CHAPTER: 2
LITERATURE REVIEW:

2.1 INTRODUCTION:

Literature review is very important in any new research, because it provide us through knowledge of our subject area. It also helps us to identify what the studies are already been done in our area. And what new we can investigate in our research. Research paper on Planning and developing our library into a learning hub are found from various disciplines, 80% of which published out of India. Few research papers on related topic of learning hub is also found which are published in India as well as out of India. Review of the related to the topic has been attempted. The literature review indicates that it is very much important for libraries to revitalize its functions to survive in this ICT world.

2.2 INFORMATION SEEKING BEHAVIOR OF STUDENTS:

Adam Joinson Phil Banyard(2002) in the article, “Psychological aspects of information seeking on the Internet” said that for information seeking two studies are investigated , soccer fans on world wide web and access information about increased cancer from website. He said that to avoid real life situation people are accessing information. It is concluded that accessing information of two different groups has certain similarities and difference. (Banyard, 2002)

Amanda Spink and James Currier(2006) in the article, “Towards an evolutionary perspective for human information behaviour: An exploratory study” said about the field of human information behaviour, it provides limited understanding of information behaviour. The goal of this exploratory study is to provide understanding about information behaviour of various individuals. Qualitative analysis of autobiography of several historical figure are examined, including Nepoleon Bonaparte, Charles Darwin, Giacomino Casanova and others to provide insights into their information-related behaviours. After analyzing their writing it is found that they articulate specific aspect of their past HIB, information seeking, its organization and its use. The researchers examined the autobiography of nineteenth century
English politician and social Theorist. It examines understanding of information behaviour and give broader concept for HIB research field. (Currier, 2006)

Amy Catalano(2013) in the article, “Patterns of graduate students' information seeking behaviour: a meta-synthesis of the literature” said that information seeking behaviour of graduates are different that undergraduates. To understand ISB of them it is better if we consult to librarian, faculty, doctoral supervisor, and administration. The paper focus on that according to particular discipline information seeking need is different. Studies were conducted to the users who are engaged in research, projects, thesis and dissertation. The aim of the study is to identify information need of different discipline is varying according to their course. It is found that graduate students start their research from internet; they concern their teachers, and librarians. Comparison also done between international and domestic students and doctoral and master’s student. And it is found that information seeking habit is decreases in master and doctoral students than graduate. It is also found that academic librarians and teachers have to learn how to help students in their research. (Catalano, 2013)

Chiao-Chen Chang, Chia-Yen Lin, Yu-Chin Chen and Yang-ChiehChin(2009) in their article, “Predicting information-seeking intention in academic digital libraries” analyze information seeking intention of users in an academic digital library and explain analysis in the light of the theory of reasoned action (TRA) and the theory of planned behaviour. In TRA person intention to seek information is identified, and in TBP tackles the original model’s limitations in dealing with behaviours over which people have incomplete volitional control. TRA include customer attitude towards online information and TBA include perceived behavioural control to predict information seeking intention. Questionnaire is distribute among the users in university library and canteen. It is found from the result that perceived behaviour is better than attitude and subjective norms. The result helps academic library to understand information need of user and take initiative for meeting their demand. (Chin, 2009)

Douglas J. Ernest, Allison V. Level and Michael Culbertson(2005) in the article, “Information-seeking behavior for recreational activities and its implications for libraries” tells that general public consulting libraries to get information about anything. The purpose of this paper is, “wilderness areas” are defined as those locales where non-motorized
recreational activities are available. These can include national and state parks, national forests, and other public lands. It is found from the study that respondent turn to internet for their information need.

Hektor (2001) conducted a detailed study in Sweden, it outline everyday information behaviour. His respondent said that accessing information on internet is not only their hobbies but also their favourite past times. They also said that internet not only change their information habit but also give new dimension. As mass information is available on internet they can access them all to gather. (Hektor, 2001). It is concluded that in any survey of information seeking the main source give to seek information is library, but in recent time people are more attracted towards information available on internet as they can socialize with their friends, they also visited library website and govt. Web site to seek information. (Culbertson, 2005)

**Emmanuel E. Baro, George O. Onyenani2 and Oni Osaheni(2010)** in their article “Information seeking behaviour of undergraduate students in the humanities in three universities in Nigeria” says that information seeking behaviour is define as individual’s manner of collecting and sourcing information for personal use, knowledge updating and development. Students are generally using library catalogues, they ask to librarians or use journal index to access information.

Study of undergraduate students in the Niger Delta University, Delta State University and University of Port -Harcourt is conducted and found that maximum students utilize library as their major source of information. But students need to educate about accessing library resources. He concluded that despite of many search engines and e-mail facilities for getting information students are still considering books as a reliable source of information.(Emmanuel E. Baro1, 2010)

**Edward Lum and Athulang Mutshewa(1999)** in their article, "Information seeking behaviour among university of Botswana Science Faculty" says that in the past when information was on print form, academic libraries were best recognized for books acquisition, organization and collection of information, Many information sources are available on web now a days.
Durance (1989) and Hopkins (1989) discussed the need for library profession to learn not only how to identify information needs, but also to create new services and distribution patterns and information seeking behaviour of literary scholars. They put more emphasis on subject library.

They suggested that librarian have to work as a faculty team to safeguard consistency in standard of services. He further added that librarian should have to be indirect contact with the faculty members. The main aim after this is that librarian is aware with the syllabus and research need have related department.

Lipow (1992) says that the faculties are in themselves information seekers and therefore there is a need to know how they seek and disseminate information. This is best method to know as much as possible need of most important library customer in university.

Finding says that scientific academic staff at the University of Botswana depends on journals and textbooks as their main Information source and they know about the availability of information mainly (Mutshewa, 1999) through reading review articles (27 percent). Improve ideas through thinking (74 percent) and reading (72 percent) and they mainly require information to advance or develop their careers (57 percent). Most of the respondents (70 percent) rely on UBL resources for information which they use largely (88 percent) for teaching. (Mutshewa, 1999)

Gillian Kerins, Ronan Madden and Crystal Fulton (2004) in their article “Information seeking and students studying for professional careers: the cases of engineering and law students in Ireland” examine information seeking behaviour of two different groups. They say that information seeking of users is related to the performance of a particular role and its additional tasks. Engineers and Lawyers have different task to perform, and they have different need as per their task. Students may have varying abilities to use electronic and printed materials. Librarians can help them to develop abilities in this regard, and they need to know student’s changing information need. Postgraduate students have specific information requirements and they require information services education to match such needs. Librarians can play an active role in students' information skills training; they can encourage students to become more responsive of the link between resources and the library, as well as the role of the subject librarian. (Kerins, et al., 2004-10-01)
Giriraj S R(2014) in his article “Information seeking behaviour of students in the internet era.” Says that present information society is living in information era. More and more people need information as it becomes integral part of their life. Information plays an important part in the development of Nation. Familiarity of information need and seeking behaviour of users is important for the development of library collections, improving facilities and services. Information seeking behaviour is broad term and is different from person to person. So it is desirable to understand for which purpose information will be used. He suggested that computer is the first modern technology which effects the user's information seeking habit. The first revolution happened in the area of information retrieval, progressively improving the speed and effectiveness of both retrieval and ranking systems. In the 1990's, search engines such as Alta Vista and Google drew upon these retrieval techniques to design their web systems in the second revolution. The third revolution was the advancement of the Internet enabled access to information all over the world from anywhere in the world. The fourth revolution occurred with the creation of digital libraries of all way of textual and image material and sometimes online gateways to access those resources.

The information technology revolution has brought in significant changes in the information seeking behaviour of users. (Kuruppu, 1999)Concluding the article he suggested that most of the students are accessing information for their assignment, classwork, seminar, workshops and research publications. It is suggested that library and library staff must be aware how users are seeking information. Advancement in information technology effects the information seeking behaviour of students. Because of that students and research scholars stop to visit libraries to access information. Libraries can reenergize its function and can satisfy users need.(Girija, 2014)

Jannica Heinstro¨m(2005) in the article, “Fast surfing, broad scanning and deep diving: The influence of personality and study approach on students' information-seeking behaviour” said that information rich society people need information more and more, it is qualitative or quantitative in nature. But it also equally to know how they access information to satisfy their needs. It can be varying from person to person. To understand information seeking behaviour of person, various information seeking style has been
analyzed from psychological point of view. Fast surfing, broad scanning and deep diving emerged from the statistical analysis. The result is based on description given in questionnaire not the actual observation. It is concluded that personality and study approach influence behaviour. Psychological feature have strong influence on student’s information behaviour. (Heinström, 2005)

**Jamali, H. R., & Asadi** (2011) in the article, “Physicists and Astronomers Use Google as a Starting Point for Specific Queries, but Do Not Intentionally Use It to Search for Articles” aims to determine how search engines like Google effect information seeking behaviour of users. Mix method of sampling is used as a data collection tool, which include one to one survey as well as online questionnaire survey. Data were collected from Department of Physics and Astronomy at University College, London. Paper related to research is examined and it is found that 18% of the respondents used Google on a daily basis to classify articles, 11% searched subject databases, and 9% searched e-journal websites on a daily basis. 46% never use Google to find information. From the collected and analyzed data it is concluded that Physics and astronomy researchers do not purposely use Google as general search engine, but, Google seems to be a good starting point for finding out solution of particular problem. (Jamali, 2011)

**K. Kumar and S. Tholkappian** (2013) in the article, “Information Seeking Behaviour of Library Users in Women’s Educational Institutions: A Survey” said that information seeking is similar in all the environment, information seeking behaviour, information using behaviour etc. are the same terms. He said that women education is very important for the development of nation. Our government is giving special facilities to educate women. The present study is carried out to present information seeking need of women’s educational institutions library users in Vellore District, Tamil Nadu. A survey method is used to collect data, with using questionnaire as a data collection tool. Data were carefully examined and tabulated. After analyzing the data it is found that all the users visit library at free of cost, 56.94% are using it once in a week while 21.53% visit it every day. 86.11% getting material from library while 73.61% is getting their material from teachers. Over all it is concluded that success of library depends on the collection of the library. So librarians must know how
their users seek information and what the problems they face while accessing information. (Tholkappian, 2013)

**Lalith Wickramanayake (2010)** in the article, “Information-seeking behaviour of management and commerce faculty in Sri Lankan universities: An evaluation” said that numerous studies have been done in the area of information seeking behaviour of graduates and undergraduates. Therefore large amount of literature is available on that, more research is conducted which give attention to teaching staff. It is mentioned that information seeking is based on user survey, market research, information analysis, community analysis and information need. From literature survey it is found that no general user study has been undertaken in library filed in last decades. Study undertaken in 2000’s it is found that more researcher were interested in accessing information from webpage, e-database, e-journals, e-thesis, e-newspaper. The data were gather using questionnaire survey management and commerce academicians are consulted from three universities. And random sampling is used for sample selection. It is found that majority of the academics are interested in research than teaching. They are having good library skills but they are unable to keep in touch with current information due to insufficient technology. The attitude of management is unsatisfactory towards library staff. It is also found that inter library loan facilities were not properly utilize due to lake of knowledge. And most of the people are not aware with the new arrival in the library as there is no formal conversation from library staff. (Wickramanayake, 2010)

**Leila A. Mills, Gerald Knezek and Ferial Khaddage (2014)** in the article, “Information Seeking, Information Sharing, and going mobile: Three bridges to informal learning” the paper describe formal and informal learning. It also describes new view of users information seeking behavior in web2.0 era. It also includes use of mobile device by users and technological development regarding hand held mobile applications. Paper describe way of formal to informal learning, change in information seeking behaviour of students in web 2.0 development. Concept of information sharing is describe as from web2.0 provide option for social interaction. Two different method have been selected for survey one is ‘the information communication technology learning’ and other is ‘mobile learning scale’. Under graduate students of higher education participated in the survey. Major finding of study is validation of scale of ICTL. The information seeking scale creation related
discrimination ability by identifying significance difference between three groups. It is concluded that person need to understand information teaching and learning in computer related technology. Measures of these constructs can assist in understanding students’ preferences for 21st century learning. (Leila A. Mills, 2014)

**Margaret Ostrander (2006)** in the article, “Talking, looking, flying, searching: information seeking behaviour in Second Life” IT raise from passionate interest about what fuels Second Life residents to look for information, what they find useful and how they go about seeking it. Research is conducted on second life. Grounded theory was adopted and interview and observation were conducted within second life. After analyzing data conclusion drawn on information seeking behaviour of every day second life users. Research methodology and findings are outline on the general overview of users and discussion about the nature of information in second life. Five key themes were found to influence everyday information seeking within this virtual world, and supplementary data about information access and library use in Second Life is reported. (Ostrander, 2006)

**Micheline Beaulieu (2003)** in his article, “Approaches to User-Based Studies in Information Seeking and Retrieval: A Sheffield Perspective,” state about growth of user based research in the department of information studies at the university of Sheffield over the past 40 years. It emphasizes the different research questions and main characteristics of project over a period of time. Four phases of research have been acknowledged including: first with the library users, second information users group, third developing theoretical framework for users and fourth bridging the gap between information seeking and retrieval research. The main purpose in development of research program over this extended period of time has been the importance placed on methodological issues. This includes: the development of variety of both qualitative and quantitative methods and combined tools for collecting and obtaining information from users. (Beaulieu, 2003)

**Natarajan M (2012)** in the article, “Information seeking behaviour of students of Management Institutions in NCR of Delhi” discuss information seeking behaviour of students of management institute in the NCR of Delhi. A questioner design and distributed among the students to find at what time students visit the library, type of information they required and sources of information they are using. Study found that most students utilize library daily and library resources are effectively utilize. E-resources are utilizing more
and students are satisfied with library services. It is concluded that success of library will be depend on their collection and resources. It should be as per the user requirements. Therefore librarians should take at most care while acquiring their resources. The study also found that many users does not aware with the resources and services available in the library. So that resources should be properly organize and proper advertising is also necessary for making people aware about the availability of resources and services. (Natarajan, 2012)

Tingting Jiang (2013) in the article, “An exploratory study on social library system users' information seeking modes” said that users are now a day’s attracted towards social sites more, they also using it as information sources. Because of that the paper concept is based on identifying information seeking behaviour of users. The survey conducted using self administer Questionnaire and data were collected from Douban users. Although these users were geographically distributed they are reachable on Douban.com. From survey data it is found that four major information seeking modes adopted by social library system are searching, browsing, encountering and monitoring. Each user defines him/herself as a searcher, browser, encountered and monitor. Users are browsing more common type of information. (Jiang, 2013)

T. Mathew Moly (2014) in the article, “Information Need and Information Seeking Behaviour of Information Science Students in Haramaya University, Ethiopia” said that study if information seeking is necessary to find out users requirement for the particular information. The study is important topic for the researcher. Due to ICT development information are disseminated widely on the internet because of that it is required to study the information seeking habit of users for libraries. This study is done to find out how the students of Information science in Haramaya University access information to fulfil their information need. The purpose of the paper is to prepare students for future. Qualitative and quantitative analysis is used and survey method was used to collect data by using questionnaire as a data collection tool. Study shows that half of the users using library daily. Main purpose of using it is for writing assignments, doing research and for study purpose. They found that number of books and journals are not sufficient. The Haramaya
University library need to organize the information sources and it is required for complete automation of the library and also digitalization of information resources. (Moly, 2014)

2.3 ROLE OF LIBRARIES IN LEARNING:

Claire Creaser and Valérie Spezi(2013) in the article, “Improving perceptions of value to teaching and research staff: The next challenge for academic libraries” investigate perception and value of libraries to teaching and research staff. The article reports on finding of six months research project, which says global outlook on issues of library value, in academic and research department. The article suggest examples of good practice in the area of partnership building for academic libraries to improve their value to, or perceptions of value by teaching and research staff, as well as raise their profile and better market their services to this category of users.(Spezi, 2013)

Dana Peterman Timothy Grieg (2007) in the article, “Shifts in Library and Librarian Roles:
ALA/Tech Source Gaming, Learning and Libraries Symposium” said about first annual gamming, learning and library symposium in Chicago at Chicago Marriot O’Hare hotel, in 22-24 July,2007. It appeared to experienced games who are interested to start service program at their libraries, but has no idea where to start. Different opinion about gamming in library is given by different author. He says that use of gaming as teaching tool is useful. The paper also ask question about to implement this gaming more required to accommodate people, software and computer. These way activities in libraries change the role of libraries and librarians.(Grieg, 2007).

David McMenemy (2007) in the article, “Reviewing libraries and librarianship: what has changed in 80 years?” identified difference between first edition of library review published in 1927 or does it remain relevance in 2007 and what will be new issue of library review in 21st century. The importance is on likeness and review and as such the paper calls for the wider profession to maintain and improve on standards of reflective practice and defending of values. Reflecting on viewpoints expressed at the founding of the journal, the article reflects on historic and contemporary concerns.(McMenemy, 2007)
Duarah, Kakoli (2007) in the article, “E-learning in the context of open and distance learning thought the borderless library” state about application of ICT have bought a great revolution all over the world and its effect can be seen in developing world. Today we can access any kind of information by just sitting on computer from any place at any time. Due to this library has undergone a vast change, such as traditional libraries to automated, electronic, digital and borderless library or the library without walls. The borderless libraries has wide collection of information resources in electronic forms, are accessible through internet, intranet or extranet. It reduces geographic restrictions. Borderless libraries offer online information which reduces cost and time of users. It is helpful to students of online and distance learning. Thus the borderless libraries have played an important role in the gathering, organizing and dissemination of information resources. (Duarah, 2007)

Fang Gu (2006) in the article, “The role of library media services in the University Distance and Distributed Education” said that California State University, Sacramento Library functions its activities through media centre in the University Distance and Distributed education (DDE) program. Effectiveness of library services is measured by University DDE program. It is concluded that faculties and librarians share benefit of learning resource and university technologies through collaboration program in the learner centre services environment. This collaboration places the library in a much stronger position to control its future and to grasp the opportunities that continuous change inevitably offers (Morgan, 1998b) when the library strives to maintain stability in developing innovative services to meet the changing needs of users. (Gu, 2006)

George D. Kuh and Robert M. Gonyea in their article, “The Role of the Academic Library in Promoting Student Engagement in Learning.” Says that a college without library is not possible, Library is a place where one can stop in the tour of college. But with the increase use of internet, value of printed material is decreased. Students use more time on internet. All the information available on internet is not accurate. Students are also not confident on the information they retrieved from internet. Research libraries have ability to find, retrieve and use information. Study about value of undergraduate student’s involvement with the academic library is done. It is found that as students becomes information literates, librarians should struggles to encourage value of information literacy
and help to create opportunities for students to evaluate the quality of information they obtain. (Gonyea)

**Jack Truschel and David L Reedy (2009)** in the article, “National Survey – What is a Learning Centre in the 21st Century?” determine what a learning centre can be in 21st century. Different author gives various definitions on the same, which mainly says that it has comfortable infrastructure with digital information resources. These results students want information quickly. And with the help of ICT and digital resources available in the library, library’s staff can provide information quickly to their users. 142 colleges and universities survey has been done to identified various ‘learning centre’ functions in higher education. Program such as tutoring, workshops, services to the students with disabilities are main aspects of learning centre in 21st Century. (Reedy, 2009)

**Jennifer Rowley (1997)** in the article, “The library as a learning organization”, highlights the need for libraries to become learning organization to enable them to survive by responding appropriately to change. He explain in brief meaning of learning organization, how it works, how individual learning manage to create learning organization and challenges library and Information professionals face for learning organization. He concludes that the need for organization to survive in changing environment has led to the development of the concept of learning organization. (Rowley, 1997)

**Jon R. Hufford (2013)** in the article, “Can the Library Contribute Value to the Campus Culture for Learning?” Said about library contribution in learning. This paper measures contribution of libraries into learning. Research question has been used to collect data, but only some libraries are successful in collection data for all questions. It is concluded that college and university increase their effort to improve students’ learning. It identifies related outcome assessment goals, and the means of measuring performance are also suggested. (Hufford, 2013)

**Jo Ann Murphy** in the article, “Library Learning: Undergraduate Students’ Informal, Self-directed, and Information Sharing Strategies” said that the purpose of the study is to find out how students learn about various library sources and services. 14 university’s study has
been conducted from Saskatchewan second to fourth year humanities and social science undergraduate students in the fall of 2011. Finding said that participant use self-directed and information sharing strategies, they take help of peers, professors and family members for getting information. He suggested that students connect in informal learning and information sharing like ‘adult learner’. The study concluded that librarian must continue to develop their resources and services. (Murphy)

Kuan-nien Chen and Pei-chun Lin (2011) in the article, “Information literacy in university library user education” said that information literacy has become integral part of university library user education. Data were collected from publish literature regarding information literacy and library user education. It is found that librarians with the help of faculties can prepare better information literacy program. These programs were benefited to library and its staff, to users, and faculties. The programs should be included in the first year curriculum. And it should be of proper weight so that students can learn about usage of library and library professionals can enter into teaching field. This paper includes the opinion of researcher and author of reviewed literature. It also proves that there is close relation between library user education and information literacy. (Lin, 2011)

Lyn Parker (2008) in the article, “Second Life: the seventh face of the library?” state that this paper give brief introduction to second life, and provide an outline of how one academic libraries has got involved with using it and reviews the issue that have arisen from library perspective. He also reflects library activities in second life are different from library services in real world. The paper shows that it provides opportunities to experiment and explore what information resource are required in the environment and how librarianship and librarian need to evolve to cater for user in a three dimension world. (Parker, 2008)

Luciano Floridi (2002) in the article, “On defining library and information science as applied philosophy of information” said about relationship between philosophy of information, library and information and social epistemology. It is found that there is natural relationship between philosophy and LIS, SE does not provide satisfactory base to LIS. In the second phase nature of PI is outlined as philosophical area which study conceptual nature of information. The hypothesis sustained that PI should replace SE as the
philosophical discipline which can give the theoretical base for LIS. In the conclusion, it is suggested that the ‘identity’ crisis suffer by LIS has been the natural outcome. But precocious search for a philosophical complement that has come out only recently: namely, PI. The development of LIS should not rely on some borrowed, pre-packaged theory. As applied PI, LIS can successfully contribute to the growth of basic hypothetical research in PI itself and thus provide its own foundation. (FLORIDI, 2002)

**Megan Oakleaf(2011)** in the article, “Are They Learning? Are We? Learning Outcomes and the Academic Library” said that since last ten years libraries are developing tools to access information literacy learning outcomes. Librarians used the survey and access students learning. Academic libraries are moving towards large scale assessment approach. The expression and display of library impact on institutions of higher education. It considers six questions relevant to the assessment challenges librarians face in coming years: (1) How committed are librarians to student learning? (2) What do librarians want students to learn? (3) How do librarians document student learning? (4) How committed are librarians to their own learning? (5) What do librarians need to learn? (6) How can librarians document their own learning? (Oakleaf, 2011)

**Maria Laura Bargellini Luciana Bordoni(2001)** “The role of the library in a new learning scenario” said about distance learning courses, here education method evolves an instructor and students, as they are separated geographically and they must rely on other information collection sources than libraries. He also states that libraries plays main role in education, learning and professional training for increasing knowledge. The rapid evolution of ICT in library imposes supports and simulates. The reengineering of libraries. This paper provides detail of new distance learning situation in a library services.(Bordoni, 2001)

**Nigel Ford(1979)** in the article, ‘Towards model of “library learning” in education system’, says that library learning is the concept to identify the distinct contribution of libraries into learning. It is said that librarians’ main commitment is towards the structure of its collection; librarians keep library structure perfect using cataloguing and classification. Development in ICT change working of libraries, online cataloguing, classification, computerize circulation results speedy work in libraries. Students are more affected with the ICT, and they are more Net Savvy. They required information quickly, due to online
cataloguing user become independent to find information; they learn how to find information from library collection from web catalogue. Although librarians help them to find the required information. (Ford, 1979)

Priti Jain and Stephen Mutula (2008) in the article, “Libraries as learning organizations: implications for knowledge management” define the concept of a learning organization as it is relevant to all twenty first century organizations because of increasing complexity, uncertainty and change (Malhotra, 1996). Libraries can benefit meaningfully as learning organizations through reducing satisfaction; constant learning, development and revolution (Michael and Higgins, 2002).

