1.0. Introduction

Information and communication Technologies (ICT) revolution is considered to be one of the marvels of the twentieth century. Availability and access to information in general and e’ Resources in particular are playing a major role in the present day of information society / knowledge society. The new technologies have not only transformed the shape of modern libraries but also created very many exciting possibilities and opportunities. The modern electronic libraries are not only considered as centres for the creation and recreation of information products and services, but also as dynamic catalysts of research and development activities. In addition to traditional text based information, modern information systems are now able to represent the information electronically and to help manipulate automatically at high speeds. In the present times, greater transformation in Library & Information Centres (LICs) in terms of availability, access and provision of information/ documents to the user groups is taking place.

1.1. Electronic Information

Electronic information may be broadly defined as “The information stored in a medium, which requires an electronic device to read/access its contents. Information stored in different electronic media such as Floppies, Magnetic Tapes, CD-ROMs/DVDs, Flash/Pen Drive, Hard disk, OPAC, online documents including online Journals, etc. constitute Electronic Information.
In the present electronic age, various new technologies are emerging to facilitate information storage, process and transfer much faster than the traditional print media. Information stored in electronic form (Such as in CD-ROM’s, Computer Databases etc) can break all the physical and geographical barriers and reach the remotest corner of the world.

The physical hardbound volumes of books and journals (i.e. the print media) are slowly being either replaced or supplemented by electronic media like Floppy Diskettes, Magnetic tapes, CD-ROMs/DVDs, Flash/Pen Drives etc. The concept and mode of presentation of information is rapidly changing from static text based form to graphic, hypertext, audio/video and now reached interactive multimedia form. Any kind of this digital form/database is called as Electronic Form/Electronic Database. And the information available in these forms is called as Electronic Information Resources.

Electronic information had Resources promised and continues to promise still a revolution in its availability of and easy of access. Although, it seems to most practitioners that we are in the mid-revolution and electronic information Resources has already become part of the naturally established order of things for researchers in developed countries.

Advances and developments in electronic storage and delivery of information are changing the very nature of libraries. The proliferation of CD-ROM’s/DVDs, the ability to load databases on a number of Integrated Library
Systems (ILS) and the Internet are making incredible number of databases and information sources available electronically to a large number of information seekers. With this comes a need to understand electronic information and options available for its access. An institution may have to invest in more than one information format in order to provide a well-rounded information collection. Technologies exist today that will allow interconnection of a number of computer systems. And the information technology can be used to increase the audience of a particular information product and maximize the information investment.

The proposed study examines the options for extending and improving access to information resources, such as accessing Integrated Library Systems (ILS) from a CD-ROM/DVD network or allowing Online Public Access Catalogue (OPAC) terminals and also the Internet resources, etc. Electronic Information sources & Services are widely used in Special Libraries than Academic and Public Libraries. The present study has been taken up to study the problems and prospects of access to Electronic Information.

The electronic media is considered to be the best media for information storage as it has many advantages, such as:

1. Huge storage capacity
2. Data Security
3. Space saving
4. Easy to handle, search, retrieve, transfer, etc.
In this present study Electronic Information and Electronic Information Resources are used synonymously. Further, accessing Electronic Information is nothing but accessing the information from the e’ Resources only.

1.1.1. Definition

Electronic Information Resources are defined as being “any publicly available information resource, which can be accessed via a personal computer. These include commercially produced resources such as bibliographic databases (accessed online or via CD-ROM), electronic journals and electronic books, as well as resources that have been made freely available via the Internet, whether specifically to higher educational institutions or to the public in general ”.

1.1.2. Evolution of Electronic Information Resources

Throughout the twentieth century, libraries integrated new formats into their collection, which include, microfilms in the 1930s, Audio-visual materials in the post-World War II era, and CD-ROMs in the 1980s. During the last decade, electronic journals, electronic books, the World Wide Web, and full-text databases have emerged as important forms that present numerous challenges to libraries.

A voluminous amount of information has been published on electronic resources in recent years. A major portion of the electronic resource evaluation literature relates to technological issues, including hardware and software, the user interface, navigation, searching features, screen display, and so on. Since
electronic resource content may be viewed as part of a library’s collection, evaluation of electronic resource content is a logical extension of collection evaluation. The use of electronic resources apart from a library context, the acceptance of electronic information resources by scholars, and basic descriptions of vendor products or library implementation of e-resources needs through evaluation to find the inherent problems and prospects in use of e’ Resources.

