 3 hours. Smart phone is the most used mobile device. Respondents use productivity tools on their mobile device for creating documents. Gmail app, Whatsapp, google app, adobe reader and PDF viewer are the most frequently used mobile apps. Most of the respondents access Library Website through their mobile device and only 1.96% are accessing e-books from their mobile device. Major barriers found are: use of mobile devices for academic learning in the poor network coverage, high charging data plans, slow load time and lack of Internet speed. The findings of the study will not only guide LIS students in effective use of mobile devices for academic purposes, but will also help mobile manufactures, university authorities, librarians in exploring mobile devices adoption and usage among the respondents.

**Archita Nanda (2017)** the present study aims to analyse the use and awareness of e-journals by the faculty members and research scholars of Veer Surendra Sai University of Technology (VSSUT). The study also intends to determine the purpose of using of e-journals, access place for searching e-journals, preferred format for accessing it and suggestions for promoting the use of e-journals. Questionnaire method was adopted to elicit data from faculty and research scholars of VSSUT. Total one hundred fifteen respondents participated in the survey from which 56 are faculty members and 59 are research scholars. The study reveals that faculty and research scholars are aware about e-journals and online database subscribed by their library. Majority of faculty and research scholars using e-journals for research purpose and Department is the most preferred location for accessing e-journals.
An electronic library (also referred to as digital library or digital repository) is a focused collection of digital objects that can include text, visual material, audio material, video material, stored as electronic media formats (as opposed to print, micro form, or other media), along with means for organizing, storing, and retrieving the files and media contained in the library collection. Digital libraries can vary immensely in size and scope, and can be maintained by individuals, organizations, or affiliated with established physical library buildings or institutions, or with academic institutions. The electronic content may be stored locally, or accessed remotely via computer networks. An electronic library is a type of information retrieval system.

Avinashi, Mahant in his paper discusses the new activities, methods and technology used in digitization and formation of digital libraries. It set out some key Points involved and the detailed plans required in the process, offers Pieces of advice and guidance for the practicing Librarians and Information scientists. Digital Libraries are being created today for diverse communities and in different fields e.g. education, science, culture, development, health, governance and so on. With the availability of several free digital Library software packages at the recent time, the creation and sharing of information through the digital library collections has become an attractive and feasible proposition for library and information professionals around the world. The paper ends with a call to integrate digitization into the plans and policies of any institution to maximize its effectiveness.

Bhoi, Narendra Kumar in this paper discusses the different dimension of the ICTs. It gives an awareness of technology in library and why there is a need to understand the use of ICT in the library for rendering enhanced library services and information to users. The current study highlights the areas where ICT can be applied. Basically, the paper explains different technologies and their use in the library operation. How library services are prompted with the use of technology like RemoteXs, RFID Technology, QR Code, etc. have discoursed in the study. The present study discusses various library operations using library automation. In this paper, the benefits of institutional repositories have been discussed for archiving the library resources. The very purpose of this study is to
express the usefulness of the different ICT for quickest and approachable information dissemination

**Borang, Kaling and Sarma, Gautam Kumar (2008)** this paper is based on a survey of application of Information and Communication Technology in two major Academic Institution libraries of Arunachal Pradesh i.e., Rajiv Gandhi Central University Library and NERIST (North Eastern Regional Institute of Science and Technology) Library. Here the discussions done on the status of library automation, different software packages used for automation, OPAC, use of e-resources and the extent of their use in library operations of these two libraries. This paper also throws light on the problems and difficulties being faced by the library authority in applying ICT in the libraries.

**Chauhan, Buddhi Prakash** explains in his paper on ICT Enabled library and information services. Web enabled services are provided through library web page. New services include access to internet and internet based tools and services, access to electronic information sources and digital library of local and institutional documents. Journals, books, dissertation & theses, course material and patents are some of important sources of information that are now available in electronic form. Electronic resources provide 24 hours any where flexibility and convenience of use by multiple users and full text searches and faster delivery. Subject gateways are one of the useful tools to provide web access to internet resources. Digital libraries provide local contents in the electronic form through internet to global clients.

**D. Dhanaseelan & T. Prabakaran (2018)** discussed in this research paper Use of ICT Tools by Faculty Members of Arts and Science Colleges in Krishnagiri District. This study describes the availability of ICT sources in arts and Science College in krishnagiri district and the usage of ICT tools by the faculty members. This study shows the satisfaction level of respondents while using ICT tools of sources and services. This study has been conducted through questionnaire survey method to collected data. This article found that 40.69% of the faculty members in Arts and Science College in Krishnagiri district are accessing ICT sources several times in a week and most of them using ICT tools to collect subject related materials. It found that 82.35% of them using to collect subject related material, 65.56% of them using ICT tools to collect research related materials, 60.78% of
the respondents using for entertainment and 56.5% of the respondents using ICT tools to prepare for seminar and conference.

**D. Y. Gawli, D. K. Veer and G. P. Khiste (2017)** this article emphasis on Application of Information and Communication Technology in Vasantrao Naik Marathwada Agricultural University Library, Parbhani. The author has analyzed the data regarding Library Collection, Library Budget, Budget for ICT, Library Services related to ICT, Information and Communication Technology Infrastructure etc. The ICT have been found in issues and returns of documents, control on the number of books to be issued, renewal and reservation of documents, sending reminder notices, calculation of membership records, maintenance of membership records, circulation statistics and stock verification.

