CHAPTER I

INTRODUCTION

1.1 PREAMBLE

Information technology has made a profound impact on the availability and accessibility of E-resources. To provide quick and comprehensive access to resources by using the best possible tools and techniques is the ultimate aim of every library. Technology is a great key that new ideas in social, cultural, political fields have been opened. By the improvements in technology, internet becomes a quite pertinent device to analyse these changes and inform people about the changes. By suggesting the changes, adaptation for these are the required factors to survive with the effect of globalization and competition. Acquiring resources fast way and gathering them under the different points of view with the perspective of equality and alternatives is a must in today’s education. Although internet has advantages, it has a few shortcomings by creating alienation, addition and deviance issues. On the other hand, it effects the education cycle of students by providing alternatives in learning styles and learning in a creative way. Gaining advantage is a great option for everyone; internet is an aspect of changing life in order to move a further step in life. Technological developments open wide range of alternative choice to benefit people in their lives.

Chandel and MukeshSaikia (2012) have pointed out that among all academic electronic resources, the advent of electronic journals has been called the
greatest revolution in the capture and dissemination of emerging academic knowledge. Most of the academicians today have become internet dependent electronic resources are some of the most important aspects of a digital library. In information technology, internet can be used for efficient retrieval and meeting information needs E-resources works which are encoded and made accessible through a computer online or in physical format. Especially, the internet has profoundly changed the way of publishing newspaper, magazines and periodicals have for years been published and all kinds of texts are now available in digitized form digital media and network have created new products such as CD-ROM, E-books, E-journals, Online database for the network security.

Most of the academicians today have become internet dependent. It is the contribution of information, communication technology and impacts of internet that information processing, storing, searching, dissemination and user have become expeditious, easy and use user-friendly. The user community in an academic library system constitutes the faculty, students, the view of the user whether he/she is the student, he/she they needs a variety of information. Electronic information forms an integral part of libraries assisting the users in learning, teaching and research. So it is the responsibility of the librarian to keep pace with technological developments and cope with the users’ demand for e-information. A framework for effective development of electronic information resources (EIRs) (Ani and Ahiauzu 2008) is developed which explores the levels of developing electronic information resources in university libraries and encourages local research information conversion for national and international access by users. Electronic resources are some of the most important aspects of a digital library which are found more helpful for easy access and saves time for
users. As a result, E-resources have emerged as vital components of information resources of a library and play an imperative role in the distribution of vital and primary information.

E-resources have provided excellent opportunities to access scholarly information, which were previously beyond the reach of libraries due to geographical constraints. E-resources possess many added features for the facilitation of libraries and its users. Studies were undertaken to determine the level of use of this type of resource, how users feel about various issues surrounding electronic resources and whether attitudes change dependent upon subject studied to determine level of use of various electronic information resources, ways in which they felt electronic resources had hindered or improved their academic career, if they perceived themselves capable of using the resources, would the standard of their work suffer without the use of these resources and the various methods employed to acquire the skills necessary to use the sources.

In addition to this, students acquire various skill sets and capabilities while they are engaged in learning. In that sense, technology makes people to have self differentiated properties in order to get a wide range of knowledge and about all issues and everyone has the same opportunities for gathering this knowledge. Time is the main consideration beyond the technology to create active searching about information in this competitive environment. Owing to the effects of a competitive environment, stable knowledge is needed to move ahead in one’s life among others. Therefore, there is a dire need to realize the perspectives of students about internet as a first step by relating advantage of technology. Internet comes to the point that reflects discovery of data instantly to adapt the changes. Therefore,
internet is the main platform for establishing new cultures among societies because of effective learning processes.

1.2 WHAT IS E-RESOURCE?

An E-resource is an electronic product that delivers a collection of data, be it a text referring to full text databases, e-journals, e-books image collections, other multimedia products and numerical, graphical or time based, as commercially available title that has been published with a sole aim to being marketed and for information dissemination. These may be delivered to the user on any optical media or via the internet.

