

ROLE OF ELECTRONIC RESOURCES IN CONTEMPORARY LIBRARY SYSTEMS

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ABSTRACT

This research paper analyzes the diverse forms of e-resources and their growing significance within contemporary academic and knowledge-exchange frameworks. The unprecedented advancement of digital technology has rendered the processes of collecting, preserving, accessing, and utilizing intellectual assets extremely simple, rapid, accessible, and effective. The utilization of this vast repository of knowledge—accumulated by human civilization across various eras—is of paramount importance not only for cutting-edge research endeavors but also for fostering intellectual enrichment, social upliftment, and holistic human development.

A defining characteristic of electronic resources is their accessibility; they transcend geographical boundaries, remaining readily available even in remote and otherwise inaccessible locations. These resources offer effective solutions to traditional storage-related challenges and facilitate the systematic management of the ever-expanding volume of information. Currently, printed sources are undergoing rapid digitization, a process that has charted a new course for the preservation and widespread dissemination of knowledge.

Within the realms of education and academia, electronic information sources are becoming increasingly vital and indispensable with each passing day. With the advent of modern technology, libraries, too, are compelled to integrate innovative digital tools into their traditional collections—a process in which e-resources occupy a position of central importance. This study provides a comprehensive overview of e-resources, outlines their primary advantages and disadvantages, and lists the web addresses of several key websites available for the convenience of users.

Keywords:- E-Resources, Digital Libraries, Electronic Information Sources, Academic Libraries, Information Technology, E-Books, Online Databases, Knowledge Management, Library Services, Digital Preservation.

INTRODUCTION:

Digitization has introduced innovative concepts and technologies across the entire realm of knowledge and information exchange systems. The term "Electronic Resource" refers to any information source that is available and relies on a computer for access and utilization, or any electronic product that offers a systematic compilation of information and data. These resources encompass full-text databases, electronic journals, digital image collections, various multimedia products, as well as numerical, graphical, or time-based data that are commercially published and marketable. Access to these resources is facilitated through CD-

ROMs, DVDs, magnetic tapes, the Internet, and other digital media.

Compared to traditional printed sources, electronic resources are more useful and effective, as they incorporate editing, retrieval, and advanced search capabilities. Providing access to information resources entails significantly lower costs than acquiring physical copies. Furthermore, their storage, preservation, and maintenance result in substantial savings of both financial and physical resources. In various contexts, the electronic version of information proves to be the most suitable option. Rapid changes within the field of scientific publishing, coupled with shifts in publishers' policies, have presented academic libraries with new challenges—as well as opportunities—regarding the acquisition, management, and preservation of journals and serial publications.

In the twenty-first century, the landscape of libraries and information services is undergoing rapid transformation. Driven by the unprecedented growth of electronic publishing, libraries are no longer confined solely to printed books and journals; rather, they are evolving into institutions that provide access to a diverse array of digital tools for teaching and learning. The utilization of web resources and web-based technologies has fundamentally altered the ways in which people learn, access information, and share knowledge. Previously, the World Wide Web served primarily as a medium for delivering information to users through "push-type" applications. However, Web 2.0, the open-source movement, and a collaborative sharing culture have placed User-Generated Content and collaborative applications at the center stage.

These shifts have witnessed an unprecedented surge in the popularity and utility of electronic resources. Today, e-resources constitute a vast segment of the global body of knowledge. They encompass a diverse array of electronic information sources. E-resources include e-books, e-journals, digital databases, e-conference proceedings, e-reports, e-maps, e-images and digital photographs, e-manuscripts, e-theses, e-newspapers, and Internet- and website-based resources (such as Listservs, Newsgroups, Subject Gateways, USENET, and FAQs).

Other digital media—such as the Internet, CD-ROMs, and DVDs—ensure the accessibility of these resources. Access to e-resources has emerged as a pivotal aspect of modern library services, enabling users to access e-databases, e-journals, e-magazines, e-books, e-audio, e-images, data/GIS resources, digital library projects, electronic exhibitions, and e-subject gateways pertaining to various disciplines.