**Devchoudhary, G. B. (2007)** in this research article discuss about ”ICT and electronic library: management and delivery within the traditional library”. ICT plays a crucial role in today’s increasingly globalized world. Libraries are in a process of fundamental change brought about by radical changes in technology. In this state of transition to introduce electronic library services, traditional libraries offer support in the way of personnel, funding, information delivery and management for these electronic libraries. The electronic library is growing fast in parallel to the traditional library. The high rate of growth is dictated by factors outside the library. Libraries are under a lot of pressure to achieve their noble goals much faster than planned, to adopt new technologies, to compete with others in managing the tremendous growth of information and to be able to lead in the area. The management and delivery of information in an electronic library differs from traditional library in many ways. The purpose of this paper is to collect the management and delivery problems arise out of adoption of the electronic library and to present possible solutions in the areas of five basic parts of scientific management – planning, organizing, staffing, directing and controlling.

**G. Uvaraj & Mohan Kumar L (2015)** examined in his case study entitle “Use of UGC INFONET Digital Library Consortium Resources by Thiruvalluvar University Library Users”. The present paper is an attempt to study the usage of e-resources available through UGC INFONET Digital Library Consortium by the Thiruvalluvar University Library users. 105 questionnaires were distributed to the users and 84 questionnaires were received back
for an analysis of the data. The study reveals that the majority of the respondents evaluate UGC INFONET Digital Library consortium as good.

**Gopal, Krishan (2003)** written and explains his book *Impact of information technology services in libraries*. Technology is changing the nature of libraries and librarians, and it continues to exert a major influence on the strategic direction of libraries in society. Today, the library services are transitioning from local traditional collections to global resources provided on demand via the most advanced networking technologies. It is now possible to retrieve information independently of time zones and geographical location, and to obtain the most up-to-date information from the form of the library without walls, or the virtual library. Libraries of all types are challenged to provide greater information access and improved levels of service, while coping with the pace of technological change and ever-increasing budget pressure. As a result professional librarians must be computer literate and knowledgeable about internet technologies to fully participate in the planning, design, and implementation of future library services.

**Gurjeet Kaur (2018)** to comparative study and express his views in this article entitle “Attitude and Satisfaction of Users regarding Electronic Information Resources in the Libraries of Research Institutes of Jalandhar”. This paper is to study the issues like attitude, usage and satisfaction of electronic information resources of users. A questionnaire based survey was used for data collection. Total no of 100 questionnaire were distributed among both scientific and non scientific respondents. It was found that the scientific respondents are overall satisfied with electronic resources. But it further found that electronic resource are not being fully utilized by non scientific respondents. Based on these findings, it was recommended that a comprehensive information literacy program should be conducted to promote awareness and use of electronic information resources among non scientific staff. It was also recommended that the library should increase bandwidth to improve the speed of accessing e resources.

**Islam, Md. Shariful and Islam, Md. Nazmul** in this paper discusses the Information and communication technology (ICT) in libraries: A new dimension in librarianship. Effectiveness of a library service is now largely depends upon the Information and Communication Technology (ICT). This study attempts to explore the gradual
advancement of modern technologies in libraries distinguishing old and new technologies. The study endeavors to identify various components of ICT which are used or being used in libraries and information systems. The study identifies exact reasons to use computer and related technologies in libraries. It also delineates the functions; impacts and challenges of ICT based library system.

**Jagdish, Arora (2009)** Information technology refers to mosaic technologies, products and techniques combined to provide new electronic dimensions to information and retrieval activities. The term information technology represents convergence of three stands of technologies, namely computer, microelectronics and communications. It is used to describe products and services that came-up with rapid changes in computer and communication technologies and their fusion. The libraries and information centers have always been quick to find applications of new information technologies in their libraries. Today’s modern libraries perform most of their functions using software packages that are now available off-the-shelf. It has their catalogues available on the Internet with a web-based search interface along with links to resources either acquired through external agencies or created in-house. Most such libraries are on the Campus network with CD ROM networks put-in place to serve the information requirement of their academic community, Several libraries have taken-up small-scale digitalization projects for part of their collection. The librarians and information professionals are required to develop skills that are required to use, develop and maintain IT-based services and products used by today’s libraries. Rapid changes in information technologies and adoption in libraries during past three decades have drastically changed the functions and activities of information professionals in libraries. The article deals with new information technologies, their applications in libraries and their products and services. It describes web-based library services that are modified versions of existing services and technology-driven new web-based library services.

**Jayaraj. J & Senthilkumar, V (2017)** this study was Discussed the utilization of e-resources by the Engineering college students, Karaikal. The author was analysed that the Institution wise distribution, frequency of e- resources, problem faced while accessing E-resources and purpose of e-resources and search engine used. The New technology have
use a deep impact on the engineering college libraries in Karaikal. Totally 360 questionnaires were distributed among the students of three engineering colleges in Karaikkal from that 296 questionnaire received back from the respondents making the response rate (82.22%).

Kalbande, Dattatraya.T. & Chavan Subhash P. (2016). Explain in this article ICT Skills among Agricultural College Librarians. From the present survey it is clear that most of the ICT technologies which are taken for this study are not yet been introduced in the library system. Therefore the library professionals are not in a position to use these technologies in their work. This will create a low level of technologies skill development among the professionals working in this library system. Concerning the implementation of the technologies, lack of support from the authority is the major issue in university library. This study concludes that the librarians need proper ICT infrastructure and training to using the digital resources effectively.