He said that In a KM environment, according to American Library Association, 2003 the internet links people-to-people, people-to-business, people-to-information and people-to-culture where there is intensive creation, sharing and use of knowledge. By giving different definition he explains clear relationship between learning organization and knowledge management. He also enumerated different challenges and opportunities as learning organization. It is concluded that libraries have central role to support higher education. By changing climate for innovation libraries can become a learning organization. Libraries and create learning environments by working with other disciplines, particularly teachers and community developers and be better equipped to cope with independent learning. Libraries must also allow their employees to be flexible to take advantage of new and interchangeable roles as facilitators, mentors, coaches and stewards. Finally, libraries need to promote a culture of knowledge-sharing, collective learning and collaboration. (Mutula, 2008)

Rachel Esson Alison Stevenson Maureen Gildea Sue Roberts (2012) in the article, “Library services for the future: engaging with our customers to determine wants and need” said that libraries have variety of methods to collect information from its customers like survey data, focus group, usage data and face to face interview. It includes deliberate method of engaging customers both online and in person. It includes two case studies of Victoria University of Wellington Library. As a part of broader ranging library services for future review, library undertook large process of gathering client. Academic library must be famed by the scope and quality of its services. He said to design those services which are recommended by the customers. The paper examines the ways in which academic libraries
can seek the expectations of their customers, for those in minority groups, for successful planning of future.

It is concluded that libraries are able to establish the changes that have after reviewing feedback of its customers. “The goal is to gain insight into the relationship between engagement and library outcomes” (Gordon et al., 2008, p. 20) and to translate that insight into action. (Roberts, 2012)

Robin Bergart and M.J. D'Elia (2010) in the article, “Innovation: the language of learning libraries” said about the library statement vision as, “The library values and fosters innovation. We are always seeking new and better ways of serving and working with the university community. We think creatively, embrace change and take risks. We empower individuals, foster collaboration, and build teams with the capacity to discover, create and act on opportunity.” The plan of innovation is there in theory but when see its practical aspect nothing arise. Innovation happens in libraries but sometimes, haphazardly. Participants engaged in playful activities designed specifically to inspire, energize, and challenge them for becoming more innovative at work with innovative program like “Innovation Boot Camp”

A case study of an innovative training program arranged by interviewing participant in this paper. It explains the value of and developing creative approaches to library work. At conclusion it is stated that to know the meaning of innovation for our library and to discover whether creative and innovative thinking can be enhanced through thoughtful practice. It also argued that practice improves innovative thinking as well as also habit forming!(D'Elia, 2010)

Saha, Nimai Chand, Ghosh, Koushik and Mondal, Tapas (2007) in their article, “Training & development of library professionals for IT application in university libraries: an overview” said that in present day society the provision of accessibility of information is act as determinant factor of development of any country or nation. Because of rapid growth rate and ever increasing demand of information application of IT is indispensable to ensure accessibility of information. To supply right information to the right user at right time is possible when right human resource employed and position on continuous basis as at par with ongoing change. So this paper highlights to emphasize human resource development
for IT application in libraries for the viewpoint of training and development. It also covers various aspect of HRD in library services and its role in present information society. He concluded that, after digitizing library resources it is very important to give orientation to their users for better utilization of these resources. Because if they fails to utilize the available resources, library will be nothing but waste of time and resources. (Saha, 2007)

**Sagolsem, Memori, Vikas and Boby (2007)** in their article, “Developing information professionals in the age of information technology: A study” said about IT awareness among the information professionals and also highlights the obstacles faced by libraries for application of IT in public libraries of Manipur. For identifying this, questionnaire based survey and interview was used to collect data from professionals as well as users. After analyzing and interpreting data it is found that majority of professionals were not aware of IT and there by suggested that training programs are required for service professionals, to meet the challenges of information science. (Sagolsem, 2007)

**Sur, Subrata, Sur, Sujata and et all (2007)** in their article, “Expert staff for digital resource management: analytical view” said that internet and direct access to information by individuals has bought into question the nature and role of library and information professionals in the end of 20th century. Due to rapid change in ICT librarians need to restructure their library to meet changing need. He also explain major challenges for developing digital library, need of digital library, role of library and information professionals. He said that the digital librarian act as guardian of information super highway and act as symbiotic human-machine guru. It also includes professional skills and technological competencies for the development of library professional staff in order to meet current and future need. (Sur, 2007)

**Sarah Barbara Watstein Eleanor Mitchell (2006)** in the article, “Do libraries matter?” Stated question do library matters? From variety of perspective and angles. Chad and Miller, and their colleagues at Talis, believe that libraries matter. “Do libraries matter?” concludes with an invitation – readers are invited to join with them in “moving forward in continuing to deliver relevant, effective, engaging and engaged library services.
Different subjects’ surface in the documents examined. Which add: the increasing impact of technologies in users and on libraries; changing attitudes toward technology and communication; and interests, behaviours, habits and expectations of our net generation users. The article concludes that while library professionals are significant in today’s society. It is concluded that libraries matter, and that libraries, as well as information professionals remain relevant in today’s world. Challenges the reader to think about significant issues and trends impacting libraries today. (Mitchell, 2006)

Shifra Baruchson-Arbib and Vicky Horenstein (2007) in their article, “An experiment to enhance awareness of the power of information: The social information science concept and individual empowerment in Israeli high schools” said that first time in human history means of communication have invented and that is web. It offers accessibility of information, rapid connection between people and freedom of expression. But is has some limitations that is violation of privacy, copyrights problems, digital divides and social isolation. But he said that life has certain ethics but because of invention of web there is breach of all ethics because there is no law and order on web. The paper aims to increase power of information. The study is both on Quantitative and qualitative method. Data were collected with the help of questionnaire. Finding said that after developing social information section students visit frequency of libraries and their reading habit increase. (Horenstein, 2007)

2.4. LEARNING HUB:

Anita Brooks-Kirkland (2009) in her article published in magazine, “The virtual library as a learning hub” says that if students are confuse about what they see, they went somewhere else. Website design help students connect to right starting point. Traditionally, if we are sending users a link we are sending them out of our library. Now we can bring those resources in, and make them part of our library learning environment. We need to do this basic change. He said about how to draw external resources in our library's web space? For without leaving your library site, insert code in your library to search widgets directly into your site. Other web utility such as Page Flakes allows us to gather news and blog feeds, interactive maps, search widgets and all manner of resources together in one place, drawing continuously updated information into the virtual library site. Students can even use these tools to construct their own flexible learning environment in the library. We are just entering this new construct, and it represents huge potential. (Brooks-Kirkland, 2009)
Laloo, Bikika (2007) in his article, “Innovating where it matters most: How reference service can turn the library into a global information hub” says that the age of standalone libraries is surely dying out in more advanced countries. The idea of library as a global information hub is no longer illusion. He says if there is any place which makes a library true hub of information is reference desk. The rapid development in technology now makes information accessible from system other than library. The paper examines various innovations in reference services such as consortia and virtual reference service. It also describes problem and solution relating to them. It is concluded that it is important to maintain traditional reference practice, but it is also important to keep up with times and embrace new ideas in order to make the library global information hub. (Laloo, 2007)

Michelle Selinger (2013) in his paper “Learning Hubs: Where Learning Takes Place in a Digital World” says that it is basically for those thinkers who basically interested to build vision of what learning could become in a globally connected world with the digital technology. He says that mobile network have created a range of learning opportunities. Because of that learning have taken place anywhere at any time, it do not require formal place like educational institutes or the work place but it is possible in the home, in public place in museums and elsewhere. Everyone is not aware with this technology they need support and guidance for the use of knowledge. Now a day’s massive online courses and number of virtual universities increases, for online learner it is require having some physical space where they can meet their peers and get virtual support, where learning hub is more useful source to gather. Learning hub is face to face meet with virtual learning. Librarians, teachers and experts are located at hub to help visiting learners to find resources and connect to the learners. As per his view online booking space is also required and students paid according to their usage. All hubs must be associated with each other. Interactive white board or screen or data projector are available at hub. One of the most important aspects he presented in his paper is that learning hub should also possess comfortable furnishings with cafeteria and its furniture should be flexible to accommodate other activities at hub. (Selinger, 2013)

Ravinder Kumar Chanda (2007) in the article, “Library as a global information Hub: Perspective and challenges” presents perspective and challenges of digital revolution and ICT on information society. Some people panic that libraries and librarian professionals
would no longer be required. But it is not true; they are rather more required as navigators in the ocean of available information. Libraries will continue to play important role as gateway of information resources. He further added that libraries will occupy with multiplicity issues in near future, which includes, the production of increasing amounts of varied collections in a different print and electronic formats; selecting collections with rival demands and under economic constraints; making these and other collections physically and virtually accessible; and preserving existing print and digital collections. This rapid change is challenge for libraries. (Chadha, 2007)

**Speer, Brian Mathews** and **Taylor Walters (2013)** in their article "Hubs and Centres as transactional change: strategy for library collaboration" says that science and technological universities are renewing their dedication and create new knowledge. It develop new cyber infrastructure, which include high performance computers and large databases with networking and Internet which is useful to transfer knowledge among students and faculties. Due to this university libraries are responding to vast amount of change with new infrastructure, services and are of expertise. They take Virginia Tech university study which us top research university in United States. Virginia Tech launched implications of internal strategies with two initial operational hubs learning hub. They said that hub serves a platform for expanding engagement across the university's teaching and learning expertise. It operates as research development unit. This project will not only enable the libraries to optimize core infrastructure effort but also create new path and pattern related to broader learning base initiatives. Another is e-Research hub empower users to explore new e-Research role through individual and group base project. The Virginia tech's centre for innovation in learning seeks to submit support and access innovative approach to change human behaviour by means of information communication and technology. The aim of centre is to explore traditional learning method to new pedagogical practice. (Speer, et al., 2013)

2.4.1 Why libraries are changing:

**Amy Chang Kawanna Bright (2012)** in the article, “Changing roles of middle managers in academic libraries” said about how role of middle management change. Emerging role of
librarian for 21st century has also been discussed. To meet the changing need of students, libraries have shifted from library to user centered. The authors were middle managers and experienced change. They identified cause of change that impact mid management in academic libraries. Communication, team management collaboration are new roles of managers. The paper identified key for effective management including TQM, staff readiness, and thinking outside the box.

It is concluded that middle managers are dealing with the present needs. It is required to ask middle manager for balancing current need and future development. It also necessary to know how to manage the constant change without losing vision of the direction? These are the importance questions face middle managers and will continue to be challenged. Thus, to validate our new role, middle managers in the new era need to develop a new set of abilities to respond to the changing environment. (Bright, 2012)

**BAO Xueming (2009)** in his article, “Library open 24/7: A study of user needs and library management concerns” says that Due to Web based information service, information are available any time on web. So that users don’t need to visit library. Reading room is empty. Now libraries have to find a way to attract users. Study investigated, and it is found that users need library services 24/7. Seton Hall University Library, following three implications has been conceived for planning academic library buildings to accommodate the needs for library 24/7 services. (Xueming, 2009)

**Christine Rooney-Browne(2008)** in the article, “Changing the way we look at libraries?: An evaluation of East Renfrewshire's Look at Libraries festival” said that modern library is destination of wide range of stakeholders. Its aims are to elaborate the purpose of library and information service that how they modified to changes in cultural demands and user expectations. After sample group of interview it is found that respondent believe libraries has changed a lot in last few years.

After evaluation it is confirmed that looks at the libraries festival the results of this evaluation confirm that the Look at Libraries Festival has been involved by event attendees, staff, participant and community. The emerging impact of the festival also
supports the argument that the local library service can support its parent body to achieve overall community objectives.

Paper exposes an innovative approach by a public library and information service to challenge perceptions, communicate changes in service provision, market public libraries, attract new members and establish an effective brand extension for the service. (Rooney-Browne, 2008)

Carl Gustav Johannsen (2012) in the article, “Staff-less libraries – recent Danish public library experiences” said about staff-less public libraries in Denmark. This article highlights report of experiences with open libraries in terms of local public behaviour, their use – visits and loans, it also highlights characteristics of the users in terms of sex and age and, an analysis of success factors revealed in association with open libraries. The data are collected during autumn of 2011 by the Danish Centre for Library Media through an electronic questionnaire. They were run through ICT development of automated loans and delivery systems and electronic surveillance techniques. Result will be successes in term of growth rates of visits and increasing number of loans. The article shows that the concept has been successful in the terms of use and local support and it has strengthened the possession of the local public libraries in the local communities. (Johannsen, 2012).

Charles N. Nzivo (2012) in the article, “User perception on library services and information resources in Kenyan Public Libraries” state about the information need of Kenya’s users. And it is satisfied through user driven information sources. More readers are accessing the library services of KNLS, due to that adult user focus study is undertaken to understand library performance. Questionnaire is used as data collection tool to understand the ideas about KNLS library. Data were analyzed through SPSS software. KNSL services are positively apparent by most researchers. Paper attempt to provide fundamental information about adult user’s perspectives. It is concluded that user perception is important for improvement of libraries. (Nzivo, 2012)

Deka, Prasant Kumar and Singh Sanjay Kuamr (2007) in their article, “Internet and Web Technology for library in digital environment with reference to college library in Guwahati” said that 21st century is an electronic era. Today’s world become digital, which concern with
creation, sharing and using information in digital form. The internet and web technology has open new dimension to the information systems. World Wide Web have created a huge impact on libraries and information centres.

Thus, paper mainly discuss about web technology and importance of internet in library. People spend more time on internet; they create community and share information with each other. It is also termed as social networking. They conclude that it is best resource sharing medium in digital environment.(Deka, 2007)

Dhiman, Anil Kumar (2010) in the article, “Librarian to cybrarian: changing role and responsibility of library professionals” said that information communication and technology have developed fasters since the starting of 21st Century, which result to advancement in the field of library. Digitization of printed material along with pictures, maps and painting is being done. He explain difference between traditional and online library environment enumerating points like access to resources, broader scopes of inquiries and nature of communication. The paper also describes what changing role of libraries in digital information services is. He concluded that in digital environment libraries and librarians are more important than before because for effective use of their resources librarians are needed.(Dhiman, 2010)

Emir Jose Suaiden (2003) in the article, “The social impact of public libraries” analyze the divide between the information and community. It give importance to the topic like social exclusion and bibliographic explosion, social impact of public libraries, information and knowledge production, reading habit and role of information specialist and role of public libraries in information society.

He concluded with the words of Borges (1962), “I suspect that human species – is about to be extinguished, but the library will endure: illuminated, solitary, infinite, perfectly motionless, and equipped with precocious volumes, useless, incorruptible, and secret.(Suaiden, 2003)

discussed a library as an era specific phenomena and modern library. He also state about three principle aspect of modern library which are challenge in present circumstances, how these circumstances are helpful in new library era, and lastly he stay on important factors that LIS education must consider for new look of library. An earlier era specific library is being replaced by modern

library till 19th century. But with the beginning of new library era currently existence of modern

libraries are being challenged by three most basic aspects, that library is viewed as a social institution; its establish target public is conceptualized; and is acceptable as its normative funding. Finally it has been suggested that a new library era is upon us in which information in electronic form is permitting to recover private space library ideal and creating social situation in which government funding may not be normative.

He concluded that LIS education must view itself in the light of this future change of library era when evaluating its educational background.(Miksa, 2007)

Goswami, TariniDev(2007) in the article, “Knowledge Portal: challenges before library and information professional”, argues about knowledge portals developed as key tool for supporting knowledge work. He says it is single point access software, providing easy and timely access of information. It is also describe that in current digital information and knowledge environment, latest method is needed to classify store and access information and knowledge. It used as a tool for implementing knowledge management technology. It makes the collection available to users who expect all knowledge to be obtained with just in time. It is new revolution in Library and information science. The knowledge portal definitely has potential and challenging task for LIS professionals. “(Goswami, 2007)

Gould Elizabeth and Gomez, Richard(2010) in their paper, "New challenges in libraries in information age: a competitive study of IT in public libraries in 25 countries" says with the development of ICT changing the outline of public access information. How libraries can cooperate with other type of venue that offers public access to computers and Internet. Social aspect of information access and use of it through public venues. That is users are more interested to access their information in public areas like cyber cafe and telecentre
where they socialize and get entertainment. Libraries can introduce book club to socialize users. Users want Internet gaming, media centres; scrap booking and simply computer usage. Thus libraries need to reenergize. To accommodate this requirement of users libraries need more space and ICT infrastructure, many libraries today are supported by local or national government, who I do not give financial assistance to improve library usage. (Gomez, 2010)

**Jena, Pushpanjali (2007)** in the article, “Skill development in new vista for customizing information retrieval through search engines” said that web search has become quite refined and is continuously improving to meet the demand of customers. A web search is a process of accessing information available in the glob through World Wide Web. Due to this the role of traditional libraries has been changed. He introduces some search engines like Google, yahoo, Microsoft or ask.com. The paper also highlights customer based information retrieval through search engines. He concluded that internet based information retrieval would fail if search engines were not available. He also said that World Wide Web is a unique combination of information spread all over the world and linked to gather. (Jena, 2007)

**Jennifer Rowley (2003)** in the article, “Knowledge management – the new librarianship? From custodians of history to gatekeepers to the future” said that knowledge management is old librarianship in new clothing. The article said that this view is varying with real experiences by individual, organization and state. It is in theoretical term an example and in professional term a collection of strategies and practices that has arisen in response to the needs of organizations, business and communities and government in knowledge-based society of the 21st Century. This theme is developed for reflection of knowledge management in public sector and also for managing repositories, facilitating of knowledge course, and communication. A discussion of some of the possible positions on the relationship between knowledge management and librarianship leads to some perspectives for the development of librarianship and the role of information professional in a knowledge based economy has been explained. (Rowley, 2003)
Jenny Ellis and Andrea Phillips (2013) in the article, “Re-defining the service experience: forging collaboration between librarians and students” said about architecture place an important role in creating innovative library learning space which support innovative learning space outside classroom. It also identifies distinction between traditional models of main service delivery with the new collaborative library learning spaces that have been designed in response to the educational principles of social constructivism.