Electronic resource evaluation often takes place at the micro-level (evaluation of a specific resource) rather than the macro-level (evaluation of an entire collection of resources). Thus, the distinction between traditional collection development, selection and evaluation sometimes blurs in regard to electronic resources, as they are frequently evaluated for selection purposes. As a caveat regarding electronic journal evaluation and use studies, it is to be noted that this format has been inconsistently defined in the literature as exclusively electronic titles or as electronic versions of established print journals.

1.1.3. Advantages of Electronic Information Resources

Electronic information Resources offer today’s users different opportunities from their predecessors. Brophy (1993) stated the advantages of networking for the user as being: the information needed can be delivered from the most appropriate source to the user; the user can re-specify his or her needs dynamically; the information is obtained when it is wanted, so becomes "just in time" rather than "just in case"; the user selects only the information needed to
answer the specific question. Electronic information can therefore provide a number of advantages over traditional print based sources.

These advantages include the fact that electronic information resources are often faster than consulting print indexes, especially when searching retrospectively, and they are more straightforward when wishing to use combinations of keywords. They open up the possibility of searching multiple files at one time, a feat accomplished more easily than using printed equivalents. Electronic resources can be printed and searches saved to be repeated at a later date; they are updated more often than printed tools. One main advantage, especially to distance learners or those with limited time to access the library is their availability from outside the library through online methods.

1.1.4. Impact of Electronic Information Resources on Library Services

Developments in IT have helped libraries to provide accurate and timely information, apart from compact storage and systems of information retrieval as and when required. Resource sharing arrangement with other libraries via e-mail, fax, Internet, Intranet and such other is yet another advantage of the IT revolution. Development in the Information Communication Technology had made the whole world a global village with the collapse of traditional constraints of space and time. The convergence of Computer and Communication Technologies have created a new channel of networking which has revolutionized the traditional communication process by providing links and routes throughout the world. As a
result of this, revolutionary mode of access to information has shifted from printed-paper to electronic and digital through magnetic media, optical media and multi media. By virtue of IT revolution, the information flow is multiplied with tremendous speed and velocity reaching globally with least amount of time and energy through Internet, WWW and so on. Using IT developments, the Libraries are providing current awareness services to their users. The productivity of the user increases with the help of timely information services. Otherwise, the users have to wade through mountain of books and research papers. For a Research Scholar to conduct a literature survey and review, it would have taken several months by visiting several libraries in his field of research, and even then, the survey would not have been comprehensive. Now, with the help of CD-ROM Databases and Internet, it is possible for a user to do a comprehensive literature survey and review within few hours or few days by selecting appropriate databases ones in field of research.

The mission of the library will not change in the future. The Libraries will continue to access, organize, preserve and disseminate information. The value of Library will not merely depend upon size of their collection, but on the strength of the ability to enhance access to the world of information. The Libraries will have to procure a variety of Databases both online and offline and access the range of digital information available via local, regional, and international networks or local workstations.
1.2. Special Libraries

Definitions:

- According to A.G.S. Josephson, a special Library is a library that covers a single definite subject, or a definite group of related subjects –
- UNESCO stated the corporate form of a special library as these libraries may be attached to various bodies, such as a parliament or a government department, a scientific or other research institution, a learned society, professional association, museum, industrial association, chamber of commerce, etc.
- S.R. Ranganathan considered specialization in a subject to be the characteristic that makes a library a special library.
- R.S. Hutton: Special library is a collection of information covering a specific subject or field of activity and in charge of some one trained in its application.
- A.F. Ridley: A collection of information covering a specific field, which may be administrated by a special staff and for the service of limited clientele.