Electronic books, in particular, prove highly valuable due to their capacity to store multiple titles on a single device, their instant availability, and their ease of portability. Currently, a multitude of publications are available on Open Access platforms, thereby enabling even the economically disadvantaged to access essential information free of cost. This contributes to bridging the "Digital Divide" and liberates users from concerns regarding licensing and usage-related complexities.

Dr. S.R., a renowned scholar in the field of Library and Information Science... In his Fifth Law, Ranganathan stated that "the library is a growing organism." This principle suggests that a library is a vibrant center of knowledge, rather than merely a museum of books. The library addresses the intellectual needs, curiosities, and problems of every reader. It is the responsibility of the library to continuously evolve itself by understanding the changing demands of its user community.

DEFINITION:

According to the 2005 update of AACR2 (Anglo-American Cataloguing Rules, 2nd Edition), an electronic resource is defined as "material (data and/or programs) encoded for use by a computerized device." To utilize such material, one must be directly connected to a peripheral device—such as a CD-ROM drive—or linked to a computer network, such as the Internet. This definition excludes resources that do not require a computer system for their use, such as music compact discs or video discs.

According to the *Glossary of Library and Information Technology*, "electronic resource" is a broad term encompassing all information products that a library makes available to its users via a computer network. Consequently, e-resources have become an integral part of modern library services.

According to Wikipedia, an electronic resource refers to "information—typically in the form of a digital file—that can be stored as electrical signals and is frequently stored on and accessed via a computer system; this category also includes information available on the Internet." This definition clarifies the concepts of digital information formats and network-based dissemination.

According to *Gradman's Glossary*, "any material published in a digital format that can be stored, accessed, and read solely on computerized devices is termed an electronic resource." Under this definition, electronic resources are primarily classified into two categories: Direct Access and Remote Access. Direct access resources comprise physical media—such as CD-ROMs, diskettes, computer tapes, and computer cards—that store textual material, images, audio, or other forms of digital data.

LITERATURE REVIEWS

Initially, a comprehensive and analytical review of relevant literature was conducted to establish the conceptual and research-based foundation for the study. The survey-based study by Valmiki and Ramakrishnegowda (2009)—undertaken to assess the current status of the collection, availability, and utilization of e-resources in university libraries across the state of Karnataka—is of particular significance in this context. This study analyzed the availability of internet facilities within university libraries; the status of the acquisition of CD-ROM databases and online resources; participation in consortium-based activities; and the nature and utility of the e-resources accessed through these mediums.

This research paper specifically discusses the various barriers and structural limitations associated with the collection and management of e-resources in university libraries. The study revealed that the number of internet nodes in most university libraries is extremely limited, bandwidth is very low, and the collection of CD-ROM databases and online resources is notably weak and unsatisfactory. Regarding the availability of e-resources, it was further concluded that the academic literature provided by the UGC-INFONET E-journal Consortium constitutes the fundamental basis of the strength of these university libraries.

It is for this reason that Jamali, Nicholas, and Huntington (2005) presented a study that extensively utilized electronic journals (e-journals) and employed "log analysis" to analyze user behavior. The primary objective of this study was to determine which types of digital formats end-users prefer. The results of the study indicated that users perceive the PDF format as easier, more reliable, and more useful than the HTML format, as the PDF format replicates the structure and presentation of printed material.

Chisenga (2004) analyzed the status of Information and Communication Technology (ICT) usage in ten public library services across African countries. This study revealed that very few libraries were able to provide web-based information services to their users, despite the fact that most libraries were connected to the Internet. Furthermore, the study identified the major challenges hindering the effective utilization and dissemination of electronic resources. Key barriers included a lack of well-conceived and long-term planning, a shortage of adequate and reliable financial resources, limited utilization of Internet technology for delivering information services to users, and a lack of continuous training and orientation for users regarding innovative Information and Communication Technology (ICT) services.

It is evident from the aforementioned findings that the success of e-resources does not depend solely on their availability; rather, their successful utilization necessitates the coordinated development of various other factors, such as technical infrastructure, financial resources, trained manpower, and user awareness.