Librarians have proud to be their new collaborative learning space which support interaction and discussion; social space that promote engagement and learning as well as quite space for independent learning. The purpose of this paper is to investigate the way in which a large academic library responded to this challenge. The case study of University of Melbourne Library has been taken to study reengineering of library services. The study explains how development of distinctive and collaborative service model was put into practice. The case study employs a narrative approach that is intentionally rich in description to assist readers in understanding the context of this complex process.

The case study engaged to many academic libraries contributing to library practice and encourage to re-conceptualize library space, design and services. (Jenny Ellis and Phillips, 2013)

Jadranka Lasic - Lazic, Mihaela Banek Zorica and Sonja Spiranec (2011) in their article, “Libraries in changed information space” discuss the need for development and conceptualization of the learning outcomes and components approach in creating information science curricula. Their main idea in determining learning outcomes and competences was to define the purpose and role of the academic community and to identify the role of libraries and library specialists within the new information environment which is crucial for the activities and work of students, especially the students of information sciences.

The Findings suggested that for teachers and students learning outcomes is the ultimate goal to be achieved in the educational process. Learning out with some specific outcome should be determined by the university teachers on the conceptual as well as implementation level are necessary to determine. Competences in the information science students have been determine in a way which should facilitate their future employment and
allow them to compete in the labor market. At the same time, this kind of approach effects to the preservation of the profession/discipline. The paper presents a new approach to LIS curriculum through defining a framework of competencies based on learning outcomes. (Jadranka Lasic Lazic, 2011)

James M. Donovan (2012) in the article, “A library is not the books: an ethical obstacle to the digital library” offers three points that libraries cannot be reduced to their books. He said that books are much important and terms as building blocks for traditional libraries. He said that books are traditionally serve as building blocks for libraries, but the presence of books of any meaning is not enough for something to be recognized as a library.

He argued that if physical books do not make library, how digital books can. So challenges what must be present to create a library other than information containing entity and then to identify whether this qualities can be achieved in digital environment or not.

The conclusion offered here is that such experimentation is not impossible, but not preferable. (Donovan, 2012)

Louise Makin and Jenny Craven (1999) in the article, “Changing libraries: the impact of national policy on UK library services” said that changes in policy impact on library and information science, he demonstrate three key current policy. These are: the establishment of a computer network in the public library sector as outlined in the National Grid for Learning (NGfL) and the New Library the People's Network Report (LIC, 1997), the promotion of a culture of lifelong learning as illustrated in the government Green Paper.

The Learning Age (Department for Education and Employment, 1998), and the development of the hybrid library, reinforced through projects in the higher education Electronic Libraries (eLib) Program. These areas are separate, but also interrelated. As in academic libraries computers are implemented in public libraries is partly planned to be a source for individuals engaged in a program of lifelong learning.

This paper considers how political, social and economic factors can be major drivers of change and thus impact on the profile of libraries so that they are recognized as a valuable resource by Government and other groups such as businesses, voluntary organizations and educational providers. (Craven, 1999)
Mark D. Winston and Susan Quinn in the article, “Library leadership in times of crisis and change” discuss about the change in the society and information availability and its impact on library and information word. It is found from the large scale social and economic change occurred due to change in information society. Limited focus is given in journals of library and information science about leadership. It provides total analysis of change in political, technological and economical over the last six years. (Quinn)

Paul Childs(2006) in the article, “Sssh! The quiet revolution” shows how modern social behavior like interior display and modern furniture effects customers requirement. The Arena Park Library in Coventry provides a case study prove creative thinking and the considered use of state-of-the-art system furniture. He said that internet café provide ultimate access to World Wide Web, and SMS services attract youngsters to access information through these sources. He further argued that online site like amazon.com provide facility to order online books, and use of wi-fi offered by libraries encourage users to use computers to access internet via wireless connection. Finding suggests winning the fight in www system it is necessary for librarian to re-invent. The paper gives information on successful use of library space, shelving solutions and furniture. It classifies the consumer need in reshaping their services. Readers are provided with examples of innovation in library service provision that will help those concerned in future planning to challenge old concepts, and encourage new and original ideas.(Childs, 2006)

Pauline Dewan(2012) in the article, “Are books becoming extinct in academic libraries?” state that in the mind of patrons academic libraries are synonyms with books, before moving to electronic resources, it is essential for academic libraries to check whether patron still consider to read print sources or not, what happen in this case if we shift all our material from print to e-books. The article examine wide range of study and found that students and faculties are still prefer print books to use. It is also found that popularity in distance learning courses increases use of e-books on handheld mobile device He said that our print collections unavoidably decrease in size and we need to re purpose the space and reconsider the library’s role.
When it was asked what they considered the top library role, college students answered “to provide books, videos and music” (De Rosa et al., 2011, p. 59). i.e. “people still tend to think of libraries as collections of books” (Connaway and Dickey, 2010, p. 4). Academic library’s prestige depends on the number of volumes that they possess. In the Time magazine article, “Is a bookless library still a library?” Newcombe (2011) asks a second all-important question, “When books disappear, does a library lose its definition?” Instead of the library as warehouse, we need to promote the library as space and community hub, as the academic heart of a university, as the place of collaboration, reflection, inspiration, learning, and study. (Dewan, 2012)

**Patricia, A Wood and James H Walther (2002)** in the article, “The future of academic libraries: changing format and changing delivery” said that the future of the library will be more on the material available on web rather than physical material. The future library will have the mission of helping scholars to find material available on web at any place at any time. The accumulation of technology in higher studies has an impact on academic libraries in two ways: changing material formats and the scholarly communication options; and changing how information is delivered, beyond the classroom experience. What are the funding issues faced by academic libraries to modernize its feature. He observe issues like depth of the format change issues, data preservation and conversion issues, personal and facilities issues and close examination of scholarly communication and distance education issues facing our higher education and academic libraries. (Walther, 2000)

**Rehman, Waheed UR and Ali, Amjad (2010)** in their paper, “Utilization of Internet based library and information services by the faculty member of Engineering College in the Aligarh Muslim University, Aligarh: A case study” says about new technologies in the field of information and communication. They said that information technology has radically changed the perspective of whole information system. He said that internet is important and complex innovation of human being for storage and transformation of information.

The study is conducted on web based library services available in Z H College of engineering and technology for teachers, the service is available by the college library and it will be improved further once proper training of latest ICT to the staff and improvement of IT infrastructure. (Rehman, 2010)
S. Kandasamy and Dr. K. Vinitha(2014) in the article, “Online Database Usage by Research Scholars of the Manonmaniam Sundaranar University Tirunelveli: A Study” said that every human being need information for different purpose. Considering this biggest requirement information services and system have been organize in universities and academic institutions. With the emergence of internet many online sources of information are available. The study aims to find out whether users are aware with these online databases or not. Questionnaire is used to collect data. Out of 100 questionnaires 90 duly filled up were received back. After analyzing the data it is found the majority of research scholars are aware about Science Direct, CMIE-India Trader, Biological Abstract and FIIB Virtual Link. The research scholars are mainly using of online databases for their research work and to update their subject knowledge. Another it is found that the important issue in more financial assistance for online databases and journals, but it is not enough to fulfill the needs of the research scholars.(Vinitha, 2014)

Seema Vasishtha(2008) in her article, “Modernization of library and information services in technical higher education institutions in North India: State-of-Art report”, View that library modernization is managing change that appropriate for present time by using modern equipment and methods. Libraries have been facing many problems now days because of information communication and technology. Main aim of this paper is to explain how modernization affects library function. Focus of library is shifting from mere collection building to service oriented. The study was measured to the libraries of six technical universities in North India. After analyzing the data, it seems that modernization is gaining thrust in all activities related to library and information science. (Vasishta, 2008)

Verma, Shilpi, Mahawar, K L and Verma, Rekha(2007) in their article, “Federated searching: a myth or reality in web based system” explain that with the explosion of information on web user become more pin pointed. It is difficult of having all the information on one website or databases. Because of that user have to shift from one place to another, to meet this difficulty concept of federated searching become important in libraries. He explains meaning of federated searching along with need, process of federated searching and at last some myth of federated searching. (Verma, 2007)

Yajie Zhao(2009) in the article,” Changing of library services under e-research environment” said that libraries have play a significant part in research into all subject area.
It also suggests how librarians can become more occupied with specialized research under e-research environment. This article introduces the development of e-research, and the approaches of ultrasonic motor research under e-research environments. Librarians promote themselves as a Component of e-research developer and management of information sources. (Genoniet al., 2006). It is found that current libraries help researcher by retrieving electronic resources.

The paper gives professional research methods in a specific topic under e-research environment; with a focus on association in a wide spread arrangement for sharing computing power and data storage, as well as data and research. The result of this study helps to shape future libraries. The main conclusions are that web based resources under an e-research environment are extremely valued by researchers because technological developments and online information resources are hopeful research processes with less cost and time. (Zhao, 2009)

2.4.2 Impact of Digital libraries:

Alex Byrne(2003) in the article, “Digital libraries: barriers or gateways to scholarly information?” said creation of bibliography, full text databases are due to new digital paradigms for libraries. (Berring, 1993) This model is said as “digital library”, “virtual library” or cybrary. For examining literature powerful publication and databases enable scholars and students, without geographical location to access it and it is available 24*7 in digital library. But it is limited to the availability of information communication and technology. He said the access is limited to students and the person who pay fees for utilizing these resources. (Byrne, 2003)

Alice Tani, Leonardo Candela and Donatella Castelli(2013) in the article, “Dealing with metadata quality: The legacy of digital library efforts” said that data and metadata plays important part in knowledge society. In particular he explains meaning of metadata; metadata is data which give information about other data. Its quality, experience measured in digital library domain. Approaches of quality of metadata are also described.

It is concluded that effective usage of data and metadata plays an important role in information society. (Alice Tani, 2013)
Berman, R K and Devchaudhury, G B(2010) in their article, “Library professional in digital environment: A challenging task” discuss about changing environment in modern librarianship. In information communication technology environment role of librarians tremendously changed. He describe varied role of modern librarian. Information manager, information instructor, advisor or broker. Thus to cope up with ICT world LIS professional has to move in right direction. It is necessary for libraries to develop human resource to fit in new environment. (Berman, 2010)

Bhattacharya, Udayan(2007) in his article, “ Digital information resources and digital information literacy” state humble approach to show symbolic relationship between information concepts: digital information resources and digital information literacy. He briefly explains about both the concepts. He enumerated characteristics of information literacy. At last he concluded that society demand different kind of library with more value added services and building digital information resources repository is essential.(Bhattacharya, 2007)

Bhuyani, Sewali (2007) in her article, “Digital library architecture: a cases study” state that with the increase of electronic resources, library services like producing, organizing and seeking information have drastically change with the usage of computer and database. The needs of modern information society have transformed the library from traditional to digital one. The paper includes concept, key concept and architecture of digital library. Other than this she also include, digital library services and discuss how Indian universities can develop digital library of electronic thesis and dissertation. At last it highlights initiative taken by institutions like DRTC, INFLIBNET,NCSI, IITs for development of digital library.(Bhuyan, 2007)

B. Hull(2003) in the article, “ICT and social exclusion: the role of libraries” said about impact of digital library divide. Brief description of digital divide is given. Government took initiative to overcome disadvantage is consider in the article. The findings of the Barriers to Libraries research project (Hull, 2000) have been extensively distributed at national and international conferences in the fields of information handling, continuing education and computer ethics and have been input into post graduate courses and library
staff development program at a number of British Universities. There are in addition many other empirical research projects underway by information professionals (Hull, 2003)

Chang-Ping Hu, Yuan Hu Wei-Wei Yan (2014) in the article, “An empirical study of factors influencing user perception of university digital libraries in China” said about digital library collection and digital services and make them available to public. Due to rapid development in information technology and changing information behaviour the function of digital library have change drastically. Building user loyalty and improving user perceptions of university DL services require (among other things) better understanding of the factors that influence user perceptions of DL services.

The purpose of the study is to explore the factors influence factors influence user perception of university Digital Library in china, interaction of other factors are also discuss. Questionnaire is used as a data collection tool. The survey was undertaken of undergraduate and post graduate students and faculties of 78 universities of China. The finding shows users perception about digital library and also offers suggestions for designing, developing and managing university digital library. (Chang-Ping Hu, 2014)

Claire Warwick, Melissa Terras, Isabel Galina, Paul Huntington and Nikoleta Pappa (2008) in the article, “Library and information resources and users of digital resources in the humanities” discuss result about log analysis of internet resources in the art and humanities study. Use and importance of information resources, physical research centres and digital finding aids in scholarly research is describe. And its results are on web server log analysis of portals for humanities scholars: the arts and humanities data service (AHDS) website and Humble Humanities Hub. They are used to determine resources were accessed most often, or seldom. Questionnaire data about perceptions of digital resource use were gathered.

It is found that Information resources such as libraries, archives museums and research centres, and the web pages that provide information about them are vital for humanities scholars. He said the university library website is more important resource, compared to Google. Finding aids and reference resources are considered more important than primary research resources, especially those produced by other scholars, whose output is less trusted than publications produced by commercial organizations, libraries, archives and museums.
It is also found that both digital and traditional information resources are continue, digital resources do not replace traditional one and also staff working in that.

LAIRAH was the first research project to use quantitative data to investigate resource use. Findings about the type of resources used are based on evidence rather than opinions alone. This gives a clearer picture of usage that may be used to plan future information services. (Pappa, 2008)

Chih-Ming Chen and Chia-Chi Chen (2010) in the article, “Problem-based learning supported by digital archives: Case study of Taiwan Libraries' History Digital Library” state difference between learning performance and the satisfaction of learner who use digital resources in the Taiwan Libraries history organized digital sources and Google search engines via problem based learning. It describe advantages and characteristics of using digital archive to support Problem based learning and offer suggestions which helpful for using digital archives to support e-learning.

Statistical method of quantitative analysis is used to analyze results. It also observes student learning process a part from collecting the instructor evaluation and learner questionnaire responses. Through this analysis, this study makes an accurate comparison and analyzes the value of digital archival resources in PBL.

Finding shows that, users are using organized resources will satisfy more, especially for framework of resources topic, learning cognition, and topic cognition. It is concluded that the primary purpose of this study is to discuss and compare differences in learning progress and the effects of differently organized digital resources in PBL. This study verifies the power of organized digital learning resources on PBL and further evaluates the value of e-learning supported by digital library resources. (Chen, 2010)

Choughule Pradnya (2007) in the article, “Role of digital information services in corporate libraries” explain that effective and efficient use of new technology helps to improve the library image. The introduction to digital information has added new height to information technology, and it provides new digital information services. Their requirement is different.
The literature survey and observation techniques are used in this paper. Due to Digital information services, staff required to learn new skills for accepting the challenges of ICT. There is permanent assessment of role and functions of libraries and librarians. Thus digital information services are gaining popularity and have become part of digital environment today.(Choughule, 2007)

**David N. Rapp, Holly A. Taylor, Gregory R. Crane(2003)** in the article, “The impact of digital libraries on cognitive processes: psychological issues of hypermedia” said that digital libraries and scattered depository of online data, these data can be structured with metadata. It focuses on construction of large database, and provide hyperlink tool for search. The research is done on role of human in digital library experience. From findings it is concluded that study of cognition have been outline that prescribe how people deals with text, audio and multimedia information. While the findings from these studies provide a suggestion as to how people understand, encode, and retrieve information from memory, they lack empirical support from real-world applications. (David N. Rappa, 2003)

**Devchoudhary, G B (2007)** in her article, “ICT and electronic library: management and delivery within the traditional library” said that ICT and development of modern technology effect traditional libraries. It brings out primary change in library functions. In this state of change to introduce electronic library services traditional libraries offer support the way of personal funding, information delivery and management of these electronic libraries. He examines basic difference between traditional and electronic libraries. Due to impact of ICT, users want information quickly. For adopting digital information services libraries have to adopt proper management techniques. The purpose of this paper is to collect the management and delivery problem arises out of adoption of electronic libraries and to provide basic solution in the area of Scientific management, planning, organization, staffing, directing and controlling (Devchoudhary, 2007)

**Donatella Castelli(2006)** in the article, “Digital libraries of the future – and the role of libraries” state that the purpose of the paper is to develop digital libraries, their technology and model. Digital library concept implement only powerful or user community with in-house computer science technology could offer. Today, the requirements of Digital
Libraries are very different from early time. A narrative concept of Digital Library is also referred to as “knowledge commons” (Ioannidis, 2005), has recently come into view, whose fulfilment requires new technologies and new organizational models. This paper focuses on Digital Library’s by discussing the inspiration for their introduction, presenting an innovative Digital Library technology, called DILIGENT, and, finally, illustrating the role that libraries can play in this new scenario. It briefly explain role of digital libraries in future, what is DILIGENT.

Finding suggested that digital library of future will give access to text, images, and audio-video, to scientific data archives, and databases. It will provide a seamless environment where the co-operative access, cleaning, manipulation, generation, and preservation of these documents will be supported as a continuous cycle. Library users are both consumers and producers of information, either by themselves or in collaborations with other users. The paper briefly introduces novel digital library scenario.(Castelli, 2006)

**Eti Herman (2001)** in the article, “End-users in academia: meeting the information needs of university researchers in an electronic age: Part 2 Innovative information accessing opportunities and the researcher: user acceptance of IT based information resources in academia” reflect Change in academics due to electronic information era. Form various publish literature it tries to find out up to what extent university researcher is adapting it. The Conclusion of the whole study is IT based sources and services play an important role in scholarly work. Much researcher access information from their desk through library. But all are not prefer Electronic services. So there are still variations among research scholar about adopting latest technology. (Herman, 2001)

**Emmanuel E. Baro(2010)** in the article, “A survey of digital library education in library schools in Africa” state about digital education in library school in Africa for digital library development in Africa. The data were collected form researcher surveyed the website of school and content analysis is used to identified digital library. E-mail survey also done by sending email to lecturers in the Department of Library and Information Science.

It is found from the survey that some schools offer courses for digital libraries. Many school libraries have not developed DL as a separate course in their curriculum; but are discussed as a topic in related courses. Due to lack of qualified personals the LIS department does not provide this type of courses. More than 45 library schools were
investigated, among them 20 institutions offering DL courses or related courses. (Baro, 2010)

**Efe Francis Ejedafiru and Lucky, U. Oghenetega (2013)** in the article, “Attitude of Professional Librarians towards the Use of Information and Communication Technology (ICT) In Delta State University Library” said that rapid development in ICT and other related technology made major effect on librarians for transforming their libraries. Delta State University has decided to implement ICT in every aspect of university. Libraries are also going to be ICT oriented. Because of that need of professional librarian arise. Therefore purpose of current study is to find out attitude of professional librarians for ICT. Structured questionnaire was used as a data collection tool and it is distributed among professional librarians of Delta State University. From the analysis it is found that professional librarians are ready to accept ICT in their libraries. (Efe Francis Ejedafiru and Lucky, 2013)

**Golnessa Galyani Moghaddam and Mostafa Moballeghi (2007)** in the article, ”The importance of aggregators for libraries in the digital era” discuss importance of digital libraries. He elaborates three kinds of aggregators i.e. hosting aggregators, Gateways aggregators and Full-text aggregators. EBSCO, ProQuest and dialog three major aggregators are briefly describe. It is found that libraries have been working with publishers and issues related to aggregators are not well documented. To facilitate services aggregators have been helping libraries to users but they have some disadvantages for libraries like the lack of library influence in selecting individual titles; the lack of control over the contents of aggregator packages; and the confusion of library users when accessing different packages. The paper gives a useful summary to researchers in any field, enabling them to achieve quickly a clear picture of aggregators in the electronic environment. (Moballeghi, 2007)

**Gobinda Chowdhury (2010)** in the article, “From digital libraries to digital preservation research: the importance of users and context” said that as per DELOS Network of Excellence on Digital Libraries (The DELOS Digital Library Reference Model: Foundations for Digital Libraries, 2007) envisages a digital library as: a tool at the centre of intellectual activity having no logical, conceptual, physical, temporal or personal borders or barriers on information.
By reviewing literature it focuses on digital preservation research. This paper is looking for to the issues of circumstance and users; it discusses some major challenges, and highlights some recent research activities to resolving some of the problems especially within the field of digital preservation research. It is found that similarly like the digital library community the digital preservation research community is also confronted with the challenges of capturing, storing and making use of the information related to users and context.

It points out some current research in digital preservation that aims to handle the users and context information for building future digital preservation systems. It highlights some major challenges in these areas.

He concluded that we need digital librarian to continue the term digital libraries in helping users access, understand, interpret and use digital information in its proper context. This is a big challenge and significant amounts of research efforts and Resources are needed to develop the appropriate solutions. Both the digital library and digital preservation community need to work hand in hand to solve these problems. (Chowdhury, 2010)

Helen Nneka Eke (2010) in the article, “The perspective of e-learning and libraries in Africa: challenges and opportunities” said that literacy is very important in today’s world. Computer has made major impact to enhance learning in education and libraries are also not legging behind in the digital era for implementing e-learning. He state challenges and opportunities facing e-learning programs and the library’s involvement. He classified e-learning into two broad categories Synchronous and Asynchronous. In Synchronous learning, the interaction in live. It offers activities like lessons, assignments, chats, instance massaging and blogging while Asynchronous learning describe web based version of computer based learning.