1.2.1. Introduction

Libraries can be broadly classified into four different categories, namely, National Libraries, Public Libraries, Academic Libraries and Special Libraries. In the case of the first three categories, the nomenclature of each one is self-explanatory. For example, the public libraries are open to one and all, that is,
public and their holdings are of general in nature. The academic libraries are attached to academic institutions like universities, colleges and schools and cater to the needs of teachers and students in their academic pursuits. The collections in them also relate to the academic programmes / courses of the academic institutions. Special Libraries possess special collections in special formats and provide specialized library and information services to specialized clientele either on demand or in anticipation. They also alert the clientele about the existence of information, which otherwise might not be known to them.

1.2.2. Characteristics of Special Library

The Six distinguishing characteristics of special library are:

(a) Location of the library

(b) Subject orientation of the library collection

(c) Collection of material in special formats

(d) Specialist user groups

(e) Physical size of the library

(f) Emphasis on information services.

1.2.3. Need and purpose of Special Libraries

The need for special libraries was felt for three major reasons:

- Rapid increase in the volume of literature (Books, Journals and non-Book material)
- Increasing specialization in all branches of science (Physical and social) and technology
• The need to have quick access to the vast amount of literature.

The Scientists in R&D organizations are required to keep abreast of latest developments in their areas of specialization mainly for two reasons:

• To get information which may be useful in connection with their current research programmes, and

• To avoid duplication of the work that had already been done in other organization.

Scientists would not have time to consult the library catalogue and other tools to locate their needed information. The relevant information has to be gathered from various sources and passed on to the users. A well-organised special library, which has a clear idea about the goals and objectives as well as plans, programmes and activities of the parent organization can provide such information services.

Establishment of special libraries within the organization is, therefore, an imperative necessity. In view of specific emphasis on information services special libraries are located in many organizations.

1.2.4. Functions of Special Libraries

(a) Defining the objectives of libraries in conformity with the objectives of the parent body and drawing up plans and adoption of programmes to achieve these objectives more specifically

(b) Acquiring library material that would respond to the information requirements of the organization.
(c) Organizing and storing the acquired material appropriately to facilitate quick and pinpointed access to the documents. This would need classification of material using special schemes, indexing using special subject heading lists/thesauri, abstracting of documents, organizing and storage of non-book material, etc.

(d) Organizing the following types of services:

- Dissemination of current information viz., current awareness services to keep the clientele informed of latest developments.
- Reference service for locating specific pieces of information.
- Literature search and bibliographical services on demand
- Translation service
- Obtaining documents from other libraries on interlibrary loan basis

(e) Liaison with other special libraries and documentation centres for gathering information not available in the library

(f) Associating with local, national and international professional organizations of librarians

1.2.5. Importance of Electronic Information in Special Libraries

The development of Science and Technology led to changes in various fields and walks of human life. It also helped the libraries and Publishing companies to change their products from the print into electronic form. This led to the increase in use of Electronic Databases and Internet browsing for search of scientific and technical information. In this regard Special Libraries play a critical
role for the development of skills of scientists and research scholars with the help of Internet services.

Electronic media became imperative for scientists in their research pursuits, as they have to interact and communicate with their counterparts in their research.

Libraries and publishing companies have been changing their products from print media to Electronic form, because:

- The Electronic Information market is emerging very fast.
- There is an increase in use of Databases, Internet browsing for production of Scientific & Technical information.
- Special Libraries play a critical role in the development of skills and knowledge of scientists, Research scholars etc. especially as the Internet and other means of electronic access to information become more prevalent in their research.
- Increase in online information as well as increase of electronic databases for research purpose.

1.2.6. **Advantages of conducting a study on Electronic Information Resources**

A brief presentation of the evolution from the written documents (paper format) to the now Electronic Information services includes microfilm, CD-ROM and the Internet. It is also interesting to understand how libraries and publishing companies have changed their products and services to answer end-user needs.
Benefits: Low cost than print to produce, use and manage, cost effective
distribution, quick & easy updates and environmental soundness are the benefits
of e’ Resources.

Services offered such as: easy searching for books articles, facts, help agencies
and other information seekers. The services will also acts as a gateway to
Internet

For scientists the interaction between research and its communication is
an increasingly important factor as each becomes more dependent on Electronic
information handling. The growth of research information, computers and
networking in the sciences gives details of scientists ‘use of information
technology’ and examines their use of Electronic Communication.