Karan Singh & Pradip Ku. Nikandia (2017) examined in his paper entitle “Role of Mobile Technology and their Application in Library Services in Digital era”. This paper is focusing to the prospective of mobile devices in Library and Information centers. Implementation of mobile Technology has change the way of people to access and communicate information. Users want easy and instant access to relevant information, putting pressure on Library and Information Science (LIS) professionals to think out of the box for meeting their information needs. Application of mobile phones to provide library and information services are a significant step in this direction. In this 21st century Library and information science professional’s essentially to use mobile technology in libraries and this new technology offering outreach technical options for librarians. Libraries have the well opportunity to extend new different types of library services to users. This study is a new platform for reaching students and staff members. The main purpose of this study mobile technology use in higher education generally and particularly effective utilize in libraries and library services.

Kevalkumar M. Patel & Mahesh Darbar (2016) express and discuss his views in this research paper the MBA students of CKSVIM Library use the internet services for their learning, study and research activities. Use of internet is increasing day by day as it is time
saving, more informative and less expensive. The present study demonstrates and elaborates the various aspects use of internet; method of learning internet use, frequency of using internet, weekly time spent on internet, place of internet use, purposes for internet use, ways to browsing resources from internet, preference of using search engines, language prefer in internet, problem faced in search internet, advantages of internet resources v/s traditional resources and user satisfaction with internet. The survey research method was adopted for the study and questionnaire method of data collection was employed. A total 171 questionnaires were distributed to students of CKSVIM library and 141 filled questionnaires were received. The overall response rate was 82.45%. The study findings reveal that (141) 100% respondents are using the Internet. 85.82% of respondents use the internet every day, 92.90% of the respondents use internet for social networking purpose and 85.81% of the respondents use internet for their study purpose. 90.07% respondents favorite search engine is Google search engine. 93.61% percent respondents get information from internet in English language. ‘Time saving’ and ‘Easy to use’ is two main advantages to use internet as compared with traditional resources. 65.95% students are fully satisfied with the internet or Wi-Fi facility available in the library or institute or campus.

Kevalkumar M. Patel & Mahesh Darbar (2017) discusses and comparative studies in this research paper entitle “Use of ICT Resources and Services at Selected Government Grant-in-Aid University Libraries in Gujarat- A Study”. Present study highlights the use of information and communication technology resources and provides information and communication technology based library services at selected government grant-in-aid university libraries in Gujarat State. Efforts were made to know the availability of library collection of e-resources, e-databases, hardware and software’s infrastructure, status of library automation at these government grant-in-aid university libraries. The paper also highlights on the availability of internet connectivity, Wi-Fi facility, digital library facilities, availability or use of no. of various ICT resources, university libraries provided which types of ICT based library services, what is the libraries annual budget, university libraries problems of implementation of ICT in library services/activities and libraries future plans for using ICTs are also discussed. The results of the study show that majority
of the government grant-in-aid university libraries were effectively using information and communication technology-ICTs.

Kevalkumar M. Patel & Mahesh Darbar (2017) the present study focuses on availability and use of e-resources by users of C. K. Shah Vijapurwala Institute of Management (CKSVIM) Library, Vadodara. This study main objective are to identify the awareness of e-resources, know the users internet skills, purpose of use, identify satisfaction level of availability of e-resources, use of different e-resources, satisfactory level of using e-resources, factors influenced, impact of e-resources, different problem faced in the access of e-resource, preferred file format for e-resources and users suggestions to improve usages of e-resources. Survey method was used to carry out this research. A well-structured questionnaire was used to collect the primary data from the respondents; total 267 questionnaires were distributed to the sample population and received back 235 filled in questionnaires. The researcher took 235 questionnaires for analysis using simple percentage techniques.

Kevalkumar M. Patel, (2009) examines and analysis in his study the thesis results of a questionnaire survey of the use of ICT in pharmacy college libraries of Vadodara district. Information and Communication Technology (ICT) have changed library and information services globally. Digital media has revolutionized the information society and advances in ICT have dramatically changed the information provisions. The internet has provided universal access to information. Technological innovation has changed the rate of conversion of knowledge, information and data into electronic format. Development in the software has generated powerful knowledge management software which has transformed the way; knowledge is organized, stored, accessed and retrieved. The digital revolution driven by ICT innovation has transformed college libraries fundamentally. It has impacted on every sphere of college library activity. The college libraries traditional role of information custodian has been reduced to that of being one of many information providers.

Kulatunga, K.M. Rani K.; Kumar, Shailendra (2017) his paper examined the Awareness and use of e-resources in some Sri Lankan University Libraries. A survey of eight librarians from four Sri Lankan university libraries revealed that there are variations
with regard to the awareness and usage of the e-resources in the four libraries. Off-campus use of the resources was limited owing to lack of internet facilities among other issues.

**Kumar and Biradar (2010)** examined “Use of ICT in 31 college libraries in Karnataka”. It is found that lack of budget, lack of manpower, lack of skilled staff and lack of training are the main constraints for not automating library activities. The library professionals have a positive attitude towards the use of ICT and majority of the LIS professionals need proper training to make use of ICT in the libraries.