The paper establishes that libraries are the heart of institutions and so are intended to play vital role in the learning activities. (Eke, 2010)

Hellen Niegaard (2011) in her article, “Library Space and Digital Challenges,” says that user ask a common question that what’s the use of library when we have Google? She says Google is not giving perfect information about the things. Google gives to many results for
one search term, so she added that libraries are still lies ahead in the global information society. People are still interested to read books but it is in digital form. So librarians have to understand the changing ear and use E-Books and online books or journals with the print collection to satisfy their users need, thus we can say that important of library still remain same just mode of information need to change. Architecture of Libraries also plays an important role and librarians have to focus on it to consider careful design of library space. Well design library space and online information resources make the library a knowledge hub and important meeting place to gain new experience. (Niegaard, 2011)

Huang Qunqing (2004) in his article, “Reading Outside the Library: how the Internet has affected reading in China” says that although internet has been developing at an amazing pace in China in recent years but both traditional libraries and digital libraries are rich and getting along with each other very well. He argued that reading print material still occupy dominant position although radio and television have influence reading. According to the latest statistics from the China Internet Network Information Center (CNNIC) (www.cnnic.net), there were already more than 20.83 million host computers and 59.10 million Internet users by the end of December 2002. It is found from the two groups of data that quite a lot reading is being done outside the library. We can see substantial change in from the printed edition to news online, digital journals and e-books. Physical world have move to online and internet become a large encyclopedia. Thus digital information services affect much to libraries. (Qunqing, 2004)

Jha, Ram and Kumar, Abhishek (2010) in their article, “New era digital library: Re-engineer…..” focus on history of library development and revolution. He said about 19th, 20th and 21st century library. It also includes that now a day’s due to scarcity of space libraries find difficulties to accommodate print material, and so need of digital library emerge. Digital library collections are stored in digital format and access through computers. They also include how to create digital library, what are the issues before digital library and benefit of digital library. It is concluded that the main objective of the re-engineering process was to create flexible platform to meet the challenges of digital world. It is also included that users are
also become hi-tech and they desire the data in digital and electronic form. We can say that future libraries will be paperless library. (Jha Ram and Kumar, 2010)

**Jie Sun and Bao-Zhong Yuan (2012)** in the article, “Development and Characteristic of Digital Library as a Library Branch” said that digital library put a word at your figure tips. He present meaning and description of digital library, characteristics of digital library, He gave new look to five laws of library science in digital information system. A part from that principle of digital library, functions of DL, advantages and disadvantages of the same is mentioned. It is concluded that information technology have change the world and become an important tool for retrieving information. Library collection is not only for printed form but also in digital form. (Jie Suna, 2012)

**Julia, Gelfand (2005)** in the article, “Library as a learning place viewpoints from university undergraduates” said that he explain the changing role of academic libraries when meeting the students of School of Humanities. He talked about the tools of modernization which can be used like communication, collaboration, cooperation, shared space, how to navigate, and find appropriate site for searching information. He added how libraries try to be user cantered. The library is a place where students come to check email, surf internet for entertainment options, finish up homework between classes, use print and photocopies, and has a quick nap. He said browsing books is not enough, some people said that they never need to browse books, they access online resources, some of the students said that library should be at the forefront of change, when they study they want to have comfortable chairs with good lighting, others added they want information at their figure tips. He concluded that one should take response seriously as to prepare library user cantered is not an easy task. At last he said that libraries are important place where people continuous to come because it offers security, comfort and quite place and other advantage is it is free, and allow yourself to be with people in learning environment. (Julia, 2005)

**Kanchan Kamila (2007)** in her article, “Electronic Resources: Highly used media of Scholarly world in the 21 Century” shows different type of E-Resources and the role of various consortia to access these resources low price. Discussion about consortia, open access resources, bibliography and databases is also discussed. Components of e-resources are explained in the paper that includes E-Books, E-Journals, Wiki Books, E-Audio, and E-
Music. He concluded that predicting future is discouraging but at the same time it is necessary one. Mitchell (2002) experiences with futures research concerning the digital divide. He explains that when considering this it become obvious that neither the past nor the future actually exists; only memories, projection and perceptions exist. (Kamila, 2007) 

Kathryn E. Eccles, Mike Thelwall and Eric T. Meyer(2012) in the article, “Measuring the web impact of digitized scholarly resources” analyses Webometri c studies, to access academic network it uses hyperlinks between websites as the basic data type, the “impact factor” of academic communications and to analyze the impact of online digital libraries, and digital scholarly images. It aims to be the first to use these methods to draw the impact, or success, of digitized scholarly resources in the humanities. He said there were two main advantages in using webometrics. Firstly, it is easy to obtain this data, Secondly; webometric methods allow researchers to compare the target site(s) with a range of other sites. This method enables researchers to gain a more comprehensive view of the target site(s) as part of ecology of digital resources.

After collecting the data it is found that digitized resources are located on changing URLs, or combined into larger online resources, their impact is difficult to measure with these methods, this study is the first to use webometric methods to probe the impact of digitized scholarly resources in the Humanities.(Meyer, 2012)

Kiran Baidwan, Adarsh Bala, Neelima Chadha, Monika(2011) in the article, “Usage of Wi-Fi Service among Users’ of the Postgraduate Institute of Medical Education and Research Library, Chandigarh” said that due to advances in the network technology change the way to communicate the information. He said explosion of scientific information has evolved many challenges to the information provider. In past years Wi-Fi has popularized and become important networking technology. By distributing questionnaire to 100 library users who are using Wi-Fi technology is taken. After analyzing the data it is found that 99% of the users have started visiting libraries after implementing Wi-Fi technology in library.

Over of conclusion is start of Wi-Fi service in Dr Tulsi Das Library, PGIMER, and the frequency of users visiting the library has increased. It has useful impact on the research work and study off actually, research scholars, and students. They have easy, quick, and timely access to research material. But the limitations like disconnection, limited access,
and slow speed is still need to improve. So there is an immediate need to improve the connectivity and increase the number of desktop terminals. (Kiran Baidwan, 2011)

Kristie Saumure Ali Shiri (2006) in the article, “Integrating digital libraries and virtual learning environments” said that for creating virtual environment element of digital libraries are incorporated. After literature review paper it is found that integration issues and efforts have been describe. It is evaluated that in order to illustrate how these systems have integrated elements of digital libraries into their educational spaces. This paper describe some VLEs are implementing elements of digital libraries. The study provides a window into options exists for integration of digital libraries and VLEs.

This paper evaluates the feedback given and describes value to librarians, digital library developers, instructors and VLE designers. It is comparative assessment of three VLEs for implementing digital library element. It is concluded that content reusability, search/browse functionality, customizability and personalize ability describe to be the best addressed digital library elements. (Shiri, 2006)

L.A. Ogunsola (2011) in his article, “The Next Step in Librarianship: Is the Traditional Library Dead?” Says that traditional library is collection of books, journals and other resource of recorded information. Libraries have increasingly developed, due to more and more values of information in the society more and more information industries have developed. Traditional libraries have to change its functions due to many online information services available, Libraries start digitizing their resources.

This paper discusses the relationship between digital and cybernetic libraries. It takes a serious look that the information technology revolution has destroyed traditional libraries and librarians working in them. The paper recommends ways to provide improved access to national and international library and information resources and to share locally available resources with libraries all over the world using digital technology.

He found now a day print media give a way to electronic materials. Library and information science is one of the fastest growing professions in the world. In countries such as the UK and
US, information is one of the biggest industries, so research is going onto improve library and information science, and the professional librarian is expected to keep step with new findings. (Ogunsola, 2011)

**Lyman Ross and Pongracz Sennyey (2008)** in the article, “The Library is, Dead, L'ong Live the Library! The Practice of, Academic Librarianship and the Digital revolution” said that academic libraries are facing competition as information provider, because digital revolution has changed the nature of information. Users need and acceptance have changed because of that. Researcher are shifting from traditional library services to digital because they need huge amount of information and digital information can be accessed quickly and in huge amount an lesser time.

By doing close analysis it points out that most of the users entering the library are not using library resources or services but they are buying coffee in our cafes, reading e-mail on our terminals, socializing with friends, or using group studies. Due to internet libraries are no longer Island of information. Library services, collection and space etc. are defined briefly. It is concluded that 73 percent of college students used the physical library but only 47 percent used the online library compared to 75 percent for Internet search engines. Furthermore, 89 percent begin their search with a search engine while only 2 percent begin their research at a Library Web site. When asked which sources they preferred, 72 percent answered search engines, 14 percent the physical library, and 10 percent the online library. Libraries remain an important source of information for college students but one that lags far behind Internet search engines. Furthermore, their clear preference for online information does not extend to online libraries. Clearly libraries are not keeping apace 'of user expectations in this area. (Sennyey, 2008)

**Michael Robinson (2008)** in the article, “Digital nature and digital nurture: libraries, learning and the digital native” said about net generation. Definition given by Prensky (2001a) said that, “the first generations to grow up with new technology. They have spent their entire lives surrounded by and using computers, videogames, digital music players, video cams, cell phones, and all the other tools and toys of the digital age. Computer games, email, the Internet, cell phones and instant messaging are integral parts of their lives.” He defines digital natives as information seekers and as librarians. Case study of Hong Kong academic libraries is taken to reflect on the appropriateness of digital services.
The paper questions whether academic libraries have begun to recognize this phenomenon and change their services for digital generation students. Are they continuing with role in this or they are lagging behind. It is found that if libraries found a way to satisfy demand of their students it will be better served in the long run. (Robinson, 2008)

Muhammad Tahir, Khalid Mahmood and Farzana Shafique (2010) in the article, “Use of electronic information resources and facilities by humanities scholars” said that human satisfy their information need from libraries and personal collection. Libraries are also known as scholar’s laboratory. He said during the last three decades library services are tremendously change from traditional to electronic. Due to electronic information services geographical distance doesn’t matter. People and information can meet at any place at any time. It change whole academic environment. It changes teaching style and method as well as means of accessing information. Due to Electronic information many information are available in digital form in library, and information seeking behavior of user is changed. The study explores the availability and use of electronic information technology by art and humanities faculty in Pakistan University. Impact of modern technology in research and teaching is also mentioned.

Questionnaire is used as a data collection tool and it is distributed among full time research and academic staff of the university of Panjab, Lahor and Pakistan.

From finding it is concluded that E-database, E-Journals, digital book, internet and e-mail has large impact on information seeking behaviour of human. But they still prefer print resources because they face many problems in using electronic facilities. But they responded that their work will be easier with technology.

Further suggestions are given to improve electronic information services (Shafique, 2010)

Namkee Park, Raul Roman, Seungyoon Lee, and Jae EunChung (2009) in the article, “User acceptance of a digital library system in developing countries: An application of the Technology Acceptance Model” said that ICT plays importance role for social economic development. Study examines factors influence people to use digital library. Why people accept and reject digital information has been analyzed through Technology Acceptance
Model (TAM). To do empirical test of proposed model 16 institution of Africa, Asia, and Central/Latin America were selected. For survey questionnaire was distributed to 1370 users’ of 16 institutions. The response rate was 79%. After analyzing data it is concluded that external variables that affect real ease of use and usefulness need to be considered as important factors in the process of designing, implementing, and operating digital library systems. Which will help decrease the mismatch between system design and local users’ realities, and further facilitate the successful adoption of digital library systems in developing countries? (Namkee Parka, 2009)

**Nicholas Joint (2005)** in the article, “Strategic approaches to digital libraries and virtual learning environments (VLEs)” discussed how traditional library and information services have been “going digital” and how do these change can be implemented in libraries. He said that proper planning and maintenance is the basic requirement of being digital. Before implementing e-resources in the library it is necessary to learn what is e-learning. He said that information strategies were marketed as a tool for pursuing more efficient way of conducting existing form of research and teaching. Initially, e-learning platforms may well be best marketed as tools for facilitating existing forms of teaching carried out with transmission-based pedagogies. It is concluded that digital libraries were introduce in natural way but have turned out with powerful agent for the promotion of independent learning. (Joint, 2005)

**Nicholas Joint (2007)** in the article, “Digital libraries and the future of the library profession” said that development of digital library technology effect library professional much. Laymen’s consider libraries as “failed computer”; he said traditional library’s skills are unnecessary due to mechanism of information technology. When every information is on internet the libraries will be down.

It is found that digital revolution does not affect traditional libraries. Print resources are still needed while digital resources are escalating in demand. (Joint, 2004). He said that digital library services should supported by librarians. So we can say that to say “when computer succeed, librarian fail” is nonsense. But the true is libraries are bridge of digital and traditional libraries. (Joint, 2007)
Nicholas Joint (2006) in the article, “Digital library futures: collection development or collection preservation?” said that importance of digital preservation issues are being highlighted by digitization collection development policy.

Findings said that it is necessary to create balance between the need of developing digital collection and preservation of the digital collections it also highlights problems of developing digital literacy in digital library environment.

It is concluded that to be truly useful as a practitioner discipline, LIS research needs to keep its academic vision broad and sophisticated. In this way LIS research helps us to answer fundamental, practical professional questions, such as ‘whither digital libraries - collection development or collection preservation’? (Joint, 2006)

Perpetua S. Dadzie (2009) in his article “E-Learning and E-Library Services at the University of Ghana: prospects and challenges” says about E-learning facilities available in University of Ghana would be is integrated with the services of university library system to improved their services. Rapid development in technology is due to 21st Century. Technologies include computer and internet facilities. According to his view E-Learning separate instructor and learner, learner and learner, learner and learning resources. Because they got all information from internet and it is at any place and at any time.

The paper is giving important on two levels. First modest contribution to the e-learning and importance significance on how e-learning and e-library contributed. In the conclusion after findings, it is said that two third staff did not have knowledge of how to access e-learning resources. Some of them do not have facilities of computers and internet at home. The website does not have sufficient users due to several problems. So it necessary for university staff to find different ways of publicizing its use to facilitate teaching and learning.

In study of university of Ghana, he develop advance e-learning system by introducing knowledge environment for web based learning in the university, which is also known as KEWL (Knowledge Environment for Web based Learning). It is advance E-Learning system, developed collaboratively by African University. Assignments, videos of lectures
are uploaded in it. It is full fledge tool for problem based learning. It includes wiki, rubrics, mailing list or many more. But it can be accessed within university location. (Dadzie, 2009)

**Raj Kumar, P V (2007)** in the article, “Boundaries for the boundless: Modernizing the digital libraries- Anna university initiatives” highlight difficulties and hardship face in making digital library at Anna University. He gave brief description about university and its library. He also explain meaning, need for implementing digital libraries and difficulties faced to implement the same. He is concluding by giving few valuable suggestions to make digital library more pervasive. (Raj Kumar, 2007)

**Roger L. Cross (2011)** in the article, “Digital books and the salvation of academic publishing” said that libraries continues exist as an avenue of intellectual and academic address to ensure the constant presence of small, specialized and non-profit publishers in the era of rising publishing monopoly. It review success of publisher’s plans for expansion in digital market, and contrast this with the continued financial hardship of public welfare academic publishers.

Findings suggested that the problems for non-profit academic publishers will not be solved by simply “going digital”. Librarians need to exclude small academic publishers from further loading through cooperative collection development.

Liu, 2011 said that, there are two economic cultures in a world. One culture based on public welfare, the other on profits that can extend the limits of all reasonability. Now a day’s academic libraries become an active customer due to customer awareness. (Cross, 2011)

**Saeed Rezaei Sharifabadi (2006)** in the article, “How digital libraries can support e-learning” said that the growth in e-learning, in which education is delivered and supported through computer networks such as the internet, has posed new challenges for library services. E-learners and traditional learners now have access to a universe of digital information through the information superhighway.

This paper examines how digital libraries are responding to the challenges of delivering core services to e-learners. It also examines library practices and technologies being applied in the construction of digital libraries. Challenges and Opportunities which digital libraries bring to the support of e-learners, as well as the importance of providing support within a
collaborative environment, which stresses human factors such as communication and interaction, will also be discussed.

It is found that there is an enthusiasm to use online information resources for research and teaching, but this seems to be matched by a lack of awareness of how best to integrate these resources into the e-learning environment. The paper provides a useful insight into the role and influence of digital libraries and online resources on e-learning. (Sharifabadi, 2006)

Sharma, J C (2007) in the article, “Digital information management and retrieval system”, said about digital form of library and information due to development of IT and information overloaded on internet. Collection development, processing and dissemination of information are major challenges in digital library. It is information resources which contain information in the form of binary digit and therefore it create digital resources in hard disk of computer or can be stored on CD Rom, which can be accessed on internet easily. At last he describe in Indian scenario, user wants web based information resources due to the location, time accuracy and speed advantage. (Sharma, 2007)

Soheila Mohammadyari, Harminder Singh (2015) in the article, “Understanding the effect of e-learning on individual performance: The role of digital literacy” said that e-learning is in the form of technology. E-learning provides users without limitation of place and time they can access information. E-learning is become widely and quickly accessible because it provides opportunity to communicate between peers, teachers and learners. E-learning also widely used for job performance, training and working. It gives brief idea on digital literacy. The paper purposes that digital literacy in the individual's affects its level of performance and effort expectations. To explain the influence of digital literacy on the intention of individuals to continue using e-learning and their performance, it integrate the concept of digital literacy with the Unified Theory of Acceptance and Use of Technology (UTAUT)

Data were collected June to December, 2008 using self-administered questionnaire. Auditors, financial accountant and managerial accountant are targeted for the study. From the analysis it is found that e-learning learning provide benefit like access to wide range of information, which is available for data learning resource and lower training cost. The
result showed that continuous usage of e-learning effect individual performance, legitimizing the investments.

It is concluded that although e-learning is used more these years some experts demonstrated willingness to explore new approach. The results discovered the impact of factors such as performance expectancy and individual-level social influence on the continuance intention of e-learning and its effects on their performance. It also found that digital literacy as a erect deserves more attention in e-learning and other settings because it incorporates the idea of IT use as a skill that evolves. (Soheila Mohammadyari, 2015)

Sudatta Chowdhury, Monica Landoni and Forbes Gibb (2006) in their article, “Usability and impact of digital libraries: a review” said that large number of digital libraries are available is found from research on digital library. The main aim of the paper is to review work on usage of digital libraries. To identify general usability and impact measures exact studies on usage and effect of digital libraries in exact area is also discussed. It is found that many approaches have been used to found to access usage shown. Moreover practical characteristics of digital library design, there are a many usability issues such as globalization, localization, language, culture issues, and content and human information behaviour. This paper focuses on usability and effect.
This paper provides visions into the state-of-the art in relation to the usability and impact of digital libraries.(Sudatta Chowdhury, 2006)

Suzie Allard (2002) in the article, “Digital libraries and organizations for international collaboration and knowledge creation” said knowledge has been describe as according to Conciccao et.all, 1997 “a global resources that is the embodiment of the human intellectual capital and technology”. He said knowledge creation process is an activity to think and it must be address and make easy, and it can be start by reviewing the knowledge creation process. Digital libraries provide technological mechanism and promote an organizational structure which encourages communication between scholars who are both creating and consuming information. The paper will be briefly outlined the knowledge creation process and the relationship between technology and human organization. It will also introduce two model of electronically based scholarly organizations that promote international collaboration and facilitate knowledge creation, and will offer eight steps towards the
building the effective organization for utilizing DLs for international collaborations. (Allard, 2002)

William Y. Arms (2012) in the article, “The 1990s: the formative years of digital libraries” discuss principal digital libraries projects held during the 1990s and its impact on modern libraries. It combines information from contemporary papers about the projects with recollections by the author who was personally associated with many of the projects.

It is found that for building online collection and access them on network will be successful in 1990, the result was a mean of trial and duplication. The paper places most dominant projects in context and discusses why experiments succeeded while others fell by the wayside. The value of this paper is that the projects that formed the libraries of today were badly documented and it is difficult to find good information about some of them. (Arms, 2012)

Ying Zhang (2007) in the article, “Libraries in the Digital Age: LIDA 2007” said that eight annual conference of libraries in digital age was held from 28 May to 2 June, 2007 at the Inter-University Centre, Dubrovnik, and Hotel Odisej, island of Mljet, Croatia. The conference theme was to introduce digital library. For approaches are given to consider facilitating re-use of existing information, to create new information objects, to help users to learn and to support social interaction among people. Several case studies reaching from digital collection development, evaluation and service are also mentioned. (Zhang, 2007)

2.4.3 Web 2.0 technology and mobile learning.

Alison Hicks Alison Graber (2010) in the article, “Shifting paradigms: teaching, learning and Web 2.0” suggested that how libraries implement change after rapidly changing structure and creation of information by new technology. The author explores various definitions of web2.0 as well as developing viewpoint of students learning. The paper also discusses applications of Web 2.0 designed to improve student and faculty engagement in the research process. It explains how web2.0 technology supports teaching and learning, it also encourages librarians to think beyond the technology. The paper discusses applications of Web 2.0 designed to improve student and faculty engagement in the research process.