These may be delivered on CD-ROM, on tape, via internet and so on. Over the past few years, a numbers of techniques and related standards have been developed which allow documents to be created and distributed in electronic form. Hence to cope with the present situation, libraries are shifting towards new media, namely electronic resources for their collection developments that the demands of users are better fulfilled. The E-resources on magnetic and optical media have a vast impact on the collections of university libraries. These are more useful due to inherent capabilities for manipulation and searching, providing information access is cheaper to acquiring information resources, savings in storage and maintenance etc. and sometimes the electronic form is the only alternative-resources are defined as those electronic information resources and services that users access electronically via a computing network from inside the library or remote to the library (Shim et al. 2001). Use of E-resources is defined as searching, browsing, examining, and visiting an E-resource and/or service by a user satisfaction refers to the sense of being pleased with results. Ease of use is referred to as the extent to
which the E-resources is perceived to be user friendly. These include ease of navigation, training issue and feels of being in control. Barriers are impediments that obstruct users’ access and/or use of E-resources and/or services.

1.3 NEED OF THE STUDY

Exponential growth of electronic information in the physical sciences has proved to be more value added in nature and time saving for an individual. The access to, use and awareness about the E-information resources are very essential for users as well as for libraries. E-resources are quick to access, save time and keep up-to-date with the current happenings in the specific fields and related areas. Further, electronic information plays a pivotal role in enhancing the research & development activities and improving the productivity of an individual. There are various search and retrieval techniques to access the required E-resources, so gaining knowledge of these elements is very important.

The present study focuses on the faculty and student’s perspectives about the E-resources which they prefer to access and use through various modes and medium in support of their work requirement and related activities. Study also indicates search fields and techniques used to locate and access E-information have been constantly changing and the methods they adopt to learn about different types E-resources are studied. This research also identifies several purposes of using and accessing the available E-resources.
1.4 KINDS OF ELECTRONIC INFORMATION RESOURCES

The E-resources are basically divided in two major types are:

1. Online E-resources, which may include:
   - E-journal (Full text & bibliographic)
   - E-books
   - On-line Databases
   - Web sites

2. Other electronic resources may include:
   - CD ROM
   - Diskettes
   - Other portable computer databases

According to Shuling (2007) electronic information has gradually become a major resource in every university library. The emergence of electronic information resources, simply referred to as electronic resources, has tremendously transformed information handling and management in academic environments and in university libraries in particular. Ellis and Old man (2005) note that through the use of electronic resources, researchers and students; now have access to global information resources, particularly the internet for their scholarly intercourse. The dearth of current and up-to-date information for research in university libraries is attributed to poor levels of developing electronic information resources, (Afolabi, (2007); Faborode, (2007); Bozimo, (2007). Libraries need to be vanguards for technology transfer from the developed world to the developing economies of Africa; to meet these expectations African university libraries must provide a link
between local researchers, scholars and their counterparts in other parts of the world. Utilization of online information resources is the way of achieving this objective. According to Tsakonas et al. (2006)\textsuperscript{9} electronic information resources are information resources provided in electronic form, and these include resources available on the internet such as e-books, e-journals, online database, CD-ROM databases and other computer-based electronic networks, among others.

### 1.4.1 The Internet

According to Jensen’s Report (2007)\textsuperscript{10} 54 countries in Africa had internet connectivity. By the year 2009 however, internet penetration as a percentage of the total population of Africa was still 1.4\% compared to the world average penetration of 12.7\% (Internet Worldstats.com 2009). Gakibayo (2001)\textsuperscript{11} carried out a study on internet usage by students and staff at Mbarara University of Science and Technology and the results of the study indicated low usage. Though the internet has provided a wider access to global information resources such as online databases, e-journals, e-prints and other sources of digital information, these resources are not effectively utilized due to varying factors.