**Kunwar Singh & R. Parameswaran (2017)** this paper explains to investigate the academic use of Smartphone by the students of faculty of Social Science, Banaras Hindu University, Varanasi A case study. It explores some aspects in this study to find out the types of Smartphone with operating system, preferred location to access internet, Apps installed on smart phones, use of smart phones for academic purposes, hours spend a day and commonly used apps. A total of 300 questionnaires were distributed and all 285 were received in return duly filled representing (95%) of the total population. The analyses showed that majority of the students use their smart phones to search for academic information. The findings show that a vast majority of university students used smartphones for academic purposes. It is evident from the study that the majority of respondents use Social networking apps 167(20.49%) followed by search tool apps 150(18.40%), Utility apps 105(12.88%) and Sports apps (104(12.76%) whereas, least used apps is weather apps 10(1.23%).

**Lakshmipathi. Lokachari & R. Ponnudurai (2018)** express his views in this paper entitle “Usage of Information Communication Technology among the Engineering College Students of Sri Venkateswara University, Tirupati: A Study”. The Paper seeks to review and assess the exposure of Information and Communication Technology and the access of e-resources by the students of Sri Venkateswara University. The study has been conducted through questionnaire based survey. Use of Information Communication Technology is increasing every day as it is time saving, more informative and less expensive. This study focuses on the usage of Information Communication Technology services, the basic problems of using Information Communication Technology. This study found that the majority of the students in have positive attitude on Information Communication
Technology and very rare cases not able to update their knowledge and skills of Information Communication Technology.

M. S. Mohamed Mohideen & G. Amutha (2018) explain in his paper entitle “Utilization of Electronic Resources and its Impact: A study of National College of Engineering Library Users”. The present study focuses utilization of e-resources and its impact: a study of national college of engineering, Maruthakulam, Tirunelveli, Tamilnadu. This study main objective are to identify, the awareness of e- resources, satisfaction level of availability of e- resources, use of different e-resources, purpose of use, satisfactory level of using e- resources, impact of e-resources, problem faced in the access of e- resources, users suggestion to improve usages of e- resources. Survey method was used to carry out this research. A well structure questionnaire was distributed among the faculty members and students to collect desired data. A total of 200 questionnaires was distributed and collected with sample of NCE.

Makalakshmi and K.Vinitha (2017) this article is an attempt to investigate the Usage of ICT for Government Medical College students in Tamil Nadu. For this purpose a survey was carried out using questionnaire method. Out of the 1600 Questionnaire the 1250 Questionnaire were collected (78.12%) of the total respondents. While selecting samples, stratified random sampling method has been adopted with a view to give relative weight age to the respondents of different categories. The findings of the category wise distribution of respondent's awareness of ICT based resources and services reveal the fact that, 86.61 percent of the analysis has been made for 1250 respondents, which included 926 male and 324 Female respondents with regard to gender and 800 Graduate Students, 450 Diploma Students with regard to academic status from the selected six Government Medical College in the Southern part of Tamil Nadu.

Manjunath Angadi & C.Krishnamurthy (2017) the present study examines the use of EIRs & Services by research scholars of science and technology (S&T) discipline of University with Potential for Excellence (UPE) status/awarded Universities of Karnataka State i.e. University of Mysore, Mysore (UMM) and Karnataka University, Dharwad (KUD). The main objectives of this study are to determine the awareness and usage of EIRs; impact of EIRs; problems faced by users. The study reveals that majority of the
respondents i.e. 190 (96.44%) respondents are aware of EIRs and using the same for research purpose. About 171 (90.00%) respondents use e-articles/e-reprint etc, however, incompatible user interface to library website, lack of computer terminals and poor network connectivity/slow download speed are indicated as hindrances to the use of EIRs.

**Mathew and Ally Sornam (2007)** conducted a study on “Use of E-Resources among P.G. Students of Kerala Agricultural University”. The findings of the study revealed that most of the respondents used e-Books, e-Journals, abstracts/indexes, theses and dissertations and OPAC. The majority also faced problems of searching and downloading articles, power failures and lack of infrastructure facilities. The study suggested that the library working hours should be increased, more provision for database search, creating awareness among the students about the different online resources.

**Md Sohail, Shakil Ahmad 2017)** this article is an attempt to investigate the Use of Electronic Resources and Services by Faculty Members and Students of Fiji National University. A survey method was employed to conduct this research. Out of sixteen campus libraries of FNU, the researcher selects eight libraries from different division of Fiji in the user’s survey. 150 well-structured questionnaires were distributed to gather information related to uses of electronic resources and services. The 140 filled questionnaires were collected from students and faculty members and analysed, classified and tabulated by employing simple statistical methods. The study reveals that majority of the users of FNU libraries keep themselves abreast of developments in electronic resources, services and their proper utilisation in the field of academic and research. The result showed a growing interest in e-resources among the users and also found that slow downloading and blockage of website is the hurdle in proper utilisation of electronic resources. The survey further reveals that the majority of respondents are aware of the usage of e-resources and services.