He concluded that Web 2.0 show the way to an influential change. It causes us to reconsider the creation and development of information and knowledge based on the five Cs of
participation: community, collaboration, creativity, conversation and control. It is also concluded that web2.0 technologies create stronger connection between libraries and learning communities that they serve. (Graber, 2010)

Abhijit Chatterjee and Arabinda Maity (2014) in the article, “Communication of Universities of Asia through Facebook: A Study” said that we are moving towards the knowledge era, and for that large amount of information are required and used by all the communities. Information can be spread through communication. Proper information, effective communication and effective channels help to make the event most effective. With the development in the ICT computer, electronic equipments and telecommunication are used for communication. Academic institutions are making use of internet to communicate. But for effective communication we requited to select proper means of communication and technological development forces us to use different way of communication. Social networking, MySpace, facebook, twitter, texting, YouTube are widely used as communication tools for personal communication. In the same way for education web2.0, social networking, blogs, wikis multimedia object, podcast are commonly used. From all the available social networking facebook is more popular in common people. Institutional web sites and facebook page are visited to gather required information. If the information is not available then Google search have been done using different search terms. After collecting the information it is analyzed and found that most of the universities maintain the facebook page, less talking on facebook page indicate poor maintenance of facebook page. With the course of time, it is expected that Facebook will appear as an important way for quick communication among the educational institutes and its users and also all the universities/institutes in Asia must have the Facebook account for the most effective communication. Therefore it should be managed by some responsible persons and should be regularly updated, maintained and reply to the different posts must be given. (Maity, 2014)

Technology and its Application in Academic Libraries” said that initially there was web page in which we can read information only. Web2.0 is modified version of web1.0. Web2.0 has a facility to contribute online in the others post. Give your suggestions and take suggestions for your post. Web 2.0 tools and technology are Internet based services which consist of social networking sites, blogging sites, RSS, podcasting, wikis etc. He said for academic libraries two factors are essential i.e. students and staff. He said in 2012 around
585 facebook users log onto the site daily. 72% of Hispanic, 68% of Black, and 65% of white internet users use social networking sites. 15% of social network site users have gotten any health information on social networking sites, 67% of online adults use social networking sites; and 40% of cell phone owners use a social networking site on their phone. Name and purpose of different social networking sites have been identified. Main objective of web2.0 and library 2.0 is identified in this paper. (Singh, 2014)

**Aiguo Li (2013)** in the article, “Mobile Library Service in Key Chinese Academic Libraries” said about shifting of information from online environment to mobile environment. Many libraries are now a day’s offering web opac facilities but technologies will be more advance. Many libraries in China have offer “mobile library services”. Every university web site listed by the Central People's Government of the People's Republic of China via has been visited. Data were collected from 39 university’s site out of that only 5 library services have distinguished Colum of mobile library services. From whole analysis it is found that 14 university library have marketed their mobile library services on library websites. From the data it is concluded that majority of the people are still looking mobile as means of communication and it is just used for phone calls and SMS, they are not much interactive with mobile for information seeking. They are also using mobile as to keep diary, taking notes, and email and internet access. So they are expecting from libraries to provide some services in mobile friendly way. (Li, 2013)

**Angela Dove (2006)** in her article, “Effective environments for knowledge and learning: what theatre and television design, museums and writing can tell us” says that for learning organization physical space is prime assets. He state about designing new project for creating excellent knowledge and learning environment. He gave importance to physical space designing in libraries for comfortable environment for knowledge and learning. (Dove, 2006)

**Barman, Dhiru and Kalika, RidipJyoti (2010)** in the article, “Library 2.0 moving towards new generation” gave detail description about library2.0. It also explains about emergence of library 2.0 from web2.0. he said that Library 2.0 is not only searching & finding but it is also sharing. Some basic example of how library 1.0 moves to library 2.0 is given. At last he concluded that library 2.0 is about using best tools and ideas to provide best possible
services to their users. So libraries do not shy to add advance functionality and feature to their sources and services. (Barman, 2010)

Carmen Holotescu and Gabriela Grosseck (2011) in the article, “Mobile learning through micro blogging” said that mobile device is most popular, wide spread communication technology in the earth. Mobile device can be used at any place, at anytime, anywhere by anyone. Recent study appears that few academic institutions have adopted mobile learning technology. That is known as m-learning. We can use the platform to mobile learning is Twitter, Plurk, Edmodo, FriendFeed, Cirip and to some extent Tumblr or Facebook. Today’s generation is that who do not know life without mobile. Statistics found that 94% of the college students are using mobile. Paper aims at incorporating micro blogging in higher education by valorizing the mobility constraint of the cirip.eu platform for the purpose of increasing knowledge and learning in authentic environments. Thus it purposes to provide overview for using micro-blogging through technologies. (Carmen Holotescua, 2011)

Clare madgea, Julia Meek, JuneWilleness and Tristram Hooleyel (2009) in their article "Facebook, social integration and informal learning at university: ‘It is more for socializing and talking to friends about work than for actually doing work’, says that 95% of British undergraduate students are using social networking sites. This paper purposes to show how students are affected with the university Facebook network. According to him Web2.0 technology is information sharing and collaboration between users. It include social networking site like wikis, blogs, and video sharing sites.

Study was conducted and found that more than 54% students are member of Facebook before joining university. 25% students join it immediately after joining college. And 13% join after university development of their Web page. University upload students notice and current affairs related to university on facebooks. But students are more interested to meet their friends and relatives on Facebook. Very less students are discussing their project work or academic work on facebook when in a survey asked then whether they meet their teacher on face book to ask academic question, their view is that they are not feeling good to contact their teacher on facebook. Email is good option for students to meet their teacher. So Facebook is not seen much important tool for students and teacher instruction. (Madgea, et al., 2009)
Dawood Salim Al Hamdani (2013) in the article, “Mobile Learning: A Good Practice” said that in the past books and teachers are important sources of for getting information but with the introduction of information, communication and technology, information can be access from personal computers and mobile devices. These resources are easy to access. Now a day’s mobile are more improved in case of memory storage, interactivity feature and high data transfer speed. The paper includes meaning and definition of mobile learning, constructivist approach of mobile learning application. New role of teachers and learners and learning activities. Questionnaire is prepared to collect data. It is found from data that students using their mobile in and outside class room for learning. They posses’ good IT skills. It is concluded that all students of Sohar University are aware with mobile technology and using mobile device for learning. (Hamdani, 2013)

Dheeraj Singh Negi (2014) in the article, “Using mobile technologies in libraries and information centers” explain about the concept of Mobile Communications how people search, receive and interact with information on a daily basis. He enumerated that in few years’ smart phones, tablets and e-readers use has been steadily on the rise. These mobile tools provide transferable access to the world of information, through boundaries of subject, discipline and organization. Development of handheld devices, with new high-speed wireless data networks, makes browsing the mobile Internet a more convincing experience.

Many features are available for today’s handheld devices, Desktop synchronization, cameras, downloadable content, email, video, GPS, instant messaging; quick response etc. features are available in mobile. He suggested few services used in libraries and information centers that are mobile online public access catalogs (OPACs). E-books and e-book readers, library short massage services and virtual services. He concluded that the explosion of advanced mobile technology and strong digital information collection capabilities should rapid libraries to examine carefully the implication for user privacy without arresting heavy security measures or annoying disruption. (Negi, 2014)

Emily Neo and Philip J Calvert(2012) in their article, “Facebook and the diffusion of innovation in New Zealand public libraries” says that facebook is one of the most successful networking application. It is found by Mark Zukerberg at Harvard University
that Facebook has 500 million members in the world in 2010. Using Roger’s Diffusion Innovation theory survey of nine public libraries is investigated to know whether to adopt or non-adoption of Facebook. The motivation factor is that both staff and students are using Facebook. Libraries keep in touch with the updated technology. To market your product and services on Facebook is getting more success, as a large amount of population is available on Facebook. It is developing staff as well as student’s interest. But it is found that students are interested to meet their friends and family on Facebook than use it as an educational tool. Factors for non-adoption of Facebook are that: it has poor response and there are many risk involve introducing Facebook. (Calvert, 2012)

Emmanouel Garoufallou and Vassiliki Charitopoulou (2012) in the article, “Web 2.0 in library and information science education: the Greek case” said that LIS staff have implemented new technology for improving teaching and learning. It identified about the expectation of Greek LIS students their classes concerning Web 2.0 and social media applications; implementation of successful technology is the faculty’s responsibility. The study was conducted in two parts. The first part was conducted in December 2009 at the LSIS Department of the Alexander Technological Educational Institute (ATEI) of Thessaloniki, as part of a dissertation (Charitopoulou, 2010). A questionnaire was designed and distributed using the online tool Survey Gizmo (www.surveygizmo.com).

A questioner is both open and close, which is distributed, total of 240 students responded (a 25 per cent response rate). Students were prepared to the survey via e-mail, blog posts and Facebook posts. And the second paper, concerning the use of Web 2.0 and Greek LIS education. It consists of findings from the survey, a literature review of updated article on the subject are investigated. The researchers declared the results of the survey in lecturers of the LSIS Department to express their opinion about students’ views regarding the use of Web 2.0 tools in LIS education.

He found that most of the students are known to the majority of Web 2.0 tools. They are ready to attain training of web2.0 to enrich their knowledge. They like to learn about Blogs and wikis. It is also found that cooperation between librarians and computer scientists will give more benefit to the profession. The faculty staff agrees to use web 2.0 tools in classes
as a communicating tool with students but they feel that it is too early for these tools to play a learning role in LIS teaching.

It is concluded that the introduction of Web 2.0 in schools and in LIS departments, is very important. There are only a few studies about Web 2.0 in Greece. This study will help LIS faculty to understand students’ needs about Web 2.0 in order to improve their units and LIS curriculum and adopt Web 2.0 applications to their classes. On the other hand this research records for the first time the views of the Greek faculty members concerning Web 2.0 and social networks.(Charitopoulou, 2012)

**Frank Boateng and Yan Quan Liu (2014)** in the article, “Web 2.0 applications' usage and trends in top US academic libraries” aims to explore use of Web 2.0 technologies and its tendency in the top 100 US academic libraries which is show through its websites. A research was conducted through questionnaires and content analysis was used in terms of quantitative approach. Websites are visited within a period of two weeks to explore implementation and usage of web tools, including SNS, blog, RSS, wikis, podcast/vodcast, and social bookmarking/tagging. All 100 academic libraries had a social media presence on Facebook and Twitter, making SNS the most widely applied Web 2.0 tool. Study on usage of web2.0 is completely based on publicly available data. Outcomes suggest that academic libraries are increasingly using Web 2.0 applications to enhance library services, and highlight resources to patrons.(Liu, 2014)

**H. Wordofa Kebede (2014)** in the article, “Adoption of Web 2.0 in academic libraries of top African universities” explores study of web2.0 technology used by universities of Africa. It identified how web 2.0 technologies were used. It include social networking sites, blogs, wikis, RSS, instant messaging, social bookmarking and tagging, social media sharing, mash-ups, and many others(Mahmood and Richardson, 2011). It also include sharing photos, videos, and documents using media sharing sites; facilitating content generation, communication, and collaboration using blogs, wikis, and social networking sites; and providing “opportunities to interact in new ways. (such as Second Life)” (Conole and Alevizou, 2010, p. 10). Libraries are early adopter of web 2.0 so they are termed as library 2.0. 82 top university libraries of Sub-Saharan Africa’s website is analyzed A content analysis method was used in this study. The data was collected by visiting the library websites from December 2011 to May 2012 and it is accessed from university
website. Content on the library websites, as well as links to various web pages, were studied for the availability of any social web tools. Also, search engines were used to find Web 2.0 tools associated with the libraries.

About half of the libraries in the study adopted Web 2.0 applications. Most widely adopted is Social networking and social bookmarking and tagging were the least used applications. Use of Web 2.0 in African academic libraries was still in early stages. Web 2.0 plays a key role in facilitating information sharing, collaboration, and communication between librarians and patrons, and among librarians. It is essential for African libraries to integrate these technologies into library services to enhance the quality of services. This is likely the first study about Web 2.0 applications in African academic libraries. It is a useful source for implementing web-based technologies in libraries. (Kebede, 2014)

Hui-Lan H. Titangos and Gail L. Mason (2009) in the article, “Learning Library 2.0: 23 Things @SCPL” said that online program allow all participant to explore free online tools and technologies which are known as web 2.0. 23 Things describe is @SCPL is a self-directed. One of its goals is to advocate the practice of life-long learning. It is created to encourage staff to learn about the new and rising technologies that are redesigning the situation of information on the Internet. 23 Things @SCPL is large computer technology-training project in the history of Santa Cruz Public Libraries. It change the staff way of thinking and working in modernization time. Participation in Program is voluntary, and open to all regular employees, which assemble more than two thirds of the staff. It is not only introducing new methodology but also promoting the concept that learning is not only self-directed and collaborative but also fun and rewarding. (Mason, 2009)

Hui-Chun Chu Gwo-Jen Hwang Shu-Xian Huang Ting-Ting Wu (2008) in the article, “A knowledge engineering approach to developing e-libraries for mobile learning” said that digital libraries are important constituent of global information infrastructure. Researcher also concern about the using innovative information technology for managing their resources. It is found that e-library developed effectively support the training of observation and classification skills for elementary school students.

The feedback portrays the benefit of applying innovative approach. They said that “personalized” and “effective” are the remarkable benefits of the mobile learning environment with the supports from the e-library. They emphasized that the mobile
learning system can be much more personalized than traditional. It is concluded that the innovative approach in this study can effectively improve the performance of training observation and classification skills of elementary school students. (Wu, 2008)

**Iris Xie and Jennifer Stevenson (2014)** in the article, “Social media application in digital libraries” investigates application of social media in libraries and identifies related problems. He suggested that social media is one of the way of communication through the internet that allow social interaction. People effective communicate with each other on social media. Use of social media by cultural institutions’ is applied to their digital libraries is analyzed. A cultural institution includes libraries, museums, and archives. The primary focus is to define various social media applications and to research existing literature regarding how and why libraries, museums, and archives have implemented social Media applications in their institutions. The aim of the paper is to identify digital libraries and their associated institutions that have implemented social media as a part of their services.

The study found types of social media applications, update frequency, types of interactions between digital librarians and users, as well as various types of roles they played. After analysis it is found that problems are related to lack of standards, creating two-way communication channels, and the lack of education functions. This study examines the current status and problems of social media application in digital libraries as well as suggestions on making good use of social media to connect users and digital libraries. (Stevenson, 2014)

**Isto Huvila, Kim Holmberg, Maria Kronqvist-Berg, OutiNivakoski and GunillaWidén (2013)**

in the article, “New competencies or interactive relations? A library professional viewpoint - What is Librarian 2.0” state that library 2.0 means change in the interaction between librarian and users. Development in the internet is the main source of change in the information world. Libraries 2.0 also change towards increase use of social media. The research shows the qualities expected for a ‘Librarian 2.0. for Idea to find the way to access information on internet and interact with their user using e-mail, blogs, or web pages. (Isto Huvila, 2013)

**J. Roschelle (2003)** is his article; “Unlocking the learning value of wireless mobile devices” says about important choice of technology popular in classroom is handheld computers. Because of its low coast and communication feature it achieves more
popularity. To say Wireless mobile learning connects users and learners is not true. In this case research needs to find more exact necessity of quality of wireless networking which satisfy exact educational requirements and desires. Further research is required to understand educational need arising out of simple wireless and mobile technologies. Third, ‘large scale’ impact depends on the amount to which a common platform, that meets availability of pedagogically rich applications. At the moment ‘wireless mobile technologies for education’ are very varied and mismatched; to achieve this level, a strong vision will be needed to lead to standardization. (Roschelle, 2003)

Jane P. Currie (2010) in the article, “Web 2.0 for reference services staff training and communication” focuses on use of Web 2.0 to improve training and communication within the reference services department. Managers of reference services whose staff includes student employees, non-student staff, professional librarians, or a combination thereof may adopt its suggestions. examples of web2.0, blogs, calendars, RSS, podcast, vodcast, image collection, social bookmark, text messaging and social networks are describe in the paper. It is found that Implementing Web 2.0 tools are successful for sharing procedures, ideas, and new developments within a reference services department. The paper provides useful approaching into training staff using Web 2.0 applications.(Currie, 2010)

Jeremy B Williams and Joanne Jacobs (2004) in their article, “Exploring the use of blogs as learning spaces in the higher education sector” explain importance of blogging and its potential as learning space for students. It transforms technology into teaching and learning. He gave an idea of including well-known journals like proquest, EBSCO AND Gale on blog.

Hennin 2003 says that as per the last forecast suggested that the number of host blogs created will exceed five million by the end of 2003, and 10 million and by the end of 2004 (Hennin 2003)

Blogging encourage students to become more analytical in their thinking as they get several views about their own work on blogging. (Mortehoe& walker 2002, cited in lamshed, Bars& Armstrong) He said that blogging is an effective aid for teaching and learning. (Williams, 2004)
Jim Hahn (2008) in the article, “Mobile learning for the twenty-first century librarian” proposed to provide guidance for librarians for producing mobile learning (m-learning) initiatives. Literature review presented on mobile technology use both within the library and information science arena and projects outside of it, such as human computer interaction (HCI) and medical informatics research. Mobile technology utilization is not famous development in librarianship. This paper explores the confront ahead and strategies for adoption of mobile digital services in libraries. This paper describes new form of learning through mobile technology. Other section reports on mobile applications in libraries and third and final section includes a review of resources and suggested philosophic frameworks for nature of mobile.

Conclusion, suggested that thoughts about m-learning philosophy gives the library a way of becoming something more than it is now. It is activeness in the learner and life for the library space. He said that the m-library does not mean the end of usefulness for libraries or librarian but it is an opportunity for crafting new library services such as in-library exploration, social engagement, and outreach to traditionally underserved populations.(Hahn, 2008)

Judit Bar-Ilan (2005) in his article, “Information hub blogs” says that Blog become important activity and used to convey professional information on web. The link of information is given in the blogs, as users can access all the information from one place is the motive of this type of blogs. Other readers can comment on one common post, so it can be a discussion about the authentication of your information. Survey of fifteen Blogs on topic oriented is done and they are monitored for (Sep-Oct, 2003). The blog chosen was including library and information science. It is found from the study that these professional blogs are excellent sources of information for the users.(Bar-Ilan, 2005)

Jamie M. Graham, Allison Faix and Lisa Hartman (2009) in the article, “Crashing the Facebook party: One library's experiences in the students' domain” discusses about the popularity of facebook among the youngsters. It also said that as youth today is passing more time on facebook it is good practice if libraries connect with their users by facebook and update them with the latest availabilities in libraries. It creates new virtual environment for students. The paper presents the experience of Kimble Library who tries to connect with their users on facebook. Study found that most of the Kimble libraries having similar
experience as of other academic libraries. It is also mentioned that fare use of this media, help to establish good professional relationship. (Hartman, 2009)

**Julia Gross and Lynette Leslie (2008)** in an article, “Twenty-three steps to learning Web 2.0 technologies in an academic library”, state that In April 2007, Edith Cowan University Library (ECU) embarked on a project to train its staff in the area of Web 2.0 technologies. He thought web2.0 is another major development after internet. Online encyclopaedias, Wikipedia are classic example of web2.0 technology.

He describe about the program of learning 2.0 is introduce by university for library staff is on web 2.0 technology through blog. It is to identified need to raise staff awareness of Web2.0 technologies. It includes current learning theory and stick to adult learning principles. As a result of the training program Web 2.0 technologies are now being created and included into work proper and are providing new opportunities to connect with our users. (Leslie, 2008)

**Joanna Bryant, Graham Matthews and Graham Walton (2009)** in the article, “Academic libraries and social and learning space: A case study of Loughborough University Library, UK”

said that in 21st century libraries not only need to virtually developed but also required physical space. Libraries should grow with digital collection has raised first questions about library building and space. This article is a case study from Loughborough University in the UK to evaluate the use of a large open learning/social space in the library. Investigation took place between March and August 2007. The investigation employs an ethnographic approach to gather data, a method little used in the field. Findings are explored under the following themes: collaborative study, individual study, social space, intrusions and interruptions, use of technology, diversity, library staff/library materials and spatial organization. The role of ethnographic studies within the library context is considered alongside the broader theoretical considerations of the use of physical space. (JOANNA BRYANT, 2009)

**Kalita, Kishore (2010)** in the article, “Competencies of Library and Information professionals in library 2.0” explains about library 2.0 concept, it also explain about concept of web2.0. Four essential element of library 2.0 have been explained. She added
that to adopt web2.0 technology in library, library professional have also change their capacity. The paper applies the theory and definition to the practice of librarianship in the library 2.0 environment. It is concluded that the library 2.0 changed the concept of traditional librarianship. (Kishore, 2010)

Lung-Hsiang Wong and Chee-Kit Looi (2011) in the article, “What seams do we remove in mobile-assisted seamless learning? A critical review of the literature” said that Seamless learning is learning experience of seamless learning refers to the seamless integration of the learning experiences across various scopes which include formal and informal learning, individual and social learning and physical and cyber space. It also explains meaning of seamless learning and gives possible aspect to put it in practice. After reviewing recent academic papers on mobile-assisted seamless learning (MSL), ten characteristics of seamless learning are identified. It allows us to identify research gaps in the given area. Adopting MSL design and doing new design can use our analysis to situate the dimensional space where the limit or parameter of his or her design problem lie, and look at relevant design and research-based evidence of other related MSL systems to refine her own design. (Lung-Hsiang Wong, 2011)
Maharana, Bulu, Majhi, Sabitri and Bhue, Shiba (2010) in their article, “Social bookmarking: Web 2.0 tools for content sharing and learning” says about social bookmarking and tagging and its impact on web2.0 environment. Rate of generation of information has been increased with the introduction of electronic media. He says Delicious is one of the most popular social bookmarking tools. The paper defines social bookmarking and discusses its various aspects with specific reference to learning. (Bulu, 2010)

Margot McNeill, Ming MingDiao and Maree Gosper (2011) in their article, “Student uses of technology in learning: two lenses” said that Barnes and Tynan tell the story of an imaginary British student who uses technology seamlessly to stay connected almost 24 *7 with friends, peers and teachers in a global learning environment. Whether she is representative of the majority of university students is a topic of debate in the literature. This paper aims to explore about use of technologies by students in their everyday lives, whether on- or off-campus, for learning. There were two phases of the study; a photo ethnography to enable a detailed exploration of ten students’ technology uses and then a university-wide survey in which 1,104 student responses were gathered. The findings of the study suggest that students’ uses technologies for their learning and in other side of their lives such as e-mail, text and mobile phone. For their learning, their preference is for tools to provide access, efficiency and connectedness.