UTILITY OF E-RESOURCES

E-resources are vital in today's knowledge-based society. The rapid advancement of Information and Communication Technology has transformed the traditional forms of libraries and information services; they are now more dynamic, effective, and user-centric. With the aid of e-resources, librarians can address the diverse academic, research, and intellectual needs of the user community more rapidly and effectively. The following points illustrate the necessity and utility of e-resources—

(a) Multi-user access facility

The most significant feature of e-resources is that a large number of people can access the same information source. This saves time and resources, and makes the process of knowledge-sharing more extensive and effective.

(b) Rapid Search and Retrieval Capability

The presence of built-in search and retrieval mechanisms within e-resources enables the rapid discovery of necessary information. This feature is highly beneficial for researchers and the academic community.

(c) Easy availability of information

Through digital media, users can easily access necessary information at any place and at any time. Thus, e-resources enhance the universal and accessible availability of information.

(d) Storage of vast amounts of information

Through e-resources, vast quantities of documents and information can be digitally archived. This mitigates issues related to long-term preservation and physical storage.

(e) Saving of time

Accessing information using e-resources becomes very fast and easy. Compared to traditional printed sources, more information can be obtained in less time, thereby enhancing user efficiency.

(f) Analysis of User Objectives

E-resources enable the analysis of users' information needs, usage trends, and study objectives. This allows library services to become more user-centric.

(f) Study of the use of various types of e-resources

E-resources help you understand which types of digital sources users utilize most frequently—such as e-books, e-journals, databases, and web resources. This enables collection development processes to be made more effective.

(h) Digital Storage and Organization of Information

E-resources are highly useful for collecting, storing, and safeguarding digital information. This makes information management more systematic and scientific.

(I) Economical and effective dissemination of information

E-resources facilitate the rapid, efficient, and cost-effective delivery of information to all users. Information can be disseminated on a wide scale at a low cost through digital media.

(j) Promote collaborative efforts and resource-sharing

E-resources conserve and facilitate the shared utilization of investments made in research resources, computing infrastructure, and communication networks. This fosters collaborative efforts across numerous institutions and libraries, thereby ensuring the optimal utilization of resources.

Consequently, e-resources are indispensable in modern libraries and information services. They not only enable the rapid and widespread dissemination of knowledge but also render the processes of education, research, and social development more effective and empowered.

TYPES OF E-RESOURCES

Sr. No.	Types of E-Resources	Detailed Description
1	E-Books	E-books are books available in a digital format that can be published across various technological platforms and devices. Adobe PDF, Microsoft Reader, e-Reader, Mob pocket Reader, EPUB, Kindle, and iPad-based formats are the prominent formats. These formats offer quick access, portability, and easy readability.
2	E-Journals	E-journals are of great significance in modern library collections. They serve as an excellent example of the application of Information and Communication Technology. Through them, academics and researchers gain immediate access to the latest scientific discoveries, discussions, and research articles.
3	E-Newspapers	E-newspapers—also known as online newspapers or web newspapers—are digital news sources available via the Internet and the World Wide Web. They provide you with direct access to current events, national and international news, and opinion pieces.
4	E-Magazines	E-magazines constitute a significant part of digital collections in libraries. These publications are based on information technology, making content related to literature, science, culture, education, entertainment, and contemporary topics available in an electronic format.
5	Indexing and Abstracting Databases	These bibliographic databases provide bibliographic information related to research journals and articles. They include reference details, subject indexes, and article abstracts, which assist researchers in identifying relevant literature.
6	Full-text	Full-text databases are digital collections designed to make the