According to Missen et al. (2005)\textsuperscript{12} the internet poses African universities to gain equal footing with their sister institutions in the more developed countries. It is imperative that African universities be connected if they are not to be rendered irrelevant in the modern academic world. The internet is very useful as a communication tool in the universities among librarians and library clientele. It is the most efficient means of electronic document delivery (Al Fadhli and Johnson, 2006)\textsuperscript{13}.
1.4.2 Electronic Journals

With the advent of the internet, researchers and academics have recognized the capabilities of the information and communication technologies as efficient means to share results and to get around barriers by full transfer of intellectual property rights from the author to the publisher. It is also a means of improving the slow turn-over of traditional publishing electronic journals relatively provide efficient access to information. Thus they are easy to distribute to library patrons than traditional print; in the financial stringent environment of higher education system. Electronic journals have become a medium which is cheaper than the traditional printed journals the major objective of Mbarara University library for subscribing to the electronic information resources is to facilitate access to international information resources on the World Wide Web as soon as it is published. This study was intended to establish whether library is taking advantage of these technologies with regard to effective utilization of E-resources by students.

1.4.3 Online Databases

The most effective way to provide access to electronic books/journals in university libraries is through subscription to online databases which can be accessed through the internet. Online databases are a collection of electronic information sources (e-journals/e-books) by publishers from various fields and disciplines, some of these databases are provided free of charge to libraries in developing countries by their publishers or vendors. Some of these include NARI, http://www.healthinternetnetwork.org/scipub.php AGORA, http://www.aginnternetwork.org/en/. others require subscription fee such as emerald database,
http://www.emeraldinsight.com and Blackwelsynergyhttp://www.blackwellsynergy.com among others. Access to these databases provides researchers and students with thousands of scholarly articles in their fields of specialization or research CD-ROM databases.

CD-ROM databases allow user access to relevant databases without internet connectivity in libraries, it is therefore cost effective than online databases as information could be accessed off-line without paying telecommunication fee. Besides, CD-ROM databases are of immense value over print if the system is networked, as patrons at their terminals could access information without coming to the library. The information revolution brought forth by advances in information and communication technology has enabled universities and colleges around the world to take advantage of these developments. The pace at which information sources are being produced and converted into electronic form is tremendous. Digitization of information is resulting in access to unbelievable volumes of information. It is important to find out how this information is utilized in library by students.

1.5 AIM OF THE RESEARCH

In the education system, technology is the main facilitator that provides to contribute system under required knowledge. Technology provides us to know and follow all issues with the help of the basic item, which is internet. Internet is a wide range of supporter by providing all contracts requirements, all types of information and searching facilities with its various digital tools.
Technology has on education which agrees with today’s contemporary term as Educational Technology. Within this perspective, computers and internet are the parts of the educational technology not replacing all technological development but it is part of the common term of concern. It is the time to examine what are the attitudes of teachers and that of the students towards internet that is a part of technology in order to clarify the role of internet at student’s life. Technology especially on how the students can learn and use it in an effective way. Internet and its multifunction play the role of delivering information and gathering with easy navigations and paths. Technology and internet reflect support for new dimensions under the perspective of education especially teachers and student’s learning teaching cycle.

On the other hand, constructivist perspective has merged with the education cycle by effecting the technological instruction. By this way, it requires important role of technology in education. There are many components of internet that facilitate the easy, stable and meaningful learning of students. There is a concrete role of computers connected with internet in society and schools. With well-known advantages of high technology, students can catch the consciousness of importance of technology and the main issue is how they develop the attitudes towards it is questionable how effectively affect and what are the attitudes of students toward internet as a role in education.

1.6 IMPORTANCE OF THE RESEARCH

Through the internet, researchers also can reach real experience and learning. The idea is that learning is a constructive process widely accepted; learners do not passively receive information but instead actively attain knowledge.
Through these perspectives, internet applications provide to apply and experience the facilities of constructivist view. In addition to this, internet helps to facilitate cooperative learning environment. Within the group of heterogeneity, positive group interdependence, individual accountability and group processing components of cooperative learning, students can feel the sense of group dynamics and motivation on their learning through the internet. Through the constructivist approach, integrating, internet to the education is so easy and effective. This can foster the high level of the skills for students in problem solving and analyzing information with the help of the internet facilities. Based on constructivist and student centered sense of education, students should catch the vision and be active in building what is needed for change and growth on the issue of educational technology, its importance and applications.