**Wijetunge, Pradeepa (2017)** study investigates the usage of the e-resources available through CONSAL (Consortium of Sri Lankan Academic Libraries) and other means for the LIS professionals of the Sri Lankan public universities. A structured questionnaire was used to gather data from 99 librarians working in the Sri Lankan public universities. Findings revealed that 65% frequently use open access material for their research, and the
majority (33%) use them for their research, 60% believed that the available e-resources fulfilled their needs. Inability to access the databases from home, absence of some full text articles, lack of relevant material and lack of access to archival material were identified as common barriers to use the e-resources. The study recommends improving access from homes, adding more LIS material and increase training to cover as many LIS professionals to increase the usage. The study is limited to the usage of the e-resources by the Librarians during 2014 and 2015 after the formulation CONSAL.

Murugesan and Balasubramani (2011) investigated “Application of ICT in research and development libraries in Tamil Nadu”. It is analyzed that most of the libraries faced a number of barriers like lack of funds, lack of infrastructures, lack of skilled professionals in the application of ICT.

Nageswara Rao Kondamudi, Sunil Kumar, Manorama Tripathi (2018) discussed in this research paper Users’ Perceptions of E-books at Jawaharlal Nehru University, New Delhi. The purpose of this study is to understand how students, teachers and research scholars access, browse and use e-books in Jawaharlal Nehru University, Delhi, India. The study has identified factors that encourage or discourage the use of e-books in academic libraries. It highlights preferences for the format (electronic/print) while perusing books as textbooks or reference books for research.

Nagireddy and Yakub Ali (2006) conducted a study on “Information technology based services in university library: A user satisfaction survey”. The objective of the study was to find out the satisfaction level of users on information technology based services. Survey method was followed. The study revealed that regarding internet and related services, 87% to 90% of the students used google search engine and 41% to 60% used yahoo. It is also found that 65% to 72% used e-mail for academic purpose, and 49% to 72% used it for personnel communication regarding e-Journals and CD-ROM databases, 77% of science students, 76% of social sciences students and 82% of humanities students were accessing the e-Journal. 60% to 75% of all the subject students referred to CD-ROM database. Finally, 84% of science students, 82% of social science students and 94% of humanities students stated that they were satisfied with the staff performance and rated the library services in the IT environment.
Nalini K. & G. Gangadharaiah (2018) she has study entitle “Utilization of Electronic Information Products by the Users of First Grade College Libraries of Moodbidri (Karnataka)”. The main purpose of the study is to determine awareness of e-resources, use of e-resources, the skills and the various purposes of their use by the users. Further, the paper aims to address the problems faced by them while accessing e-resources and their views on usefulness of e-resources compared to that of print resources. Today, electronic information products have become the essence of every intellectual activity of higher education. In this context, the present paper throws light on the use of electronic form of information products or e- resources by the users of the first grade college libraries of Moodbidri in Karnataka state (India).

Osaheni Oni (CLN), Olalekan Simeon Ola, Dimlong Dirmun (2017) this paper was to discuss the key is to Information and Communication Technology Skills of undergraduate Students of the University of Jos, Plateau State, Nigeria. The study employed a descriptive survey method and questionnaire was the instrument used for data collection. The population for the study comprises of all the registered 200 and 500 level students of the University of Jos. The library was used as a target point and the students that visit the library within the period of the study were used for the study. 200 level- 500 level students were used in this study and were given equal chance of been picked using Proportionate stratified sampling technique. A total number of two hundred and twenty students (220) were selected and used as sample for the study It was revealed from the study that internet search skills and data processing skills are the ICT skills possessed by students of University of Jos, a majority of the students of the University of Jos have average ICT skills, majority of the students of the university Jos acquired their ICT skills through personal effort and through apprenticeship/ training and lack of funds, management reluctance towards ICT, insufficient ICT facilities, epileptic power supply and limited skilled ICT trainers are the major challenges students face while acquiring ICT skills in University of Jos. The study recommends that the university management should strengthen the ICT courses or programmes in the school by way of providing the needed facilities, adequate funding and making ICT a compulsory course to all 100 level students of the School irrespective of the department.
OYENIRAN, Kayode Gboyega (CLN) & Adebayo Afolabi OLAJIDE (CLN) (2016) observe and examines in his this research paper entitle “The Influence of ICT Literacy Skills on Electronic Resources Use by Distance Learning Students of Delta State University, Abraka”. Investigation into the influence of ICT literacy skills on electronic resources use with particular reference to Delta state University, Abraka. A descriptive survey design was used. To select the sample used. Purposive sampling techniques were adopted and a fraction of 3% of the sample size was chosen from two faculties. Three departments were selected from each of the selected faculty. Data were collected through the use of a structured questionnaire. A total number of two hundred and eighty four (284) respondents were used. However two hundred and thirty (230) questionnaires of about 82% returned and found usable. The completed structured questionnaires were analyzed using frequency counts and percentage. Findings from the study revealed that 95 (33.0 %) used electronic journal for other purpose while online public Access and radio lecture were the least used by the students with 15 (5.2%) using it for other purpose and assignment respectively. The result also shows that institutional audio tape and computer were readily available for use by distance learning students with 120 (41.7%) and 114 (37.6) respectively while 23 (8.0%) respondents agreed that the internet/ e-mail facilities were not available for access at Delta state University distance learning centre. The study specifically identified information literacy skills as the major challenge faces by learners in the utilization and access of electronic resources. The study recommended among other things that distance learning students be exposed to the ICT facilities and web/internet usage. This assumed increased use and exposure to the web/internet will give rise to increase level of ICT literacy skills.