Sr. No.	Types of E-Resources	Detailed Description
	Databases	complete content related to a specific subject or a multidisciplinary field available electronically. These may be available either on a paid or a free basis. The information contained within them can be searched, retrieved, and utilized through electronic means.
7	Reference Databases	This category includes dictionaries, encyclopedias, almanacs, and directories available in electronic form for reference purposes. These provide users with accurate and quick reference information.
8	Statistical Databases	These databases contain statistical and numerical data that are useful for researchers and the general public. They are highly beneficial in social, economic, scientific, and government studies.
9	Image Collections	Digital imaging technology has led to improvements in databases that provide electronic collections of photographs, illustrations, and visual materials. These are particularly beneficial in the fields of education, research, and visual documentation.
10	Multimedia Products	Such databases comprise a combination of multifaceted digital components, such as text, images, audio, and video. These make the processes of training, instruction, and knowledge dissemination more engaging and effective.
11	E-Theses	In this category, research papers, Ph.D. theses, and other research works are archived and published in electronic form. These provide researchers with quick access to previous findings.
12	E-Clipping	The primary objective of e-clipping services is the collection, retrospective search, and analysis of news content. Through this medium, the systematic archiving and study of news published on various subjects can be undertaken.
13	E-Patents	An e-patent is a government-granted right that allows an inventor to use and protect their invention for a specific period of time. Digitally available patent databases foster innovation and discovery.
14	E-Standards	E-standards are definitions, guidelines, and regulations approved and governed by an authorized body. They assist in ensuring the quality, uniformity, and standardization of various processes, products, and services.

USES OF E-RESOURCES

Today, sources of reading, writing, and information are shifting from print to electronic formats. Details regarding some such e-information services are provided here:

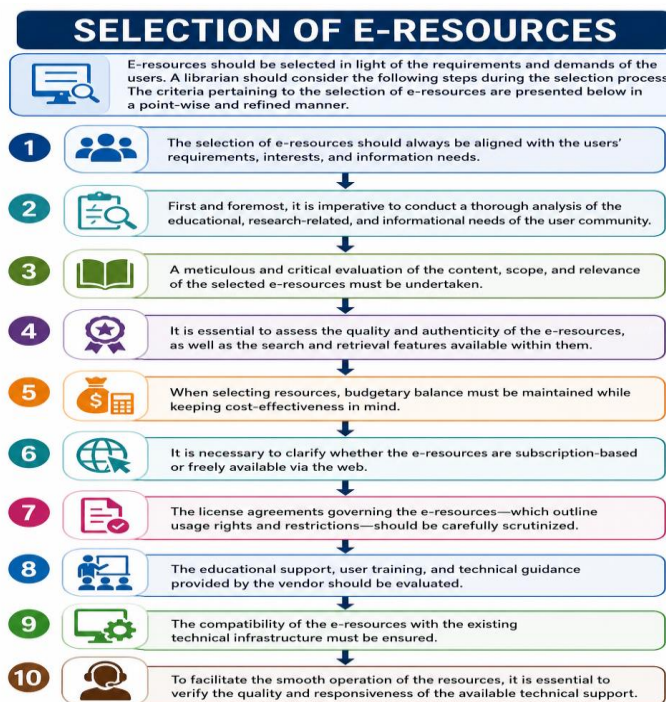
Sr. No.	E-Information Services	Abbreviation	Detailed Description
1	Current Awareness Service	CAS	The objective of the Current Awareness Service is to keep users informed about the latest information, articles, reports, research papers, and current developments related to their respective subject areas. This service provides students, educators, and experts with quick access to up-to-date information, thereby assisting them in keeping their research and discoveries

Sr. No.	E-Information Services	Abbreviation	Detailed Description
			current.
2	Selective Dissemination of Information	SDI	Selective Dissemination of Information is a user-centric information service that regularly provides specific and relevant information based on users' interests, research requirements, and thematic preferences. This service saves time and enhances the quality and efficiency of research.
3	Electronic Document Delivery Services	EDDS	E-document delivery services are digital services designed to provide individuals with essential research papers, articles, book chapters, reports, and other documents in an electronic format. This service is crucial for rapid information dissemination, resource sharing, and remote access.
4	Online Public Access Catalogue	OPAC	OPAC is a computerized library catalog system that enables users to access information online regarding books, journals, theses, and other resources available in the library. This service makes the search, retrieval, and determination of resource availability simpler, faster, and easier.
5	Current Awareness Service	CAS	This service keeps users updated on the latest publications, discoveries, technological developments, and current information. In modern digital libraries, the use of CAS is considered highly significant for knowledge sharing and academic advancement.
6	Mobile Libraries	M-Libraries	A mobile library is a modern information service that connects users with library resources and digital information through mobile technology. This service is particularly beneficial for people in remote and rural areas, as well as for those who lack direct access to traditional library services.