This paper explain to the development understanding of student issues related to overall IT experience at the university, and designing technology infrastructure. There are also insights into the power of mixed methodologies in research, with significant parallels between the qualitative and quantitative results. (Margot McNeill, 2011)

Mal, Debkumar and Das, Subrana K (2010) in the article, “Web-based information management at Institute of Technology & Marine Engineering Library: A case study” said about web based library and Information services make easy to deliver information to their users. It discusses in brief information about web based information services. It also discuss about Institute of Technology& Marine Engineering library and its services. It is concluded that the web based library services is a movement and they are taking full advantage of internet, intranet and web based facilities. (Mal, 2010)
Martin Kesselman (2008) in the article, “Web 2.0 Expo in New York: building online communities” said about launch of first annual web2.0 expo at the Javits Center in NYC from September 16-19, 2008 which is launched by Tech Web and O’Reilly. It focused on developing web2.0. He wishes to create environment which continuously engage customers by Successful implementations of Web 2.0. conference focus was on business and participants from non-profit organizations and from museums. It is true that Social networks, tagging and social bookmarks, and user-generated content are features by which businesses are bringing excitement to their websites and developing customer loyalty.

Everyone using mobile phones now days, libraries can use applications of the mobile web and text messaging. In practical words, it is important to create new environment then to recreate the physical library that allow users to experience and learn about information in new ways. At last he said that More information on the Web 2.0 Expo and can be found at the conference website, www.web2expo.com/webexny2008. You can keep up to date on new web2.0 applications on the blog, Mashable: Social Networking News (www.mashable.com). (Kesselman, 2008)

Miriam Akeriwa, Cecilia Penzhorn and Marlene Holmner (2014) in the article, “Using mobile technologies for social media based library services at the University of Development Studies Library, Ghana” said that social media become an integral part of our lives. Libraries are also using latest ICT for providing their clients effective and efficient services. The article aims to investigate opportunity for providing services through social media on mobile device to graduate students at the University for Development Studies Library in Ghana. It also provides overview of various technologies and available services. Questionnaire was used as a data collection tools. Out of 155 respondent 119 respondents answer the questionnaire. 89% are using social media applications while 11% answering the negative. The majority of the respondents (94 percent) stated that social media should be applied for library services; with instant messaging, social networking and social bookmarking regarded as being potentially the most useful applications for such use. It is concluded that Social media applications and mobile technologies have radically changed the way people access and use information. (Miriam Akeriwa, 2014)
Mohammad Aqil, Parvez Ahmad, and Mohammad Asad Siddique (2011) in the article, “Web 2.0 and Libraries: Facts or Myths” said that web2.0 is user centered design as in web2.0 is not only to access information but also generate information. It highlights web2.0 tools like social network, RSS feed, blogs, streaming media, podcasts, Wikis, tags, mashups, etc. How different library services and activities can be implemented through this web2.0 is also define. Difference between web2.0 and web1.0 is given. But if the libraries are not having sufficient IT staff face problem for adopting this services. It is concluded that web2.0 makes library services more interactive. It will surely have an impact in library services and its usage. (Mohammad Aqil, 2011)

Moria Levy (2009) in the article, “WEB 2.0 implications on knowledge management” said about implementation of web2.0. It is built from three main sections: WEB 2.0 review. Enterprise 2.0 – The WEB 2.0 reflection in organizations. KM 2.0 – it explain the way of enhancing of knowledge management by WEB 2.0. It gives plan of web2.0event and gives suggestions on knowledge management. Recently published article are analyzed. Wiki’s, blogs, RSS, Google docs. Tagging, social computing et care tools of web2.0 are analyzed in the article and connect it with knowledge management tool. He said organizations are encouraged to start using WIKI’s or blogs. WEB 2.0 concepts should be tested as to organization’s maturity, to decide if they can be adopted as part of the organizational knowledge sharing.

At last he concluded that knowledge management is including new waves of WEB 2.0. (Levy, 2009)

Peter Godwin (2009) in the article, “Information literacy and Web 2.0: is it just hype?” said that web 2.0 provides way to librarians to help their students to become more information literate. He said information is overloaded on internet and libraries transformed in library 2.0 for that information literacy is required. Web2.0 tools provide new interactive way to engage web generation. Librarians are implementing Web 2.0 as the tools to supplement their information literacy involvement. Many of these are being well received but their quantity and measures of their impact on learning have yet to be assessed. At last he said that the link between information literacy and Web 2.0 is narrative, encourages constructive learning and enables respected educational methods (e.g. reflection) to be used in different ways. (Godwin, 2009)
Pradhan, Debasish and Panighahi, Pijushkanti (2010) in their article, “Library2.0 emerging as new generation interactive library services” describe difference between library 1.0 and library2.0 as it is derived from web1.0 and web2.0. It is suggested that changes is worldwide web is Web2.0 and it is substantially effect on library. Paper also describe different characteristics of library 2.0, which includes related technologies towards implementation of library2.0 services. He describe web2.0 services like streaming media, blogs, wikis, social networks, tagging, RSS feeds and mashups might intimate change in library services. (Pradhan, 2010)

Rajshekhara, G R and Gireesh, D R (2010) in their article, “Blog: A handy tool for librarians” said that information overloaded on internet. Because of that information professionals have develop habit of accessing information as reference tool for searching primary information. Today libraries are learning to promote awareness of their services. The article discussed basic of blogs, its history, type, feature and limitations. It also explains how it is used for libraries. (Rajshekhara, 2010)

ShamimAktarMunshi (2014) in the article, “Utilization of Social Networking Tools in the learning Process by Social Science Students at Aligarh Muslim University: A Survey” study describe utilization of social networking tool in learning at Aligarh Muslim University. Different social networking tools like face book, Twitter, MySpace, Flicker, Hi5, Blogger.com, Google buzz are briefly describe by author in this paper. Characteristics of social networking sites like multiple services to the users such as email, instant messaging, chat, video, blogging, file sharing, photo-sharing, etc. Students can easily interact with each other. It also provides updated information, and many others. To fulfill objective of the study and find answer of the question survey method is used to collect data. Questionnaire, interview and observation are used as a data collection tool. The finding reveals that 40% of the users are using social networking tool, so they are able to work on social networking tool without hesitation. 25% have excellent and 35% have good knowledge of social networking. It is concluded that in the digital era social networking provide a good solution for online learning. It effect modern society and positively changes people’s habit. (Munshi, 2014)
**Shawn Michael Bullock (2011)** in the article, “Teaching 2.0: (re)learning to teach online” focused on new model of co-operation and collaboration with the help of Web 2.0 technologies, as well as impact of Web 2.0 technologies on encouraging and formal classroom environment.

The paper is introducing discussion of the theoretical framework which developed pedagogical approach. It provides a brief summary of self-study of teacher education practices (SSTEP), an exact methodology that enables critical analysis of practice. The paper concludes with discussion of the implications of current research for future practice. (Bullock, 2011)

**Sirje Virkus (2008)** in his article, “Use of Web 2.0 technologies in LIS education: experiences at Tallinn University, Estonia” describe the experiences of the Institute of Information Studies of Tallinn University after introducing ICT and Web 2.0 technologies, in library and information science education, and to explore its role in learning and teaching. LIS educators have to take advantage of new modern technology for being in their profession. Web 2.0 is the latest development libraries have to adapt and they also need to have more digital resources in libraries. (Virkus, 2008)

**Sue Bennett , Andrea Bishop , Barney Dalgarno , Jenny Waycott , Gregor Kennedy (2012)**

in the article, “Implementing Web 2.0 technologies in higher education: A collective case study” said that web2.0 technologies have provided creating, sharing and interacting with other. Web2.0 includes sharing of image, audio-visuals, create and maintain online sources. It is found that rising Web 2.0 technologies could be successfully used in higher education to facilitate and enhance student learning. The paper details six Web 2.0 implementations that were followed from inception through to completion. The research was conducted across a range of disciplines, class sizes and year levels at the three participating institutions. A common strategy was used to collect comparable data from each case from which similarities and differences could be identified. The following sections describe the methodology used, summarize the implementation experiences of staff and students involved in each case, and discuss the key findings.
There are two stages of collecting data, first stage had collected survey and interview and data to determine the extent to which students and staff at three Australian universities engaged in particular types of technology-based activities. A key finding was that, at the time data was collected, only a minority of the 2588 students surveyed were frequent users of Web 2.0 technologies.

Student interviews further confirmed this lack of familiarity. This background data was used to inform the second stage of the project. Specifically, the results suggested the need for resources and supports to introduce students to the new tools. The purpose of the second stage was to advance understanding of how Web 2.0 technologies might be successfully used in higher education.

It is concluded that some of the Web 2.0 technologies are successful than others, especially which are related to education. It is found that effective use of Web 2.0 to students highly beneficial. (Sue Bennett, 2012)

Samuel Kai-Wah Chu and Helen S Du (2012) in the article, “Social networking tools for academic libraries” said that initially socially networking sites were used for networking with friends. There are many members on these sites because it is free to access, then social networking moves towards industries and institutions. And lately it has also been included in universities and libraries. This exploratory research aims to find contribution of academic librarian towards social networking. Review of literature shows advantage of applying social networking in academic libraries. For survey questionnaire was used for respondent from libraries who are using libraries social networking tools. The sampling paying attention on university libraries and was based on the Times Higher Education (THE) World University Rankings. From the top 600 universities listed on THE, 70 Asian universities were first identified and were matched with 70 western (North America and Europe) universities that were generally in the same ranking range. Altogether 140 university libraries were identified and invited via email to participate in the study. It is concluded that social networking tools were being used by a number of academic libraries. Libraries which are not using social networking planning to implement in future. The findings shows librarians’ experiences in using social networking tools, which may provide a useful basis for library staff and professionals who are considering the possibility of
implementing social networking as a part of their system. The phenomenon of social networking tools is likely to continue evolving rapidly. (Du, 2012)

Tom Kwanya, Christine Stilwell and Peter G Underwood (2011) in the article, “Library2.0 versus other library services models: A critical analysis” state about different library services models. In librarianship and information management circle, the appearance of library 2.0 model has catalyzed debates as how this model relate to other library services. Critical document analysis results to find out about what library service model exist, how the model compare as well as which models are suited for particular libraries. It is concluded that there is no one model which can suit all library services. But it appears that some model may give up more benefit than other to specific library community at particular time. (Tom Kwanya, 2011)

Utku Köse (2010) in the article, “A blended learning model supported with Web 2.0 technologies” said that due to development of ICT major changes have been occurred in different area. And to meet these changes people need more knowledge and understanding to complete their work. Education is also affected much with the ICT. Many developmental changes have occurred to realize requirement in educational studies. He said blended learning is different type of education techniques and technology. The paper defines how web2.0 technology support blended learning. It also describe bases of blended learning approach, development process of blended learning, survey result that students accept the blended learning model as a successful learning approach. It is concluded that academic achievement can be improved with this model. Today users are more reachable in blogs, facebook and they are accessing them on their mobile device, so further research is required to add blended learning model in mobile device. (Köse, 2010)

Vilas G. Jadhav (2014) in the article, “Application of Social Networking Services (SNS) for Library Collaboration: An Exploratory Study” said that now a day’s social networking become more popular and widely used by young generation. And one of the important advantage is they are using it on their hand held mobile device. He defines social networking services and its collaboration with the library. For the present study, use of social network services for library collaboration is considered as the individuals and groups involved in academic library collaboration including librarians, information and library
professionals. Resource sharing, work related projects, Resource description and standard of practice are the application of social networking services in library. The aim of the study is emergence of social networking services in academic libraries. Around ten semi-structured interview have been conducted. Academic librarians of the college are interviews and their perception is use of facebook and e-mail is good practice. And after analyzing the data advantages and disadvantages of particular tool is enumerated. It is concluded that facebook is popular among the librarians. Concept of implementing social networking can be successful after doing much survey. (Jadhav, 2014)

Xu, Qi Kang, Zhiqiang Song and Christopher Peter Clarke (2015) in the article, “Applications of Mobile Social Media: WeChat Among Academic Libraries in China” said that due to advances in mobile networking and wireless, internet access increases use of smart phones, tables and other terminal among Chinese academic library users. Paper describes application of WeChat among academic libraries in China. It entitled how WeChat is applied in the top 39 Chinese academic libraries, to examine the level of application, to describe the characteristics of application, and to provide practical advice and detailed examples. Data are collected from website and that are collected in two phases. The survey found that only 11 libraries where found which applied weChat official account. About one third of academic libraries (11/39) used WeChat for promotion of library sources and services. It also provide other self services like catalogue search, check out issue status, renewal, recall and many others.

It is concluded from the study that application of official WeChat accounts in the top 39 university libraries in China.

The overall status, features, potential issues, content, purposes, and quality dimensions. The study provided these libraries with helpful information to better understand their peers' application of WeChat technology. In addition, other interested groups can use these research results when planning WeChat for their libraries. (Jianhua Xu, 2015)

Zhixian Yi (2014) in the article, “Australian Academic Librarians' Perceptions of Effective Web 2.0 Tools Used to Market Services and Resources” examine how academic librarians use web2.0 as effective tools for market their sources and services. The study values to
provide better understanding of academic librarian’s attitude and effective use of web2.0 tools to market their sources and services.

Thirty seven universities librarian were recruited form Australian University Libraries. 700 academic librarians name and e-mail address are obtain from website, 400 librarians are selected randomly and invited to complete the survey. He suggested the dependent variables like blogs, email newsletter, Facebook advertising, Flickr, Google Voice, instant messaging, Library Thing, LinkedIn, mashups, MySpace, podcasts, RSS feeds, Second Life, self-posted Facebook, tagging, Twitter, vodcasts, wikis and YouTube. Dependent variables were measured using ordinal variables with the rating scales.

It is concluded that study contributes to the body of knowledge in the library marketing literature by examining how academic librarians distinguish the effectiveness of Web 2.0 tools used to market services and resources and the factors influencing the perceptions of the effective Web 2.0 tools used. It also concluded that some academic librarian use web 2.0 tools to market their source and services. (Yi, 2014)

2.4.4 Participation is social and political events:

David Gunnarsson Lorentzen (2014) in the article, “Polarization in political Twitter conversations” The purpose of this paper is to describe and analyze relationships and communication between Twitter actors in Swedish political conversations. More specifically, the paper aims to identify the most prominent actors, among these actors identify the sub-groups of actors with similar political affiliations, and describe and analyze the relationships and communication between these sub-groups. Data were collected during four weeks in September 2012, using Twitter API. The material included 77,436 tweets from 10,294 Twitter actors containing the hashtag #svpol. In total, 916 prominent actors were identified and categorized according to the main political blocks, using information from their profiles. Social network analysis was utilized to map the relationships and the communication between these actors. It is found that there was a marked dominance of the three main political blocks among the 916 most prominent actors: left block, centre-right block, and right-wing block. The results from the social network analysis suggest that while polarization exists in both followership and re-tweet networks; actors follow and re-tweet
actors from other groups. The mention network did not show any signs of polarization. The blocks differed from each other with the right-wingers being tighter and far more active, but also more distant from the others in the followership network. While a few papers have studied political polarization on Twitter, this is the first to study the phenomenon using followership data, mention data, and re-tweet data.(Lorentzen, 2014)

**Nancy C. Kranich (2010)** in his article “Academic Libraries as Hubs for Deliberative Democracy” says that when Barak Obama in his first day of new Presidency, declared that ‘Public engagement enhances the Government's effectiveness and improves the quality of its decisions.’ colleges and universities took that opportunity. He suggested that Academic Libraries have huge and safe space where people can collaborate and can have discussion on democracy. Academic librarians can encourage students to participate in the developing the civic society so they can revitalize communities and strengthen democracy. This article offers approaches to involving academic libraries in the civic activities on their campuses and beyond. Libraries can arrange lectures on democracy and guide their students for their role in democracy. They can also offer public access to numerous government databases, web sites, and services.

Thus Academic libraries can change their roles from citizen access to becoming “hubs” that enhance government information and Services, and transform governance and renewing democracy in the 21st century.In conclusion of article John Dewey (1916, p. 22) wrote,

“Democracy needs to be reborn in each generation and education is its midwife.” If academic libraries are to fulfill their civic mission in the information age, they must find active ways to engage faculty and students in order to encourage their involvement in democratic. (Kranich, 2010)

**Paul T. Jaeger, Ursula Gorham, Lindsay C. Sarin and John Carlo Bertot (2013)** in the article, “Libraries, Policy, and Politics in a Democracy: Four Historical Epochs” describe historical relationship between libraries, policies and politics in the united states. Historical view of libraries policies and political discussion is given. Libraries are said to be pillar of democracy as they are providing support, education and engage citizens in different discussions. Spending more time on the discussion of better articulate the role of libraries in democracy as a part of policy and political discussion consider the historical relationship
between libraries, policies and politics in democracy. It consider four era – the local year, year of world war and early cold war, the year on which federal government focus on funding for public libraries, and the current period of direct intervention in libraries. (Paul T. Jaeger, 2013)

2.4.5 Revitalizing library space and infrastructure:

Barman, Rajani Kanta and Thakuria, Pranjit Kumar (2010) in their article, “Re-engineering system and services of selected technical institute libraries in Assam: A qualitative study” said that due to internationalization of education the role of libraries has become critical. To satisfy the next generation user is challenging concept for librarian. Users get information from other sources easily so that technologies have impacted libraries significantly.

The purpose of the paper is handle the basic principles and importance of re-engineering and its impact on quality management of libraries of some selected institutes of Assam, with regards to user satisfaction. He said that libraries have ability to meet the challenges of technology from print to digital. He further added that ICT plays important role in today’s library and information centers. It is concluded that after reviewing result library should allocate resources to improve their service quality. The paper provides ideas how a quality system can be established through re-engineering of library setup and services. (Berman, 2010)

Das Jutika Nanda (2010) in the article, “Re-engineering library and information services through internet” says that library is creator or publisher of information. In recent time libraries creative role is to accessing all knowledge produce by human and available on internet. Technologies have changed the thinking of people, their work and way of communication. No libraries can satisfy their users without internet connectivity in today’s globalize society. For in house operation of library internet is very useful. It plays important role in the field of LIS. E-Books, E-Journals have changed the traditional role among publisher, books stores or LIS. The paper explain show libraries provide internet based services to their users. (Das, 2010)

Daulat Jotwani (2010) in the article, “Re-engineering of library acquisitions,” says re-engineering as a management tool aims to cut cost, increase productivity and provide
higher level of services. It is done by keeping customers at central point. Similarly developing country’s librarian face the challenges like decline library budget, rising demand and implementation of ICT in libraries. The paper review to define re-engineering libraries and study how it is different from re-structuring, re-organizing and quality improvement. It also reviews various efforts to re-engineer libraries or their practice and process, before reengineering list the key elements, “How do we begin” He says that re-engineering of libraries shall include re-engineering of acquisition policy, acquisition process, acquisition staff and material. He include plan how to re-engineering library. It is concluded that re-engineering is not an easy task by libraries, and it’s not one time process.(Jotwani, 2010)

Fatt Cheong Choy (2007) in the article, “Libraries and librarians – what next?” Said about Singapore library plan which was implemented in 1994. Paper includes discussion held by NCLIKPS and provides a facilitator for the library community to discuss and deliberate plans and action for the next few years. It also discusses basic model of library and each component of current model in the light of technology. It is found that libraries and librarians plays important role in information world as they are having good knowledge of preservation of information sources. It is also concluded that because of libraries are continuously preserving and proving their information sources to human they are terms as an important institutions of society.(Choy, 2007)

Ian M Johnson (2013) in his article, “The rehabilitation of library and information services and professional education in the post-Soviet,” put emphasis on innovation of library and information services by developing new master degree program in library and information studies. The project supported by European Commission (TEMPUS, Trans European Mobility Program for University Study) that provide technical assistance for development in Armenia, Georgia and Uzbekistan. Many difficulties during the project immerge like dissemination of research information, bookselling, libraries and information services. It draws attention to the uncoordinated international and mutual support for library development, which is relatively poor compared to formerly receive by the developing countries.(Johnson, 2013)
Joseph C. Rizzo (2002) in the article, “Finding your place in the information age library” design of library require team work of dedicated librarian, expert library consultant, committed architecture and eager building committee. We can say that more user’s access college and university libraries, and librarians realize their changing role by increasing onsite collections at campus, and to make better place for their entire element. It is said that library should be memorable place. It highlights distinction between the changing useful requirement and social and emotional need of community that are realized through designed of place. He highlighted four ways to make library better place like campus location or site, exterior image, sensitive design interior environment and establishing convenient, responsive and actively engaging virtual presence on campus network. It offer more ideas and recommendation about method that architect and librarian use to communicate so that planning team can more effectively visualize and create future library.(Rizzo, 2002)

Kalita, Khagen, Mazumdar, NirmalRajan and Deka, Dipen (2010) in their paper, “ Re-engineering of library: A study of present scenario of library computerization of academic libraries in Sikkim” says that re-engineering means substituting manual system with computerization. Computerization is the primary step of re-engineering is the digital era. The paper includes present scenario of library computerization of academic libraries of Sikkim, which include both universities and colleges. The main objective of digitization is to replace manual system, as well as make a regular housekeeping operation of library and information centers computerize and it will fulfill forth law of library science, “Save the time of users”. Process of re-engineering is continuing with digital library, library2.0 and now library may be at your hand with 3G technology.(Kalika, 2010)

Kasthuri Anandasivam and Choy Fatt Cheong (2008) in their article, “Designing a creative learning environment: NTU's new Art, Design and Media Library” said about major changes in library collection, storage and retrieval of information due to internet revolution. Many libraries are re-inventing and adapt challenges due to information explosion. Libraries required traditional and virtual space as because online information sources are increasing.