P. Giri Naidu (2017) Examines the Impact of Information and Communication Technologies on Library Services: A Study of Sri Venkateswara University, Tirupati. The present study aims to examine the impact of information and communication technologies on Sri Venkateswara University Library Services. It is necessary to examine the impact of ICT on S.V.U.Library services. In this context, The survey method was used in this study. Questionnaire tool was used to collect data from the research scholars. 180 questionnaires were distributed to the research scholars following accidental sampling method. Out of them, 150 research scholars returned the duly fulfilled-in the questionnaire accounting 83.3
per cent response. Majority of the respondents (44%) opined that they access internet in their departments concerned. Nearly one fourth of the respondents (24%) use online information. More than fifty per cent of the respondents use of Google search engine. Nearly one-third of the respondents (31.3%) access to online databases/journals for getting required information in their library.

**P. Ravichandran (2016)** this paper was to discuss the key is to describe the needs, requirements and use of information in libraries by the engineering students in Annamalai University. The students have different views in applying the information technology. Though the students are familiar with internet search engine sources such as google, yahoo, msn etc. It found that more female students (47.9%) feel comfortable in using the electronics sources at the library compared to male students (39.4%). 29.9 percentage of male students and 27.8 percentage of female students give their views that they are not interested in using the information technology but preferred to reach the resource by intuition.

**Patra, Bidyut Kr. (2008)** explains in his paper on role of information and communication technology on management and services of academic libraries. The universalisation of education has become the top priority today, especially for the developing countries. The role of information and communication technology has established its position through satellite connectivity between urban educational institutions and the large number of rural and semi-urban educational institutions. Convergence of technology has played a vital role to revolutionize the management and services of the libraries of said institutions of our country. The digital revolution driven by ICT innovation has transformed academic libraries fundamentally, by the way of organized, stored, accessed and retrieved activities of the information and communication technology. Interconnectivity between libraries of the developing and the developed countries has made the management services and financial position remarkably developed. This paper outlines the role and diversified activities of ICT in the field of e-Education, e-Library and e-Management which may be extended even up to the grass root rural mass of our country. **Index Terms:** Information technology, Communication technology, e-Library, e-Management.
Prahalad G Tadasad, Deepthi K, Shobha Patil (2017) examined in his paper entitle “Use of Online Social Networking Services in University Libraries: A Study of University Libraries of Karnataka, India”. The paper reports the use of social networking services in University libraries, based on a study of 54 university websites in Karnataka state. Method of content analysis has been adopted to study the websites. The results indicate that 53 of 54 universities (98.14%) do have their own websites in different domains. 29.62% State/Central universities are connected to Face book. 18.51% are connected to YouTube. Very few are connected to Twitter and LinkedIn. 18.51% of Universities are connected to different networking sites. It is observed that the universities libraries in the state are catching up with these technologies but many of these services are used for mere elementary purposes. The study concludes that it is time for the university libraries to exploit the services and use the optimum potentialities of these Social networking services.

R. Vijayalakshmi, B. S. Swaroop Rani & S. Ally Sornam (2017) the present study was carried out at Trichy Chennai Medical College Hospital and Research Centre. The studies aim to examine the factors like experience of use of e-resources, use of various types of e-resources, use of e-databases subscribed by the library, awareness factor, learnt to use e-resources, purpose of use, preferred e-resources file formats and rating of available e-resources in the library and information centre. For this purpose the researchers prepared a well structured questionnaire and interview schedule as a tool for data collection and same was analyzed and presented with useful percentage analysis and suitable table for presentation of data.

Ravichandran et al. (2012) explored “Use of web based library services”. The study revealed that majority of users used e-mail service for communication and digital library service for collecting information for their academic purposes. Further it is recommended that the library professionals have to improve their ICT skills to provide various services to the user community.

Remy.S (2018) his paper examined the Impact of Information and Communication Technology on Library Services. A well-structured questionnaire was circulated among both B.Tech and M. Tech students of engineering colleges of South Kerala. Result shows
that majority of students are using ICT applications for accessing e-books, e-journals and are using internet through various services available in the library.

Rm. Subbulakshmi and J. Santhi (2017) this articles focus on Usage of Electronics resources will have a major impact on the quality of the research work. In this paper an attempt has been made to find the usage of electronic resources by faculty members and Research scholars of Arts and Science College affiliated to Alagappa University Karaikudi. The study was conducted with help of questionnaire. Highest number of respondents 203 (46.9%) were having M. Phil qualification followed by 184 (42.5%), which is the second highest response were having Ph.D and only 46 (11.4%) were having PG qualification only

S. Aarvind (2017) this paper is to study the usage of electronic resources among the students of engineering colleges in Dindigul district. The primary data are collected from the respondents at engineering colleges by using questionnaire. A sample including engineering students were chosen from 5 selected engineering colleges in Dindigul district. A total number of 250 questionnaires were distributed. From this study, it is clear that majority of the respondents report the privacy problem is the prime problem in using electronic resources and they need workshop and classes for the effective use of e-resources.