SELECTION OF E-RESOURCES

E-resources should be selected in light of the requirements and demands of the users. A librarian should consider the following steps during the selection process:

The criteria pertaining to the selection of e-resources are presented below in a point-wise and refined manner:



The selection of e-resources should always be aligned with the users' requirements, interests, and information needs.

- First and foremost, it is imperative to conduct a thorough analysis of the educational, research-related, and informational needs of the user community.
- A meticulous and critical evaluation of the content, scope, and relevance of the selected e-resources must be undertaken.
- It is essential to assess the quality and authenticity of the e-resources, as well as the search and retrieval features available within them.
- When selecting resources, budgetary balance must be maintained while keeping cost-effectiveness in mind.
- It is necessary to clarify whether the e-resources are subscription-based or freely available via the web.
- The license agreements governing the e-resources—which outline usage rights and restrictions—should be carefully scrutinized.
- The educational support, user training, and technical guidance provided by the vendor should be evaluated.
- The compatibility of the e-resources with the existing technical infrastructure must be ensured.
- To facilitate the smooth operation of the resources, it is essential to verify the quality and responsiveness of the available technical support.

CHARACTERISTICS OF E-RESOURCES

Electronic Resources serve as dynamic mediums within the modern information ecosystem, having profoundly transformed the traditional concepts of information access, dissemination, and utilization. Their key characteristics can be presented in a refined and analytical manner

as follows:

- The foremost characteristic of e-resources is that they enable any user to gain seamless access to any type of digital document—from any location and at any time.
- Compared to printed resources, the processes of acquisition and availability for e-resources are exceptionally rapid, swift, and time-sensitive.
- Digital tools, such as hyperlinks, are utilized to provide users with access to necessary documents or information, thereby facilitating direct access to the required data.
- Thanks to the search systems embedded within e-resources, the retrieval of textual content and information becomes remarkably simple, rapid, and precise.
- Collections available in electronic formats may be hosted across diverse mediums—such as the web, databases, the cloud, CD/DVDs, etc.—thereby enabling the multidimensional dissemination of information.
- In a digital information environment, access rights to resources become significantly more important and relevant than their physical ownership.
- Within the electronic information landscape, a continuous and active interactive relationship evolves between the user and the librarian, leading to an enhancement in the quality of services.
- In the context of e-resources, there is no fixed or restricted group of designated users; rather, these services are accessible to a broad and diverse spectrum of user groups.
- Modern software and information retrieval systems provide effective assistance to users in obtaining necessary information, while the role of traditional intermediary services becomes relatively limited.

THE IMPACT OF E-RESOURCES ON LIBRARY AND INFORMATION SERVICES

E-resources and internet-based information systems have fundamentally transformed modern library systems, bringing about sweeping changes in the traditional concepts and usage patterns of information sources. Consequently, the process of acquiring information resources has become simpler, faster, and more effective, leading to a remarkable increase in both the speed and scope of access to intellectual wealth.

- In the current context, rapid and seamless access to books, journals, and various electronic publications has become absolutely essential for librarians. Internet-based connectivity has not only simplified access to library documents and catalog interfaces but has also rendered the processes of updating and managing them more streamlined and efficient. Furthermore, under the Inter-Library Loan (ILL) service, requests can be transmitted with great ease via email, while copies of documents can be dispatched via postal mail, fax, or—following digitization through scanning—sent electronically via email.
- The rapid advancement of information technology and the widespread proliferation of web-based environments have exerted a profound and decisive influence on the information behavior of users. The entire workflow—ranging from acquisition to user services—as well as the life cycle of electronic resources, differs fundamentally in nature from that of traditional print resources; this is because it enables rapid and remote access to information without the need for physical storage. As the collections of electronic resources within libraries continue to expand, the challenge of managing them efficiently is becoming commensurately complex. Currently, most libraries are witnessing a rapid surge in the

volume of e-journals, citation databases, and full-text collections. To manage these resources effectively, it has become imperative to provide users with simple and convenient search and access systems, while simultaneously equipping library staff with appropriate technical tools for monitoring and control.