An integration of these perspectives should be in the repertoire of the students to be much better for learning. Students must adopt that willingness; consciousness is the first step in using the technological facilities. In order to use effectively, productively and efficiently, there should be correct and positive attitudes of the user. In the scope of the research, the attitudes of students can be determined for resulting reflections towards internet and technology, to become knowledgeable about doing research on the internet, develop users critical thinking skills and back up their conclusions with evidence, create clear concise text using the necessary editing and layout skills and produce a web page document, or a written report, and/or oral presentation.

Appropriateness of the sites you pick to critique, quality of analysis with supporting evidence and quality of written web or text document ease of use, clear,
concise, correct spelling and grammar. It is important to know the difference between reliable and unreliable information transmitted by all means of information sharing. Because anyone, in theory, can publish on the web, it is imperative for one to develop a critical eye to evaluate the credibility of information transmitted via internet. To help scholars become familiar with internet information they will explore some internet sites that relate to their major and write a report to be posted as a web page or a text document. Researchers can select one extensive internet site and give an overview of various components, then concentrate on one or more major links in detail. If their site is not very extensive they can critique the whole site.

1.7 USER ATTITUDE TO ELECTRONIC INFORMATION RESOURCES

Technology has become an integral part of higher education instruction. With increased usage of instructional technology, web-based instructional resources like the electronic textbooks are slowly making their way into the higher education system. Given its increased use, it is important to understand how instructional technology and the technologically rich environments are influencing teachers’ and student’ attitudes toward learning. An important aspect in successfully implementing instructional technology is user acceptance, which may be influenced with a great deal of user’s attitude. Various studied have addressed the issue of student attitude toward instructional technology and specifically toward computer technology and technologically enriched learning environments.

Ray and Day (1998)\textsuperscript{14} carried out a study on students attitudes towards electronic resources. The study reveals that a large number of students leave
universities without necessary skills to cope within the information based society. Electronic information resources offers today’s student new opportunities that were not available to previous generations. Liew et al (2000)\textsuperscript{15} argue that while reading an e-journal is not the same as reading a printed issue, many students now acknowledge that electronic documents offer users advanced features and novel forms of functionality beyond those possible in printed form.

As argued by Swain and Panda (2009)\textsuperscript{16} the library users’ attitude to information is gradually shifting from the printed document to e-resources. Singh (2009)\textsuperscript{17} argues that ICTs have brought a tremendous change in nature, boundaries and structure of information. It is generally agreed that many factors do influence attitudes Brophy (1993)\textsuperscript{18}. According to Dadzie (2005)\textsuperscript{19} electronic resources are invaluable research tools that complement the printed ones that are based in the traditional library. These advantages include access to information restricted to the user due to geographical location or finances and provision of extensive links to additional resources or related content. However, knowledge of computers and retrieval techniques is needed to search these resources effectively and this has a bearing towards their attitude towards e-resources. Waldman (2003)\textsuperscript{20} asserts that students with high self-efficacy regarding computers would be more likely to explore new technologies, software or databases. Tella and Tella (2003)\textsuperscript{21} reported that self-efficacy has a significant relationship with academic achievement.

In a related study of library instructions and self-efficacy, Ren (2005)\textsuperscript{22} also showed a positive correlation between students’ self-efficacy and the frequency in the use of library electronic resources. Self-efficacy is a person’s judgment about his/her capability to organize and execute a course of action that is required to
attain a certain level of performance. Self-efficacy beliefs contribute to motivation by determining the goals that individuals set for themselves, how much effort they expend and how long they persevere in the face of difficulties, and their resilience to failures. Students who have self-confidence believe in their capabilities.