Sadanand Y Bansode, Rahul Rohidas Viswe (2017) discuss in this research paper entitle “ICT Literacy among Library Professionals working in the University Libraries in Maharashtra, India”. The study gives an overview of the present level of ICT literacy among library professionals and it helps to know the need for training and orientation in the areas such as ICT-based resources, services and tools to the library professionals working in university libraries in Maharashtra. A structured questionnaire based survey was conducted to analyse the ICT literacy among library professionals. The findings of the study reveal that, the ICT literacy level of the library professionals working in university libraries in Maharashtra is satisfactory. Majority of library professionals have acquired the basic ICT literacy skills which is required to handle day to day library operations, but still few library professionals need to enhance their literacy level in the area of open source library automation software, digital library software and institutional repository software etc. The study suggests that, university libraries should organise in-house training and
orientation programs on ICT-based resources and services or depute their library professionals to attend the training and orientation programs on regular intervals, in order to enhance the ICT Literacy level of library professionals.

**Santhi, P. Jegan and M. Jayaprakash (2017)** in this paper discusses the status of Use of ICT among Faculty Members of Periyar University, Salem. The Use of Information Communication Technology (ICT) among Faculty Members have transformed rapidly thanks to the penetration of ICT tools and techniques in the information. A total number of 140 questionnaires were distributed among the faculty members, in Periyar University. The investigator could collect the questionnaires from only 125 Periyar University faculty members. It found that, 5 hours in respondents 47(37.6%) and below 4 to 5 hours of access to Internet 27 (21.6%), and below 3 to 4 hours of access to Internet 22 (17.6%), and below 2 to 3 hours of access to Internet 16 (12.8%), and the 1 to 2 hours of access to Internet 13 (10.4%). Majority of the faculty respondents have to above 5 hours of access to Internet.

**Santosh Chavan & Ramesh R. Naik (2017)** discusses and comparative studies in this research paper entitle “Impact of Information and Communication Technology Innovation on Library Service in the Engineering Colleges of North Karnataka). This paper is to examine the Impact of ICT innovations on library services in engineering colleges of North Karnataka by students. Data collected through the questionnaire method the population included students of BE and M. Tech of engineering colleges of North Karnataka. Study find out that majority of student are using of ICT applications for access e-journals, e-books, email, and using internet through services in the library.

**Saumen Das (2017)** the present study discussed has undertaken with a vision to be acquainted with the status of e-resource use pattern of undergraduate students of Karimganj District, Assam. The respondents of the present study are mainly drawn from the six government aided colleges of the Karimganj district. To collect data, survey method was used by the investigator. The questionnaire was distributed to the respondents as per the requirement of the objectives of the present study. 60 Questionnaire were distributed to each college to collect the data. The data have been coded, tabulated and analyzed. The results have been shown in Tabular format. For the data analysis, only percentage
techniques adopted. Besides this, some of the suggestions and recommendations were also discussed to increase the use of e-resources by the undergraduate students of that district.

Sharma, S. K. (2007) The present publication 'Information Technology and Library Services' mainly highlights and focuses on the role of IT revolution which has globally changed the functions and working of the present day libraries and information centers from manual to digital. And certainly the modern technology used to create digital libraries has been even more revolutionary. With the advent of computer and optical technologies available for mass storage has shifted mostly to electronic media. Now with the electronic revolution the computer can call up a variety of catalogues, indexes, databases, CD-ROMs the internet, as well as books, journals and even manuscript collections from other libraries, Information Centers and Research Institutions and the networking revolution is facilitating in large scale data communications network. Under the present circumstances library and information services mangers have a wide set of computer based solutions from which they can select the best mix of services and access to global stored knowledge to meet the need of their customers from various disciplines, including research, business, trade and industry. No doubt the advanced IT revolution is gradually transforming the role of digital libraries and enabling their users exploits the facilities available in a scientific manner.

Singh, KP & Sharma, Neeru. discussed and express his views in this research article entitle “Information communication and technology: applications in LIS and opportunities in modern age”. Information is a dynamic and unending resource that affects all disciplines and all walks of life. It supports education, research and development, Technology in its board sense is the main factor determining the development of information. Information and Communication Technologies (ICT) facilities transfer of electronic data/information from one place to another, one person to another and from one library to another library. ICT is a key phrase to indicate the dynamisms that can be achieved with the convergence of computing and telecommunications. ICT is the electronic means of capturing, processing, storing and communicating information. It covers any product that will store, retrieve, manipulate, transmit or receive electronically in a digital form. It encompasses a carry of hardware, software, business, services and networks that enable access to online technology. ICT infrastructure is considered as the most dominant paradigm of
development in the recent years. ICT have become dramatically and strategically important in modern civilization. These technologies are inexorably integrated, creating new intellectual capabilities by assisting the human brain and thus changing most aspects of daily life. During the past decades several developing countries and regions of the world over have been adopting, adopting and applying components of ICTs, in ways that facilities information access and exchange to assist R & D, decision making. Problem solving, management and so on, in the public and private sectors, in such areas as science and technology, education, industry, trade, social and cultural development etc.