The purpose of this paper is to describe the designing, planning and implementation of the new art, media and design library at Nanyang Technological University to meet the need of media savvy users. Using simple questionnaire feed of library staff has been taken and
found that that good interior design plays important role for better utilization of library resources. (Cheong, 2008)

**Maureen Jackson and Andrew k Shenton (2010)** in his paper, "Independent learning area and student need” says that with the development of ICT many changes in the functions of libraries. Earlier silent reading room is turned into interactive study zone. Students want separate learning space with ICT infrastructure. These space are describe as 'study center’, ’learning zone’, ’learning space' and learning cafe.

Jackson (2005) suggested that ICT gives students access to the wide variety of resources available on different search engines (Google) are often ignored subject gateway and databases. James (2006:57) remind us that' learning occurs interaction between the individual and social environment. Independent learning means not only collaboration with friends but also with teachers, where they meet and can learn. So ICT change students learning area. (Shenton, 2010)

**Paul A. Soderdahl (2011)** in the article, “Library classroom renovated as an active learning classroom” said that several book and articles are written on changing expectation of students, rapid advantage in technology and increased understanding of how people learn. He describe library as formal learning space and redesigning the same. This article focuses on redesign of the most traditional learning spaces that is the classroom. A case study of University of Lowa’s is taken. Its main aim is to convert library classroom to an “active learning” space. The university’s goal is to create similar spaces in a variety of sizes and configurations across campus. There is different style of infrastructure which will be more comfortable and with latest technology like multimedia and wireless computing with internet facility.

Finding says that classrooms are academic design which helps in development of learning. Easy access or resources is the primary focus of the project. (Soderdahl, 2011)

**Pei-chun Lin, Kuan-nien Chen, and Sung-Shan Chang (2010)** in their article, “Before There Was a Place Called Library – Library Space as an Invisible Factor Affecting Students’ Learning” says about rise in digital technology, and if libraries will not adapt this it will disappear. So that it has to pay more attention towards students learning need. It is important to locate learning place as center of the college or university. Users are more into
internet technology; so that academic libraries should provide a place in which students enjoy learning, check instrument data, use internet and computer. Web Based catalogues, full text materials, e-books and e-journals are good example of technology rich library.

He added online course increases use of libraries. To perform their study regularly users need to visit library. Librarian assists their user about particular collection. It is also said that with the implementation of digital resources, print collection remain same. To accommodate digital collection with print one it is necessary to increase library space, with the reading room. Today libraries are providing technology-supported group, study rooms and project development spaces. He concludes that Successful designs have been developed by a collaborative process involving all stakeholders. The best libraries emerge when there has been a clear and consistent shared vision among all those involved in the process, especially between the architects and the librarians (McDonald 2006). Library design involves utilizing space in the most efficient but satisfying way for all concerned.(Pei-chun Lin, 2010)

Rajendra, Aparna and Panage, B M (2010) in their article, “Re-Engineering of reference services” says that the traditional role of reference librarians has been greatly impacted by access to E-resources on the world wide web. He says that by creating HTML documents reference services is extended beyond the library and these resources can be accessed from web, libraries can give 24 hour services to their users. The paper tries to focus on new aspect of reference services. It also highlights different efforts undertaken by different types of libraries in their direction.(Rajendra, 2010)

Rama Devi, V and Haritha, B (2010) in their article, “Re-engineering library acquisition: A case study” said that libraries are user centered and it focus on user satisfaction. Information Access has significant change to library. Users demand innovation in library. They said that introduction of digital resources is equally important as organizing it in the information society. Re-engineering is changing the path of doing things. They said that acquisition process is one of the prime processes for re-engineering as it consists of large number of easily identifiable, which can be computerized and altered as required.

The paper is case study of Dr. B R Ambedkar Open University library and its acquisition section. (Rama Devi, 2010)
Susan E. Montgomery (2014) in the article, “Library Space Assessment: User Learning Behaviors in the Library” said that as an essential department of education institutions, it is important to know about how academic libraries contributes towards students learning. Survey of users prior and post renovation has been done. It focuses on learning style of users and how spaces affect them. They are trying to find how at Olin library space facilitates these behaviors.

Ethnographic survey and observation of students have been done for the data collection, 14 questions were drafted to ask in the survey. In the result survey included diverse data to understand how students use learning space. It is concluded that library space has been redistributed from collection oriented to space oriented. Libraries require more learning space. It is also found that space for open conversation and group meeting area is more demanding in today’s users. (Montgomery, 2014)

Veer, Dharamraj K, Kadam, Santosh D and Chavan, Subhsh [174] in their article, “Re-engineering library and information services and resources in modern, digital era” says that for giving best information services and for quality improvement libraries adopting management techniques. Re-engineering is very popular and modern management technique. He state five steps to re-engineer college libraries. He consider library collection, manual process of library housekeeping operation, information services and human resource in libraries are need to re-engineer. It is mainly give importance about access to information 24*7 through internet. E-Books, E-Journals, E-Reference sources, E-consortia are example of electronic resources are useful tools for users. It is concluded that to fulfill multi-dimensional need of the customer how the concept of re-engineering in library and information services is implemented. (Veer Dharamraj K, 2010)

Wendy Starkweather Kenneth Marks (2005) in the article, “What if you build it, and they keep coming and coming and coming?” a case study of Lied Library at the University of Nevada, Las Vegas is given. Different activities run by Lied library are given. Factors affected for overall design, policy changes, new services and resources as well as campus context are presented. It also shows that concept of “Library place” still maters. But they have to re-engineer their space. The observations presented can be useful to librarians for
their new libraries. Practical tips on preparing for and handling national and international visitors are also provided and suggestions for future action are given. (Marks, 2005)

2.4.6 Students learning common and information common:

Chuck Malenfant (2006) in the article, “The information commons as a collaborative workspace” take the case of Giovale Library of Westminster College. It decides to transform their library into information common. The major project aim to create collaborative environment where students, faculty, staff could work together. Information common is a joint activity of library and IT staff. So both of them have good understanding of their work. Westminster College and its libraries brief description is also given in this research paper. He is giving variety of information common definition which common meaning is information common means Hi-Tech infrastructure whether it can be classroom, it can be library it can be other area of the campus it will be full of computer networking and comfortable social space. A user satisfaction survey and example of rising teamwork between library and information technology staff as an evidence of alteration change is how library is used by both staff and students. It is found that after implementing information common demand of library reference services is increasing. (Malenfant, 2006)

Frank Soodeen and Allison Dolland (2004) in their article, “An Information Commons in a Caribbean Context: emerging paradigms in electronic service delivery at the Main Library, The University of the West Indies, St. Augustine says that concept of information common has been emerged within last decades. Increase in use of computer, increases use of OPAC, e-books, e-journals, as well as digital internal collection used is sophisticated learning environment. The central theme is to create library without boundary. To create this kind of environment libraries need to adopt continuous change for delivering information resources. The responsibilities for direction and shape of new re-engineered IC’s over the source of future has to be that the stakeholders in the process, students, faculty, librarians, media specialist and IT professionals working towards common goal. (Dolland, 2004)

Gabrielle K.W. Wong (2009) in the article, “Piloting an information commons at HKUST Library” said experience of conducting information common in academic library of Hong
Kong. It conducts survey of users’ needs, their strength and weaknesses of the services. It is found that libraries have to expand and refine their services for future. He describes information common as service model, as Hong Kong university library, at HKUST. Students are very satisfied at information common. Number of further services has been identified increasing number of computers and increase study area, implement policy of reservation etc. (Wong, 2009)

**Jennifer Church Jason Vaughan Wendy Stark weather Katherine Rankin (2002)** in their article, “The Information Commons at Lied Library” present the development of information common in Lied library at University of Nevada, Las Vegas. Librarians readymade and development plan start with the appearance of information common. The plan is divided into different groups including proper software selection for establishing different work stations, Proper hardware selection for smooth function of computers, pay-print facility, staffing at information common and their training etc. It is concluded that as information common continuous to develop, its services are expand and enhance further.(Rankin, 2002)

**Jennifer Church (2005)** in the article, “The evolving Information Commons” said that information common is physical as well as virtual space in an academic library. He defines information common as one stop shopping environment. Case study of Lied Library at the University of Nevada, Las Vegas (UNLV) has taken to know changing nature and adoption of information common concept. Library is having huge computer work station. And library continuously developing to encourage their students. Initially for first three years staff searches for way to provide consistent, convenient research and technology tools with simpler access to service support. How to access this work station and its services is briefly describe in the article. He concluded by saying large varied version of information common exists in academic around the world. UNLV library is expanding it information commons. It requires more thinking and reorganization of ideas, methods, and space. Staff of the college is also willing to redefine their role and open for training. (Church, 2005)

**Jon Bodnar (2009)** in the article, “Information and learning commons, faculty and student benefits” presented usefulness of information and learning common to faculties and students. It is also stated that how far libraries are successful to implement technological
support. Smaller change in the space and technological infrastructure helps to the faculties and students better utilization of library resources. Information commons are design for better usage of library resources. (Bodnar, 2009)

**Lippincott Johnk** in his article “Linking information common to learning common" says that many institutions are renovating their libraries. He said that Turing information common to learning common is successful. He added that aim of Information common is to “get the students in library". He added that information common address student’s need and suggesting different environments. It brings together technology, content and services of physical space like traditional library. Wireless access to Internet is added advantages of information common. Hundreds of computers with high configured software are in IC. In information common, group of students cluster around computer from them some playing games some hearing music and some of them are accessing information and doing their assignment. A table is with full of books and snacks, thus is comfortable environment for students where they enjoy learning. He argues that traditions library is quite study space where as information common provide interactive environment. In information common furniture are flexible. Class too can also be connected with the information common by providing white board, projector, and video editing equipment. Thus this Concept is useful to attract students in your library. (Lippincott)

**Leye Yao Liu Liu Na Cai(2009)** in the article, “The information commons at Sichuan University Jiang'an Library: A case study from China” state that about the planning of developing information common at university of China. It begins with the idea of developing information common for the library development. It explains background of developing information common at Sichuan Jiang’ and Library. It include concept, design plan, definition of information common, its floor plan, reference services to be provided in information common, resource sharing, information literacy etc. As a result of outcome it provide good platform for users, provide services focus collection and space to socialize with their peers and teachers. It is found that information common successfully complete its journey from theory to practice and provide positive impact on improving usage of traditional library. (Cai, 2009)

**Michael B. Reiner (2007)** in his article, “ The learning commons: Leading Libraries to be Leaders in Learning” says that today’s generation as they are Digital natives and Their
technology is mobile, the internet plays a special role in their world. They are multi task, their (and our) technology world will change radically in the next decade. Their way of learning and research tasks will be new techno-world and will differ from that of earlier generations. Digitization of information results information availability at once figures tips. And Users need 21st information quickly is satisfied. Thus role of libraries are recognized in 21st Century. To meet Net generation need, learning common come into existence. Learning common is library with more terminals of computers. The Learning Common provides students and teachers with the space and resources to promote education; a place is compatible with the needs of today’s learners, and the opportunities provided by information technology (Oblinger, 2006). It aim to discuss the characteristics and features of learning common and consider the role of leadership for helping students, staff, faculty and librarian move from their comfort zone and hold this new vision of learning and education. (Reiner, 2007)

“If you build it, they will come: An infra-institutional user engagement process in learning common” article written by Diana L.H. Chan and Gubrille K W stated in this article about Hong Kong University of Science and Technology library learning common. It is said that how different groups of university helping to transform the library into effective user platform. The paper also focuses on user engagement process. It highlights the promotional plan and factors that affect user group engagement. The promotional plan highlights the 5W, which are who says what to whom through which channel with what effect. (W, 2013)

Mary Ellen Spencer (2007) in the article, “The state-of-the-art: NCSU Libraries Learning Commons” give detail information about physical space, technology resources and services model for the NCSU libraries learning common. The object of learning common is to share information. The article include East Wing Renovation project at the D H Hill library. Finding says that creative design space, technology, resources and services make academic libraries central to the learning and research process. It also encourage libraries to re-skills their role in the learning process.(Spencer, 2007)
Mary M. Somerville Navjit Brar (2010) in the article, “From information to learning commons: campus planning highlights” state planning process to transform information common to learning common. Transformation of teaching into learning is identified in a case study of North American Higher education environment. Academic libraries are serving as providers of space and resources that foster social interaction in physical and virtual learning environments. In many twenty-first Century North American libraries, information commons were early expressions of such organizational intention and it provide space to students together and work with information and technology (Beagle, 1999, 2002; Bailey and Tierney, 2002).

The case study illustrates the impact of participatory (re)design of library priority. The paper provides a campus planning structure for a comprehensive learning commons. References to detailed reports in conference presentations, book chapters, and journal papers published in Africa, Australia, Europe, and North America offer transferable guidance for convening campus conversations to repurpose library facilities. This topic is timely, as information and learning commons – originating over 15 years ago in North America – are of growing interest internationally.(Brar, 2010)

Mark Bilandzic& Marcus Foth (2013) in the article, “Learning beyond books—strategies for ambient media to improve libraries and collaboration spaces as interfaces for social learning” said that in the digital information age of 21st century libraries are strongly focus on providing Information Common place, it is an informal learning place which encourage users to participate and encourage to engage with library. Common 2.0 is redesigning library space that includes collaborations, meetings, social hangouts, and comfortable work. Common 2.0 is Wi-Fi enable where students are allowing free information access form web. By analyzing the data gathered previously at Edge, the paper gives theoretical ideas of common 2.0. after engaging in 5 month of research 70 informal conversation and 30 audio interviews were taken. The observation and interview were done at different time and days. The main aim of this study is to understand the behavior of people as how they are using public library space. They found to be comfortable for collaboration and peer to peer learning. The findings indicate that The Edge, following a Commons 2.0 concept towards a community-driven centre for digital culture. (Foth, 2013)
Michael J. Whitchurch C. Jeffrey Belliston William Baer (2006) in the article, “Information commons at Brigham Young University: past, present, and future” a case study of Lee Library at Brigham Young University (BYU) is consider. Idea of implementing information common is increasing in academic libraries. This paper has much investigation to the actual process of creating and supporting the information commons through the first 18 months of operation. Brief description of its idea, investigation, proposal and implementation is briefly described. On the other hand first18 month operation and vision for the future of implementation are also considered. The major themes of this paper change in information common are expected. It is a case study of the information commons implementation at Brigham University. It is successful concept and it’s continuously implementation in Higher Education University for better change. This paper shows that the jury is still out as concerns “best practices” in information commons’ design, Brigham Young University’s experience constitutes a case study, which may very well emerge as an example of “best practice.” It shows that the experience at Brigham Young University will help other academic institutions as they contemplate implementing an information commons or changing a current implementation. (Belliston, 2006)

Mary Ellen Spencer (2006) in the article, “Evolving a new model: the information commons” said that information common established in college and university is success. Due to information common concept libraries are once again place at the center of the institute.

Three universities are taken for the study of planning, implementation and assessment of information commons at Brigham Young University (Provo, UT), Indiana University (Bloomington, IN) and Westminster College (Salt Lake City, UT). The success story in the paper offers continuous reform library resources and services.

In the 1990’s the move to ‘rethink reference’ services cross with the “library asplace” movement. This impact, combined with changes in technology and users’ expectations, resulted in the information commons model. The article provides a concise review of recent trends in academic libraries as well as an overview of recent technological changes that have affected our users. (Spencer, 2006)

Rachel Bickley Sheila Corrall (2009) in the article, “Student perceptions of staff in the Information Commons: a survey at the University of Sheffield” said that technological
development has changed the education system and because of that libraries also need to change and they have to develop new collaborative space with latest technology to access information. Because of the updated technology of information library staff also needs to re-examine continuously their services to meet the requirement of their students. Due to technological development library staff also need to be technology savvy. A survey has been done by distribution questionnaire and it is found that students view towards library staff has not changed, although they have changed their many service facilities and activities. It is also found that students who have attained classes given by librarian have positive view about information common. Further investigation has been done by discussing other institutional modern technological environment. (Corrall, 2009)

Robert Boyd (2008) in the article, “Staffing the Commons: job analysis in the context of an Information Commons” emphasis on better and knowledgeable staffing for the information common which is equipped with latest high-tech computer labs. Library administration invests their time to communicative mission and value of information common. It is concluded that libraries have re-design their services to increase its usage. But information common is very popular among students and faculties for its technology rich resources. Information Commons staff should be held as a general standard for all library staff and articulated in recruitment, underscored during staff training and measured during staff performance appraisal activities.(Boyd, 2008)

Ren Shuhuai, Sheng Xingjun et.all.(2009) in the article, “From information commons to knowledge commons: Building a collaborative knowledge sharing environment for innovative communities” said that The innovative ability in research team, and innovation communication is major tool for the development of universities which provide efficient knowledge sharing environment. Analysis of innovative activities of community, influence the theory of knowledge management, and library 2. to improve the communication the knowledge commons conceptual model is brought forward. It is found that original population is interdisciplinary and cross-campus; the scattered research team and study group requires a library to extend the services to a logical system, while the virtual layer is to make this spatial decentralized and logically centralized system a reality. It is concluded that university library plays a key role in teaching and scientific research. The IC service model is efficient for information literacy training and learning support, but does not work well for the scientific research group and innovative community.(Jialin, 2009)
Tim Held (2009) in the article, “The information and learning commons: a selective guide to sources” said that academic libraries have been design and implement new services that redefine it as a heart of campus. Powerful network computer in libraries is not enough; it has to reconfigure its services around technology. This environment is called as information common. Articles, books, and web sites relevant to this topic were found in the Library, Information Science & Technology Abstracts database; Library Literature Index; WorldCat; and on the internet. Sources were chosen that contribute and cover concept or cover practical considerations in implementation is given. The listed bibliography is selected form books, peer reviewed journals. This survey of the literature will help librarians and administrators understand the theoretical trends and collaboration that influence how libraries can change service, space, and technology to meet emerging needs.(Held, 2009)

William Daniels Colin and Darch Karin de Jager (2010) in the article, “The Research Commons: a new creature in the library?” state about ‘research common establish in mail library at South Africa’s University at Cape Town. He describe the ‘research common’ as it includes high-tech computer workstations, printing and copying facilities, silent study space and sound-proofed group seminar rooms, as well as a lounge area, a small reference collection, some current periodicals of general interest, and tea and coffee. The research common is permanently staffed by two reference specialists. It describe diffusion of innovation, research of south Africa’s people and role of librarians, effectiveness and service quality at information common, and its usefulness to the research scholars. It is concluded that combination of numeric and qualitative measurement has sufficient evidence for getting primary conclusion. A research common is based on well-established library common. (Jager, 2010)

2.4.7 Marketing of library services and resources.

Amritpal Kaur and Sarita Rani (2008) in the article, “Marketing of information services and products in university libraries of Punjab and Chandigarh (India): An attitudinal assessment of library professionals” said that library professionals are aware and implementing marketing concept for increasing usage of their sources and services. Increasing user need, complexity of information requirement low library budget force library professionals to market their sources and services. The questionnaire was used as a
data collection tool and four given university professionals are interviewed. From the survey it is found that library professionals have positive attitude towards marketing their information sources and services. But no libraries are having fulltime marketing professional to handle these activities. (Rani, 2008)

Anna Kaushik and Jagdish Arora (2012) in the article, “Blogs on Marketing Library Services” said that blog is useful for the marketing of library and information services. Various definition of blog with its different usages is also described in the paper. A review of LIS blogs and library literature shows that how LIS community use the blogs for different purpose. Search were conducted visiting different website and different related search related to blogs + marketing. 11 blogs were identified on marketing information and services. Out of 11blogs 6 blogs were selected for study. Data were analyzed in different heads like blogs on marketing services, blog feature, blog posting frequency, different features of blog post etc. Some blogs used for marketing information and services with its URL is also given in this paper. The marketing of library services have many subjects and all these subjects are covered in the present study. It is found that majority of the blogs are developed through blogger software and worldpress software. It is concluded that blog have been important source of information in a given field. It is required to have more blogs in this area covering the topics provide concrete information, depth coverage of subject, lively postings, update frequently (on daily basis) and right on targets as a good blog can be more helpful in fulfilling the information needs promptly and saving the time of the users as well as librarians.(Arora, 2012)

Antony Brewerton (2003) in the article, “Inspired! Award-winning library marketing” said that Oxford Brooks University Library restructured its subject grouping and arranges small two large groups form many small groups. Various functional groups were setup to enable the libraries to develop new services. These groups were charged with tackling variety of issues like information skills training, website development, collection management, special collection. He said that librarians do not have a good track record of marketing their services. (Brewerton, 2003)

Antony Jose and Ishwara Bhat(2007) in their paper, “Marketing of Library and Information Services: A Strategic Perspective” says that the library is nonprofit organization. Its provide services to their users. He says Professions like health, educations are social services like libraries and these services are not free so why cost constrains
comes always in the development of libraries only. He gave basic viewpoint LIS professional should understand for marketing their services i.e. to focus on the customers, to improve image to the library, to build relationship with corporate world. He also implements 4P’s of marketing for LIS. He mentioned 4p’s as below: Library Product: Price, Promotion, Processes, and People. (Bhat, 2007)

**A K Martey (2000)** in his article, “Marketing Products and Services of Academic Libraries in Ghana” describe three reasons to implement marketing in libraries. First, how library funds being utilize, second use of the library by the academic community must be encouraged especially at a time when there is competition from other information providers. Third, need to run libraries as businessman; libraries have to ignore people who do not care about their changing role.