- In the modern landscape, a significant portion of library resources is being made available in electronic format, with e-journals, e-books, and databases being the most prominent examples. Recognizing the superior utility and benefits of electronic resources compared to their printed counterparts, libraries are rapidly shifting towards electronic resources—either through individual subscriptions or via consortium-based collaborative memberships. Various studies have clearly demonstrated that users prioritize e-journals over printed resources, as they offer the advantages of rapid, convenient, and comprehensive access.
- Given the significant increase in the licensing and Digital Rights Management (DRM) of electronic resources in recent years, libraries now face complex challenges regarding the control, management, and organization of these resources. To effectively manage this information, libraries must rely not only on physical records and Integrated Library Systems (ILS) but also develop multi-layered information management frameworks utilizing local servers, computer networks, and various database structures.

E-UTILITIES OF RESOURCES

Electronic resources constitute such powerful mediums within the modern information ecosystem that they have rendered the processes of knowledge dissemination, storage, and access highly efficient, rapid, and comprehensive. Their primary utilities may be presented in a refined and analytical manner as follows—

- The process of e-publishing can prove to be more cost-effective and economically advantageous compared to traditional paper-based publishing, thereby enabling the optimal utilization of resources.
- E-resources are created in a diverse range of file formats—including text, audio, video, and image formats—making the presentation of information more multidimensional and impactful.
- E-resources remain continuously available 24/7 and minimize the need for physical space, thereby enhancing the efficiency of space utilization within a library.
- Thanks to user-friendly interfaces, the process of searching for and retrieving information within e-resources is rendered extremely simple, convenient, and time-efficient.
- These resources provide users with fast, convenient, and uninterrupted access from any location—whether at home, on an academic campus, or within the library itself.
- Through advanced search and retrieval systems, highly precise and rapid access to desired information can be ensured.
- The content of e-resources can be recreated, forwarded, modified, or edited; this capability may give rise to various complexities regarding the maintenance of copyright protection and authenticity.
- The electronic information environment facilitates networking and resource-sharing among libraries and other institutions, thereby enabling the collective expansion of knowledge.

- Users with limited time at their disposal can still gain effective and rapid access to library resources through dial-up connections or other remote access technologies.
- Libraries are capable of providing extensive access to a vast and diverse array of information resources, thereby significantly broadening the scope of knowledge. • The primary objective of modern libraries is to ensure direct and seamless access to primary information sources, thereby enhancing the quality of research and study.

MAJOR CHALLENGES RELATED TO E-RESOURCES

Within the realm of modern library and information services, alongside the effective management and utilization of e-resources, numerous structural, economic, and technical challenges also exist, which can be presented in a refined and analytical manner as follows—

- **Licensing Arrangements:-**To ensure the legal and controlled use of e-resources, it is mandatory for libraries to obtain appropriate licenses from the relevant publishers or information providers. This process clearly defines the usage rights and limitations associated with these resources.
- **Intellectual Property Rights (IPR):-** Due to the digital nature of e-resources, they can be easily copied and shared without authorization; therefore, it becomes imperative for librarians and users to remain vigilant and cautious regarding Intellectual Property Rights.
- **Challenges in Metadata Standardization:-** Although established metadata standards—such as MARC21—are available, many e-resources currently on the market are not fully standardized in accordance with these norms, leading to technical complexities in their organization, access, and integration.
- **Limited Financial Resources:-** Libraries are typically non-profit institutions; consequently, they face financial constraints in acquiring high-cost electronic resources and sustaining their ongoing subscriptions.
- **Need for Skilled Human Resources:-** The effective operation, management, and technical maintenance of e-resources require trained and proficient staff; however, a shortage of such skilled human resources remains a major challenge for many libraries.
- **Lack of Basic Infrastructure:-** Electronic collections and information services rely heavily on Information and Communication Technology (ICT)-based infrastructure; yet, the unavailability of adequate hardware, software, networking capabilities, and technical resources poses a significant obstacle for libraries.

CONCLUSION

The proper and effective utilization of e-resources proves to be immensely helpful in ensuring the comprehensiveness, authenticity, and precision of information. These resources provide both users and library management with diverse and advanced options for information search, retrieval, and access, thereby rendering the information service system more flexible and efficient.