Suresh Balutagi, Manohar B. Lamani, B. D. Kumbar (2018) Survey and discussed on his article “Use of Electronic Information Resources by Faculty Members of Engineering and Technology Institute Libraries in Gujarat State”. The present paper throws light on the use of electronic resources by faculty members working in some selected engineering and technology institutes of the Gujarat state (India). The main purpose of the study is to determine the use of e-resources, the skills and the various purposes of their use by the faculty. Further, the paper aims to address the problems faced by the faculty members while accessing e-resources, their perception on features of electronic resources and their views on usefulness of e-resources compared to that of print resources. At the end paper also highlights the use of different types of databases and the kind of training required by the faculty for the effective use of e-resources

Tariq, Ashraf (2004) discussed in this book “Library services in electronic environment: changes challenges issues and strategies”. Information Technology presents both new opportunities and challenges before the library profession as it creates new possibilities for the development of new products and delivery of services. It has also changed the basic assumptions about organizational structures, working relationships and the quality of library services. Libraries are further challenged to explore new opportunities and implement changes to establish new roles and responsibilities and determine knowledge, skill and abilities required. Some of the characteristics of the current and emerging information environment in which libraries have now to function include greater complexity in locating, analyzing and linking information, sustained financial investment for technology, lack of standardization of both hardware and software. The new
information environment requires that librarian's role should be characterized by increased visibility and vitality. Librarians need to be well integrated into the activities of their institutions and the community they serve. The book looks into all these changes, challenges, issues, strategies and situations of contemporary interest both from users' and providers perspectives. It is hoped that the book will sustain readers' interest despite some overlapping and repetitions which are bound to creep in such publications.

**Thenmozhi and Malliga (2008)** in their study on “Awareness of Digital Libraries in Vellore Town, Vellore District, and And Tamil Nadu: A Study”. The objectives of the study were to get an insight of the digital libraries in Vellore town, to understand the utility of digital library users and to understand the awareness of digital libraries. The study covered both primary and secondary data. Descriptive research design was used for the said study. 120 library users have been selected for the study as sample. Out of 120 respondents, only 100 respondents returned the questionnaires and analysis was made for 100 samples. The study revealed that 85% of the respondents stated that digital library service was very useful, 67% of the respondents preferred digitization of library. The study concluded that all educational institutions in Vellore town should improve their digital library services to make the young generations get involved in their studies and also their extracurricular activities.

**Umeozor, Susan N. & Emasealu, Helen U. (2017)** this study was undertaken to assess the impact of donor agencies in interventionist programmes with regards to the availability and accessibility of e-resources in Nigerian Federal University of Ibadan (UI) and Obafemi Awolowo University (OAU). A structured questionnaire was adopted for data collection. A total of 480 lecturers were involved in the study with 240 per institution, 80 from each of the three Faculties per institution and 20 lecturers from each of the four departments per faculty. Frequency counts on availability of e-resources were subjected to Analysis of Variance and Duncan’s Multiple Range Test while frequency counts on accessibility of e-resources were subjected to percentages. Results indicated that AGORA, HINARI and JSTOR were popular and also that the percentage of accessibility of these e-resources was 98.2, 98.2 and 96.4 for the Faculties of Agriculture, Science and Social Sciences, respectively in UI and 100% in each of the three Faculties in OAU. AGORA, HINARI, and
JSTOR are members of the interventionist group and being significantly more available than the other resources is a strong indication that the interventionist programmes have had a positive impact on the e-resources users in Nigeria.

Verma, Kusum Edi. (2004) in his book the use of ICTs in library, discussed how the use of ICTs in the library different sections, factions and services. The dawn of information revolution is considered to be one of the marvels of the twentieth century. The new technologies have not only transformed the shape of modern libraries but also created very many exciting possibilities and opportunities. The roles of information technology in modern libraries are described elaborately in the present volume. The opportunities and challenges of digitized libraries are also discussed. The work will serve as a highly beneficial reference tool to librarians, information scientists, researchers, students and teachers.

Yasmin Ansari and Vinky Gera Presented in his research article entitled”Impact of information and communication technology in Indian industries”. Information and Communication Technology (ICT) is a driving factor in the process of globalization. ICT provides the communication network that facilitates the expansion of products, ideas, and resources among nations and among people regardless of geographic location. Creating efficient and effective channels to exchange information, ICT has been the catalyst for global integration. Recent advances in our ability to communicate and process information in digital from a series of developments sometimes described as an “ICT revolution” are reshaping the economics and social lives of many countries around the world. Hence, this paper focuses the various aspects of information and communication technology, its impact and future prospects of ICT on Indian Industries.

Researcher used Internet and access relevant information about this study gathered information and used information for this study and tried to cover all aspects of relevant this topic. Researcher also studied emerald site for gathering research papers/articles for the study and also used CALIBER proceeding for research articles, which are relevant of this research topic.
2.6 References


8. Bhoi, Narendra Kumar. *Use of Information Communication Technology (ICT) and Library Operation: An Overview*


State University, Abraka. *International Research: Journal of Library & Information Science, 6* (4), 674-682.


44. Osaheni Oni (CLN), Olalekan Simeon Ola, Dimlong Dirmun (2017). Information and Communication Technology Skills of Undergraduate Students of the University


49. **Patra, Bidyut Kr.** (2008). *The role of information and communication technology on management and services of academic libraries.* Central library: Asansol engineering college, TIG research journal, 1(1).


62. **Singh, K P & Sharma, Neeru.** *Information communication and technology: applications in LIS and opportunities in modern age.*


65. **Suresh Balutagi, Manohar B. Lamani, B. D. Kumbar** (2018). Use of Electronic Information Resources by Faculty Members of Engineering and Technology Institute


71. **Yasmin Ansari and Vinky Gera.** *Impact of information and communication technology in Indian industries.*