In relation to this study’s perspective, students who have confidence in themselves use e-resources more than those with low esteem. Perceived usefulness of the internet is considered to be an important influence on internet use (Teo, 2001). This study was intended to find out attitudes of students about various issues surrounding the use of electronic resources and in addition, it also aims at unraveling the benefits students feel they derive from electronic information resources utilization.

The impact of communication technology on user behavior and attitude has been tremendous. Communication pattern in local research environment significantly influenced e-resources use, Torma and Vakkari (2004) usability of e-resources depends on the facilities available to use them whereas use of printed material is less dependent on technology. Therefore, usability of e-resources has been increasing with the improved internet facilities. There is a sea change in the user’s behavior and attitude in information searching and use. In the present electronic environment, user is highly impatient and time conscious, wants information just now or never. So, libraries are forced to change from physical to virtual environment and make available tools and techniques so that flow and use of information is simple as well as effective. As printed materials have their own merits, they have not been replaced completely by e-resources. Therefore, libraries have to continue functioning in a hybrid environment.
1.8 INTRODUCTION TO E-RESOURCES AND ITS CONCEPTS

Electronic resources are invaluable research tools, which complement print-based resources in any traditional library. E-resources are now as important as print sources. The meaning of library changes from day by day. They offer totally new environment, new resources and new services to the users. The library collection will depend on user needs. In the modern digital era, most of the library collection will be E-resources. The collection of electronic resources is to provide specific pin-pointed, exhaustive, expeditious dissemination service to their users. Electronic resources are now recognized as of being important to even small academic and public libraries and they are consuming an ever-increasing share of library budgets, often to the detriment of monographic acquisitions. CD-ROM, local area networks, computer-equipments, online resources, the internet and other remote databases all provide libraries with vast resources for their user populations. In addition to the benefits of additional access, the information explosion has also produced a considerable amount of confusion on the part of library users and librarians.

E-resources are now recognized as being of great importance to small academic and public libraries. The resources of libraries which are available in electronic form are called E-resources and E-resources are defined as those electronic information resources and services that users can access electronically via a computer network from inside library or outside library. To meet the users’ need in the world of digital information, libraries must revise their way of working. The collection of the library automatically changes day by day with the change in users demands. Due to the revolution of information communication and
technology, modern or higher institution or organizations have started to subscribe E-resources for better facilities.

1.9 ROLE OF E-RESOURCES IN EDUCATION AND RESEARCH

Electronic resources are invaluable research tools which complement print based resources in any traditional library. Electronic resources provide access to information that might be restricted to the user because of geographical location or finances. Electronic resources also provide access to current information as these are often updated frequently. Through their various search techniques, electronic resources provide extensive links to explore additional resources or related content. In addition, electronic resources are convenient to use since users are able to access information from the library. Internet café and offices or at times from the comfort of their homes at any time of the day. It is for these reasons, electronic resources are considered as an important resource of teaching, research and training. Thus, most of libraries as well as the universities of the present day provide electronic resources for higher education and research.

1.10 ELECTRONIC INFORMATION RESOURCES TRENDS

In the short to medium term, it is expected that the following broad trends in the information service environment will influence access to electronic information resources.

- Search engines will provide more efficient internet search capabilities; allowing users to locate required information more easily
and remain out of sight of search engines and others mechanisms will evolve to locate this information.

- Documents made available through the web will be better indexed, as search engines are made metadata-aware. New layers of middleware such as improved authentication software will emerge, supporting activities such as e-commerce and others service requiring high levels of security.

- Issues of intellectual property rights on the web will become increasingly important and will be addressed through technological solutions.

- Web users will increasingly access information resources without intermediation by libraries or librarians.

- Portals as interfaces to information will be developed by a range of organizations, providing users with easy access to defined range useful electronic information intended to meet individual requirements.

- Commercialization of the web will continue, particularly in relation to business activities on the web.