Monopoly of Library’s breaks due to information available on web or with the change in circulation. He said that Ghanaian academic libraries keep convenient balance between the traditional principles of public use. Findings say that books, periodicals, equipments and retrieval of information are expensive in Ghana. It is true that if academic library do not meet the information needs of users they will look elsewhere for the needed information. For efficient service delivery users must be asked to pay to increase fund and implementing better resources. He further added that due to marketing of library resources users must rush into the library. He concluded that Ghanaian academic libraries obviously cannot market what is not available. There was a time in the history of academic libraries that academic librarians in Ghana would have actively hold marketing. (MARTEY, 2000)

**Brian Gambles and Heike Schuster (2003)** in the article, “The changing image of Birmingham libraries: marketing strategy into action” said about in the year 2002 Birmingham Libraries successfully implement marketing campaign to change the image of library services. For designing new brand image 50000 pound were secured. Library senior management team and the city council Leisure and culture marketing and public department developed the image campaign with the help of external design agency.

The article addresses two main target groups: library professionals and marketing professionals. The Birmingham example demonstrates that marketing support performance, and could encourage other libraries to invest in bigger campaign. It describes aim of
campaign, its evolution and outcome. The paper will finally reflect the best practice and possible improvement. (Schuster, 2003)

**Clarke, Nigel S (2001)** in the article, “Marketing patent information services on the internet: fighting fire with fire” said that many perception has been given by different author regarding marketing their services. One of the aims is to share experience to use internet as a tool for promoting pattern of information centers and the services which they can offer. Paper focus on patent of information via network. He said internet should not see as threat but the opportunity. There are many issues of website development and its access like traffic on internet. (Clarke, 2001)

**Chettri, Priyanka (2007)** in her article, “Prospectus and application of E-Commerce in LIS” said about development of technologies and increasing competition with globalization, libraries are rapidly accepting these technologies. As the world is doing business online, libraries are also on the way to adopt new process of business to bring revolution to the world of information. This paper explains benefit of using e-commerce by libraries like, global accessibility, market based expansion, increase profit, improve customer and many more. It also explains value of e-commerce in LIs, in collection development, in marketing of library and information product. On the basis of study some suggestions are also given to implement e-commerce and at last it is concluded that e-commerce can solve the problems of traditional work in library and provide some solution in the era of information technology. (Chettri, 2007)

**Cuiying Mu (2007)** in the article, “Marketing academic library resources and information services to international students from Asia” said that as study is on international students from all over Asia which include countries like China, Japan, South Korea, Malaysia, Thailand and India. As the students are of diverse country it is necessary to understand their information need and work effectively to meet their demand is necessary for libraries. Paper discuss about how to deal with international students in the library. Different Literacy program and activities are encouraged to explain students to satisfy their information need. The paper describes author’s personal experience and observation about international students’ information seeking behavior. Survey is to find out whether international students are using academic libraries or they are aware with the services and resources available in
the library. And as a result it is found that libraries need to market their resources and services as the international students are not aware with the resources available in the Western Academic library. (Mu, 2007)

**Carole Baldock (1993)** in the article, “Marketing Libraries: A survival Course? Said that marketing is one of the important aspect of management, he said that survival of any business is customer oriented. The success of marketing depends on accessing and satisfying users need and well understood library staff. It is said that libraries are more to communication than a book. He added before some time library marketing concept was not accepted. But not it is widely accepted, and it result not only survival of libraries but also its great success. (Baldock, 1993)

**Emmanouel Garoufallou, Georgia Zafeiriou, Rania Siatri and Ekaterini Balapanidou (2013)** in the article, “Marketing applications in Greek academic library services” said that in digital revolution information are readily available on internet, because of that libraries have to suffer. It is also mentioned that people are not aware with the authenticity of those information lying on web and valuable information those are available on web is paid. In the competition era libraries have to be up to date and techno savvy to survive in the ICT era. To aware people with the importance of libraries we have to market our sources and services. 151 academic libraries of Greek were surveyed using questionnaire as a data collection tool. It is found that use of marketing concept in academic libraries is less in Greek and it is due to basic working problems. (Balapanidou, 2013)

**G. C. Kendadamath (2009)** in the article, “Marketing of Library and information services” said that about need of adopting marketing concept for library and information services. But still many librarians are in dilemma where to adopt or not this concept. Up till now libraries plays a role of information disseminator, and collector, they are not seriously consider concept because libraries are funded by state government and UGC. He said many librarians believe that marketing concept is not for nonprofit organization like libraries but Philip Kotler said that marketing is not limited to large corporations seeking profits only. It is equally applicable to non-profit organizations as well as colleges, universities, charitable institutions, libraries, information centers and service organizations of all kinds. He gave brief definition of marketing, concept of information marketing in university libraries in
India. Market research and customer analysis for developing the concept. Before implementing this concept it is necessary to evaluate the need of the same. Need depend on customers demand for product and services. So if product and service are not in demand so it’s not worth to market them. From the study it is concluded that marketing approach increase user’s awareness and it help to the researchers. Budget cut and modern technology in the libraries give new view to market their information products and services. The marketing policy of the university libraries needs 'careful planning, structuring, execution and evaluation with regular review'. (Kendadamath, 2009)

Guido Baltes and Isabell Leibing (2008) in the article, “Guerrilla marketing for information services?” Introduce Guerrilla marketing and use of it in information marketing. Guerrilla marketing is one of the innovation which is describe as possibilities as information services. He said information services required marketing to achieve relevant target group utilize better library resources and services. But libraries have less or limited marketing budget. This article answer the questions like use this services at the time of introducing new services. guerrilla marketing adapts the “hit & run” guerrilla warfare tactics “invented” by Mao-Tse Tung (Elliott, 2003): Hit if you can win but run if you can’t. Seven rules are identified for doing Gaurilla marketing. (Levinson, 1994; Elliott, 2003): These seven rules are identifies as below:

(1) Concentrate your resources (time, place, topic) to achieve temporary superiority.
(2) Sell the ideology along with the product, not the product alone.
(3) Identify established patterns, analyze them and overcome these patterns.
(4) Search for synergies.
(5) Try to outsmart any perception filters established in your target group.
(6) Do not go the direct way; try to find the detours offering alternatives.
(7) Be flexible and agile instead of building strongholds.

It can be implemented on information storage and retrieval. It is found from different literature review that applying Guerrilla marketing is difficult to apply on information services. Many negative answers are found in this article to apply it on Information sources. The article aims to provide framework of to increase utilization of this services. (Leibing, 2008)
Jia Miand Frederick Nesta (2006) in the article, “Marketing library services to the Net Generation” said that people are using search engines instead of libraries to get required information this is an alarming situation for the libraries and librarians. It is required to market resources and services of libraries to satisfy net generation users. He explain book as a main branch of libraries, but along with books, online databases, print journals, DVD’s as well as study environment of library is also one of the branches for the library. He explains that information need is varying from users to users, students and staff have information need other than their curriculum. He explains other concepts like thinking and learning style of students, changing market situation, net generation expectations etc.

Digital resources along with librarians are important for the lifelong learning of students. Listen to customer is a key to marketing in the same way listen user demand in libraries is a key to success of libraries. OCLC survey said that libraries are still important and students still need it as reliable sources of information.

According to Thomas and McDonald, 2005 finding the right way to achieve balance between traditional values and the expectations and habits of the wired generations will determine whether libraries remain relevant in the social, educational and personal contexts of the information age.(Nesta, 2006)

Joan M. Schewartz and Terry Cook (2002) in the article, “Archives, Records, and Power: The Making of Modern Memory” explore the theme, “ Archives, Records and Power”. Archive records are very important for historical and cultural purpose. It has been generally seen by academic and other users and also by society. He added that historians since the mid-nineteenth century, follow new scientific history, required an archive which was an unbiased repository of facts.

Very recently, archivists obliged by commend their own professional falsehood of impartiality, neutrality, and objectivity. Archives are established to enhance their position in society. He said that through our past is controlled. For designing record keeping system, in the appraisal and selection of small part of records it requires to enter archives. Archivists constantly reshape archives forever changing description and preservation of Archives. This represent high memory power, over the fundamental way in which society seeks evidence of what its core values are and have been, where it has come from, and where it is going. Archives, then, are not passive storehouses of old material, but active sites where social
power is negotiated, contested, conformed. The power of archives, records, and archivists should no longer remain naturalized or denied, but opened to vital debate and transparent accountability. (Cook, 2002)

**Joseph Muema Kavulya (2004)** in the article, “Marketing of library services: a case study of selected university libraries in Kenya” said that libraries are under pressure to prove their importance. He said that librarians need to be customers oriented then to be a service oriented. It is also state the main objective of study is to identified about how many libraries in Kenya is adopting marketing concept. Problems about adopting library marketing concept are also discussed here. The study based on collected data from limited university libraries. It is concluded that although the effort have been made to achieve this. More efforts have been made on promotion of already existing services. (Kavulya, 2004)

**Jennifer Booth (1993)** in the article, “Marketing of Library Services: The Gap between theory and reality in Britain” said that theory of library marketing is not new. He further added that concept of library marketing itself raise the value of library marketing. The article examines various stages of marketing process. He defines different marketing strategies. He also explain that as before launching any produce of establishing any business, market research is done, in the same way before starting new library primary and secondary data should be collect and find out their users requirements. He connect marketing mix concept with the library. It is concluded that marketing of library and information sources are too old as it was observed when the library first give promotion services. It is also found that much effort has to be done by librarians to know what their users want. (Booth, 1993)

**M. Madhusudhan (2008)** in the article, “Marketing of Library and Information Services and Products in University Libraries: A Case Study of Goa University Library” said that there are many debates on marketing of information sources. Challenges of budget cuts, increasing demand of electronic databases, rapid growth in material, rising cost etc. force librarians to market their sources and services. He further included that to identified clients requirements and fulfils their needs, demand, by developing specific product and services is the aim of marketing. He explains importance of information. Some of the important elements of marketing concept for university libraries are describe in the paper. He took a
Goa University library case and said that it use marketing concept to satisfy their clients need. An important product in the library has been defined and description of their resources is given. It is concluded that by examining all the resources, libraries are force to marketing their products and services because of technological development. (Madhusudhan, 2008)

Martyn Wade (2013) in the article, “Re-inventing the library: The role of strategic planning, marketing and external relations, and shared services at the National Library of Scotland” explain about how to share services on library development by exploring impact of successful planning, marketing and external relations. It is a National Library Scotland Case study.

He said digital and social development has changes demand of users, so libraries are facing many challenges to satisfy their needs. The paper focus on three element of change process. Development of strategic planning provide basis for new role for NLS. New legislation passed by Scottish Parliament in 2012 has been supported by strategic planning. The paper seeks to address

\text{21} \text{st}

issues faced by libraries in the \text{21} \text{st} century. (Wade, 2013)

Md. Anwarul Islam and Muhammad Jaber Hossain (2005) in the article, “Marketing information resources and services on the web: Existing status of university libraries in Bangladesh” discuss about the efforts made by Bangladesh University libraries to market their services and resources through websites. It also explains how marketing activities can be implemented to university library. It is trying to connect the academic library web pages and marketing concept by explains how webpage helps to market their resources. The data is collected by checking out all the universities of Bangladesh. Total 24 public and 32 private university libraries were selected for the data collection; they are analyzed using different tables. It is found that all the libraries are partially using website to market their resources. And it is also found that most of the libraries do not market their services. (Hossain, 2005)

Mishra, Champeshwar (2010) in his article, “Marketing Library and Information Services on the Green Road of Web2.0: The Library Perspective” said that due to information revolution, information have to be properly collected, organized and disseminated to their customer at right time in right way. He says that web2.0 is modern means for upgrading the
library into more user centered in the present library marketing scenario. In this paper author vividly decreases marketing library services for users for user perspective by applying social networking tool. It is concluded that marketing of library and information services should be mixed up with web2.0 for providing information, to right user at right time. (Mishra, 2010)

Noa Aharony (2009) in the article, “Librarians' attitudes towards marketing library services” said that the concept of marketing is not new. Gupta (2006) points out public libraries are first start the concept of marketing. Singh 2005 found marketing culture of academic library in Finland, found that there were three kind of marketing, strong one associated with modern marketing and customer oriented. Medium one associated with traditional library, library oriented, and weak one which wait for patrons to enter into library. Three groups of librarian is studied: school librarians, academic librarians and public librarians and look at their attitude towards marketing libraries.

The present research examines personality characteristics like empowerment, extroversion and fight to change influence librarians’ attitude towards marketing the libraries. He defines personality variables and attitude towards library marketing. For survey 200 questionnaire via mail and 50 online questionnaire distributed towards randomly selected Israeli librarians. One Hundred and fifty six librarians answer the questionnaire. As a result a significant difference is found between academic librarians and other groups. It is concluded that research highlights link between librarians’ personal behavior and marketing. (Aharony, 2009)

Patricia D. Taylor in the article, “The Role of Marketing in Revitalizing Library Services in Rural Communities” give a case of Stanley Campbell become a library director of Poseyville Carnegie Public Library in rural Indiana. He said domestic resident do not know about the existence of libraries in their area. Campbell does not have a fund for publicity and advertising. He starts computer games activity, chess club, Thursday evenings, and a Pokemon card-trading club on Tuesday evenings. And dramatically attendance in the library increase. People approaches for movies, games and chess tournament. Slowly he started to change the patron’s perception towards library resources. People start showing their library as a place of activity then a building. When local government shows the public interest towards library help Campbell to move forward his library.
In this article, author tries to define marketing--particularly as it relates to library services--to examine the unique opportunities and challenges to implementing marketing strategies in the small or rural library setting, and to provide a guide to marketing resources and best practices for librarians working in a rural public library.

Brief definition of marketing, he answers the question like why marketing for library? 4p’s of marketing, steps of marketing process, Opportunities and challenges to develop the concept. By defining best practice of small and rural library he said that generally librarians are using webpage for marketing their services and resources but same technique cannot work in all community. So every library has to adopt different marketing mix as per their patron’s requirements. He conclude by saying that Just as the word "revitalize" means to impart new life, a well-thought out marketing program can exhale life into a rural public library and the community it serves. Marketing has a significant impact on how the library is apparent by local movers and shakers, and raises community awareness of the value of library services and the need for continued support. Through marketing we let the community know that despite changes in our lives, librarians remain excellent providers of information services. (Taylor)

Samuel OluAdeyoyin (2005) in the article, “Strategic planning for marketing library services” describe the importance of marketing of libraries and consider it as an important services of libraries. Banking, Information, Advertising, fast food sectors are growing today not because they are providing free services but they are flexible and compromising attitude. For making the services of libraries value added they also need to be flexible. It also describes problems, definition, and concept of marketing in relation to libraries. The paper concluded that marketing of library services is necessary to increase awareness of education among students. It provides useful information on marketing of library services. (Adeyoyin, 2005)

Shiva Kanaujia(2004) in the article, “Marketing of information products and services in Indian R&D library and information centers” said that library staff are need to market their sources and services not only because of the information explosion on internet but also the rising cost of materials, CD Rom, internet, online services, staff shortage and budget cuts. Primary data are collected through mail from CSIR LICs. IT is found that libraries have
positive attitude towards different aspects of marketing. But the effort of marketing required financial support. (Kanaujia, 2004)

Sheila Webber (2001) in her article, “Marketing library and information services: Are people learning it?” Says that most people need to market themselves in order to get and keep a job, or gain clients and support for their business ventures. The article was encouraged by survey undertook in 2001, investigating whether the need for marketing skills is being met by information courses offered by UK Universities. Marketing and Information is being taught as a part of their curriculum in the UK University. The survey has been undertaken from one of the three studies. In her study of North American Information Departments, professor But hillier found that 10 of the 22 department that respond to her questioner, offered marketing classes. Six of nine Brazilian information department responded to MsFerelra’s version of questioner. Three offered a class of LIS. However one of them have new, run the class since 2000. The result of the survey was presented in the seminar held by IFLA management and market Section. (Webber, 2001)

S. K. Patil and Pranita Pradhan (2014) in the article, “Library promotion practices and marketing of Library services: A role of Library professionals” said that libraries are a storehouse of knowledge. Vast amount of knowledge is available in libraries in the form of book, journals, film, audio-visual material etc. Librarian’s primary responsibility is to take care of these materials. But it is required to market their sources and services. Generally libraries have their own website to market their services. He explain concept of marketing, need of marketing library services, Objective, customer segmentation, Dr. Ranganathan concept of Marketing of library services through Five laws of Library Science etc. It is concluded that librarians and library staff are trying to find out basic requirement of students and faculty to fulfill their goals. Librarians are trying to build the image of the libraries.

Now a day’s many libraries are preparing for marketing of library services, their marketing and promoting the resources needs careful planning and policy and its execution on regular basis. (Pradhan, 2014)

Sunil Tyagi (2012) in the article, “Use of Web 2.0 Technology by Library Professionals: Study of Selected Engineering Colleges in Western Uttar Pradesh” current trend on web2.0
and use of widespread use of social networking sites like twitter, facebook and blogs. How librarians are using this for increasing students engagement is describe in this paper. The present study describes usage analysis of Web 2.0technologies by library professionals in selected engineering colleges at Western Uttar Pradesh. It is confined to 46engineering colleges (owned by state
government and private management) at Noida, Greater Noida, Ghaziabad, and Meerut of Uttar Pradesh. Questionnaire is used as a data collection tools and primary data are collected from the library professional of given sample universe.

It is observe that respondent have good knowledge of web2.0. When it is asked whether respondent used the blogs for personal use or for library services 83.69 %

Respondents are using Lislink for their personal use and 33.69% using INFLIBNET. Wikis are also used for personal use not for the library. Less number of library professionals has their own blogs. It is concluded that rapid technological development affects the library services. The present study aimed to gain a picture of Web 2.0 technologies currently being used by library professionals in engineering college’s library and in their personal life at Western Uttar Pradesh of India. Only a minority of library professionals are using Web 2.0 to communicate with students. Web2.0 can be made more students driven by providing various library services to through it.

This research indicates that library professionals appreciate learning experiences where new technologies add value to existing practice, and enhance the library services. (Tyagi, 2012)

**Z. David Xia (2009)** in the article, “Marketing library services through Facebook groups” said that marketing of library services has old and major interesting subject for the library professional but if they are accepting social media as a marketing tool like facebook, they will rich towards their customers effectively. This facebook group will target both faculty and students. The finding of the paper is if facebook service is effectively utilize libraries will can market their resources effectively. (Xia, 2009)

**2.5 RESEARCH GAP**

On studying the literature review following research gap can be observed:

1. Research has been done individually on different aspects like library automation, changing role of libraries, digital library, marketing of library services etc. but more research papers are available on these topics than a thesis.
2. No study has been found which enumerate all the attributes of learning hub together. In current research, researcher is defining different attributes of learning hub to make their library more usable and improve library usage. By applying all the attributes of learning hub together and “EVOLVE A LIBRARY INTO A LEARNING HUB” is entirely new concept particularly in Gujarat region taking different types of library into study.