The use of e-resources enables significant savings in physical space within libraries, while also conserving a great deal of users' time, as it ensures rapid and direct access to information. These resources are invaluable not only to libraries but also, on a global scale, to all knowledge-seeking users who aspire to acquire worldwide information across diverse subjects.

The rapid and revolutionary advancements in modern Information and Communication

Technology (ICT) have brought about extensive and notable changes in library operations. The benefits of these technological shifts are accruing not only to general users but also to technical experts (technocrats), thereby significantly strengthening the process of knowledge enhancement through the utilization of digital resources.

The rapid dissemination of information has been made possible through email, RSS alerts, and other electronic communication channels, as a result of which users remain continuously apprised of the latest and most up-to-date information.

Furthermore, the efficiency and effectiveness of library services can be further enhanced through a robust and advanced infrastructure—such as high-speed networks, campus-wide Wi-Fi facilities, and the provision of LAN connectivity across various access points and departmental units. Thus, an e-resource-based library system plays a pivotal role in making the modern paradigm of knowledge management more robust, accessible, and user-centric.

REFERENCES:

1. Abbas Khan, A. A., Minhaj F. & Ayesha, S. (2007), E-resources: E-books and E-journals In E-Libraries: Problems and perspectives, Ed. by Ramiah, Sankara Reddy and Hemant Kumar. Allied, New Delhi.
2. Barman Badan,(2012), Library and Information Science: UGC NET guide , DVS Publishers, Guwahati. 125-126.
3. Bhat, Ishwar. (2009). Increasing the Discovery and use of e-resources in University Libraries. 7th International CALIBER-2009,
4. Ganski, Kate L. (2008). An Evaluation of the Accessibility of E-resources from Theological Library Websites. *Theological Librarianship: An Online Journal of the American Theological Library Association*, 1 (1). 38-45.
5. Girish Kumar H., Vasant R. & Praveen J.K., (2005), Use of electronic resources by research scholars in CFTRI, Mysore: A study. *ILA Bulletin*, 41(3), 16-20.
6. Gowda, Vasappa and Shivalingaiah, D. Training needs of researchers in the changing information environment: a case study of university libraries in Karnataka.
7. Jagdish Arora and Kruti Trivedi. (2010) INDEST-AICTE Consortium: Present Services and Future Endeavours ,*DESIDOC Journal of Library & Information Technology*, Vol. 30, No. 2, March 2010, pp. 79-91
8. Kanniyappan, E., Nithyanandam, K. and Ravichandran, P. (2008). Use and impact of e resources in an academic and research environment: a case study. *Information Studies*, 14 (3). 151-162.
9. Kaur, Baljinder and Verma, Rama. (2009). Use of Electronic Information Resources: A Case Study of Thapar University. *The Electronic Library*, 27 (4). 611-622.
10. Kaur, N., (2007)., E-resources and collection development: Emerging issues for the academic libraries, *Caliber 2007*.
11. Madhusudhan, Margam. (2010). Use of Electronic Resources by Research Scholars of Kurukshetra University. *The Electronic Library*, 28 (4). 492-506.
12. Natrajan M., (2007), Access in learning objects In E-Libraries: Problems and Allied.
13. Okello-Obura, Constant. (2010). Assessment of the Problems LIS Postgraduate

- Students Face in Accessing E-Resources in Makerere University, Uganda. Collection Building, 29 (3). 98-105.
14. Singh, Pankaj Kumar. 2009. User awareness and use of On-line journals at the Jamia Millia Islamia Library: a survey, IASLIC Bulletin 54 (4), 2009, 210-218.
 15. Sunil Kumar Satpathy & Biswanath Rout (2010) Use of E-Resources by the Faculty Members with Special Reference to CVRCE, Bhubaneswar, DESIDOC Journal of Library & Information Technology, Vol. 30, No. 4, July 2010, pp. 11-16.
 16. Sutar, Dhanajay,(2010), UGC NET guide in Library and Information Science, Universal Publisher, Pune 86-105.
 17. Syed Ruhina, Paradkar Ashwini (2008), E-reference sources: A Boon of ICT for libraries, Librarian & ICT, Seminar paper 16-17 Feb 2008, 58-64.