1.11 BENEFITS AND PITFALLS

a) Advantages of Electronic Resources

The following are the major advantages of the electronic resources.

i. **Speed:** The speed of publication and diversity of each issue of electronic resources (e-Journals, articles) is much faster than the
print E-resources also reduce the time gap between author of the paper and the end user.

ii. **Distribution:** The major advantages of electronic resources are their global distribution, their hypertext link, the ability to access from different sites and the ability to search.

iii. **Printing and Downloading:** Electronic resources provide the facilities of downloading and printing of the appropriate resources at end user workstations.

iv. **Saving Space:** With the introduction of E-resources, libraries will be relieved of many problems, such as space, shelving, missing issues, missing pages, and ripping of the pages etc.

v. **Searching and Retrieval:** There are a number of search engines available to access and to retrieve the appropriate electronic resources from the web. It also provides the facility of keywords search, author search, subject search etc.

vi. **Multiple Access:** The most important advantages of the E-resources are that it can be used at the same time by a number of users.

vii. **Round the clock availability:** A major advantage of E-resources is that user can gain access to the information at any time, night or day.

viii. **Archiving:** There are very small incremental costs to storing longer documents so it is easy to include data sets, images detailed analyzers, simulations etc. that can improve scientific
communication. Some of the publisher’s provide complete volume on CD-ROM at the end of the year if the condition is incorporated in the agreement.

ix. **Manageability:** Electronic information can easily be managed by adding book makers and personal notes to the private files or databases for copying and editing.

x. **Interactive:** The rapid turnaround time means that articles can be read, commented on by the journal reaches, and amended much more quickly than be done with print. The case with which e-mail can be sent, or forms filled in means that there can be much greater feedback through the web.

xi. **Links:** Links are mainstay of the hypertext format, should be exploited. Not only papers can link to those they have cited, but with a bit of effort, they can be linked to those that cite them.

b) **Disadvantages of Electronic Resources**

The following are the major disadvantages of electronic resources:

i. **Difficult to read on Computer Screens:** The main disadvantages of the digital information are the limitations of the computer monitor. This leads to problems with reading, particularly over four or five screens, annotations and portability. Although the ideal would be to read information from the screen, think that with printing facilities, this ought not to be a huge constraint on the development of e-journals, because at the moment most people
photocopy library copies of journals before taking them away anyway.

ii. **Technical problems:** Degradation and obsolescence of the media use for storing digital information and software used for manipulation of the stored digital information are the two major issues related to digitization.

iii. **Lack of Standards:** There is a lack of standards as the guidelines and best practices for producing and maintaining digital objects for the long term are in the development stage.

iv. **Authenticity:** It is difficult to ascertain the authenticity and integrity of an image or text when it is digital form, as it is very easy to manipulate and temper with data in digital form (Khode and Kumar; 2004; p.25).

### 1.12 SIGNIFICANCE OF THE STUDY

In recent years, libraries in India, particularly those the State and Central Universities, National Institutes (such as the Indian Institute of Technology (IITs), Indian Institutes of Management (IIMs) and Indian Institutes of Science (IISc), Research and Development Organizations, and private high-tech institution, have implemented ICT-based resources and services as India moves towards a knowledge-based economy. Emerging ICTs in India have changed traditional libraries into knowledge centres and the librarians function more like consulting information engineers or knowledge managers. However, the situation in college libraries in India is different, and many are not in a position to fulfill their
objectives. In many cases, college libraries lack the ability to give the information support for the teachers and students they required. Despite widespread awareness about the importance of libraries, they often remain the most disregarded division in colleges. The application of ICT in Indian college libraries is not up to the mark. In view of the above, the researcher intended to undertake this topic on “A study of users’ attitude to electronic information resources with reference to engineering college libraries in Thiruvallur District, Tamil Nadu.” The study aims to ascertain the availability, awareness, utilization and usefulness of E-resource based resources and services among the users of Thiruvallur district engineering colleges.
REFERENCES