1.3. Access & accessing Electronic Information

Access:

The process of obtaining data from, or transferring data to a storage
device, registers or RAM. When used in its broadest sense, this term
encapsulates the purpose of librarianship enabling people to identity, locate and
use the information that will meet their educational, occupational and personal
needs. Librarians espouse principles of free inquiry and intellectual freedom.

Accessing Electronic Information Resources:

In this present information age almost all the Special Libraries provide
Information Resources in Electronic form and increasing number of them are now
available electronically. Different user groups, information professionals and
others those who are involved in information industry access e’ information depending on their requirements and purposes. However, Organizations/Institutions, library and information centres, database vendors, etc. provide general guidance in accessing and using the Electronic Information Resources.

1.4. Requirements for accessing Electronic Information

One of the major developments in libraries and information systems in the past 15 years is the advent and spread of electronic information Resources (EIRs), services and networks mainly as a result of developments in information and communication technologies. The change is basically of physical form where information content is increasingly being captured, processed, stored and disseminated in electronic form. The commonly available EIRs, namely, CD-ROMs, online databases, OPACs, and the Internet and other networked information sources, are competing, and in some instances replacing, the print-based information sources which have been in place for centuries as the primary media for the storage and communication of recorded information content.

The unique requirements for proper exploitation of EIRs is that users should own or have access to e’ Resources. These unique requirements are: availability and accessibility of appropriate computer hardware and other related equipment; availability and accessibility of appropriate software, which include quality and ease of use of interface and retrieval or search engine; and adequate user knowledge and skills to interact with and manipulate the hardware, software and the different EIRs as well as to identify and define their needs in electronic environments.
1.4.1. Hardware

Computers: Servers, Stand alone Terminals for OPAC and other in-house operational activities

Scanners: Scanners for digitization of Books, Manuscripts, Journals, Research reports, Publications etc.

Printers: Providing printing services to users after searching Electronic Information report generation and providing receipts in Library in-house operational activities.

DVD/CD-ROM For searching databases which are in CD-ROM’s and Drives/Servers DVD’s

Networking Equipment Switches, Hubs, Modems, Routers, cabling etc.

Barcode Scanners Providing service for Circulation (Issues and Returns), Stock verification, etc.


1.4.2. Software

Operating System Windows NT/Windows 2003/Windows XP/Linux etc.

Library Software Software that contains all the features of in-house
operations as well as web based technologies like OAI-PMH, MARC 21, Dublin Core, Attachment of Digital contents and other international Standards etc.

Internet Browsers
Internet Explorer/Netscape Navigator etc for browsing Internet as well as Library OPAC (if it is web based)

Other Software
Software for searching CD-ROM/DVD’s
Software, which are provided with Hardware like Scanners, Printers, Barcode Scanners, RFID etc.

1.4.3. Networking

The network requirements:
Complete Networking with LAN Chords & LAN Drivers, Cabling, RJ 45 Jackets, Switches, Hubs, Modems, Routers etc. for library in-house operations, searching library database through OPAC and CD-ROM servers.

Internet connectivity for browsing Electronic information like e-Journals, e-Books, ETDs, online databases, web pages digital material, databases of networked libraries etc.

1.4.4. Support & Training

Training of staff as well as users in using Electronic Information through computers and networks for e-journals, e-Books, online databases, CD-ROM/DVDs, databases of member libraries etc.
Providing adequate training for users of electronic information resources in the operation, care and handling of the equipment, software and media used in the system and in the management of electronic information resources.

Training for individuals who search, create, edit, store, retrieve or dispose of Electronic Information Resources is an important aspect of Electronic Information Management. Methods of providing training for the usage of Electronic Information Resources include one or more of the following:

- **Formal orientation/ training** provided several times in a year on a recurring basis or as needed for special situations.
- **A self-learning center** within the organization where operators can teach themselves at their own rate of learning through interactive programmes.
- **Help desk** by knowledgeable computer support professionals, who can answer technical questions and provide quick solutions. This process may not be an adequate learning tool for good Electronic Information Resources management unless the computer support professionals have received specialized Electronic Information Resource management training.
- **Attending specialized training programmes** offered by Organizations and other professional bodies.
- **Training offered by the manufacturer or supplier.** This usually covers the operation of the equipment, but does not normally include the principles of Electronic Information Resources Management.