

# The Use And Impacts Of Electronic Resources In Engineering Education Institutions

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## Abstract

This research examines the historical context of electronic resources as well as the relationship between their influence and their use in engineering education institutions. Users utilise ER for research, lesson preparation, and current knowledge acquisition, and it has a considerable influence. To achieve that goal, this publication summarises the work of other researchers. The major goal is to define the use and impact of electronic resources in a library of a engineering learning institution, as well as to explore the goals, need, types, characteristics, and positive and negative effects of employing electronic resources. As many users search for e-literature themselves, the report suggests that user training is essential to better utilize library e-resources. Future research will focus on academicians' level of reliance and users' ability to search the ER in advance.

**Keyword:** Electronic resource, information, library, information center.

## 1.1. Introduction

In recent years, there have been many changes in engineering education institutions, mainly universities and colleges. Disseminating information to the university community is one of the most important developments. Library automation and the Internet have transformed information access and library operations around the world by the turn of the 21st century. Libraries have been able to take advantage of these advances to support the education and learning process at the university. The Internet and the World Wide Web have created new ways to access information (www). As a result, communities of engineering learning institutions can access up to date foreign literature as soon as it is released on the Internet. This has had an impact, particularly on academic institutions. Off campus students can now access information from libraries in such universities from anywhere in the world, including sites hundreds of thousands of miles away. From closed stacks to shelf browsing and card

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catalogues to punched cards and OPACS, services have evolved to include open access and institutional repositories. This historical shift has met the evolving demands of library patrons, including improved access to information resources (Cise 2006).

In recent years, electronic learning materials have become a more prominent focus of any institution's research and development. Information obtained through electronic sources such as the Internet is referred to as an e-Library. Because of their accessibility and availability over the Internet, electronic resources are becoming increasingly important in students' learning. Engineering education institutions first look at how students search for information online and how they view electronic resources in order to effectively achieve their goal of providing students with up-to-date knowledge and skills that are relevant. Must be understood (Duki & Stri, 2015).

Electronic resources are essential for common communication, information retrieval, and theoretical conveyance at better training establishments to assist teaching and educational activities. Users' attitudes regarding information are slowly changing away from printed materials and toward electronic resources. We normally refer to electronic resources as those that can be accessed by computer, such as via email, CD-ROM, or, more popularly, the World Wide Web (WWW). Electronic resources have a bright future and a lot of possibilities for attracting consumers. It incorporates all of the advantages of multimedia, digital coding, and the Internet. Libraries are progressively making this sort of resource available to its patrons, either by purchase, subscription, or by educating them about the numerous free electronic resources available. It allows the user to take it with them wherever they go and can be viewed on any computer, including a handheld device. It can also be downloaded quickly.

Users can read e-resources at any time, and because of their portability, they can be taken anywhere on a portable computer. E-resources allow users to easily hold and turn pages, and physically disabled users can hear audible E-resources. E-resources also save human resources for shelving and rectification.

Sajid and Mahmood (2012) recognized many problems that consumers reveal in at the same time as the usage of digital assets and services, together with the need to sell digital assets and services, inadequate IT infrastructure, and a loss of IT abilities amongst library personnel in reader services. Furthermore, library clients expressed a loss of abilities had to use those services, in addition to a discouraging mind-set from library personnel whilst it got here to supporting them with using digital assets and services.

## **1.2 Objective**

The major objective of this research is to:

- To determine how electronic resources are used in engineering education institutions.
- To comprehend the benefits and drawbacks of ER in the library of a engineering education institution.
- To determine if students prefer printed or electronic resources in engineering education institutions.
- The purpose of this study is to look at the issues that users have when using electronic resources and services in engineering education institutions.

- Suggestions for successful use of e-resources in engineering education institutions are welcome.

Early in the advent of computer technology, library experts recognized the importance of computers in making library materials more accessible. Librarians were often tech enthusiasts and sometimes early adopters. The invention of the machine-readable catalog format (MARC) in the mid-1960s, 30 years before the debut of the World Wide Web and its final spread, marked the beginning of the use of electronic resources in libraries. At about the same time, the bibliographic database became available. D Hawthorne, 2016.

As early as the 1970s, libraries provided access to records such as censuses and survey data. During the microcomputer revolution of the 1980s, libraries acquired software and data on floppy disks and made databases available on CD-ROMs. The full text is contained in the CD-ROM database. The search interface is now more intuitive and user-friendly. Libraries have begun offering online catalogs before the World Wide Web, and they have become more common. In 1990, Tim Berners-Lee founded the Worldwide Web. In 1992 the web supported the advancement of mosaic browsers, and in 1993 it was widely used. Graphical user interface and subsequent development of web search engines such as Yahoo! It has become easier for the average user to access Internet resources. D Hawthorne, 2016.

The motivation for libraries to incorporate electronic resources into services and collections lies in the five rules of library science in Ranganathan. The law has changed to better accommodate electronic resources. Resources are for use, each individual has his own resources, each resource has a user, saves the user's time, and the library is an evolving organism (Ranganathan, SR, 1931).

There are many studies on the impact of electronic resources in university libraries in developing countries (Ali, 2005; Madhusudhan, 2008; OkelloObura and Magara, 2008), but no empirical relationships between variables were found. Awareness, time and frequency, priority database, and user satisfaction.

## 2.2.Types of E-Resources

According to Lisa Block (2014), e-resources used in library services include e-books, e-journals, e-journals, e-reference books, e-newspapers, etes is, e-papers, CDs / DVDs.

**E-Books:** E-books are portable hardware and software books that allow users to view large amounts of readable textual information..

**E-Journals:** An e-journal is a type of electronic journal that is processed, published, and disseminated all over the world. It all started with Dialog's full text databases in the 1980s. Its value is enhanced by linking citations and references to bibliographic databases or full-text articles.

**ETD (Electronic Thesis and Dissertation):** An ETD is an electronic document that clarifies a researcher's knowledgeable labour or research. It also gives a technologically advanced medium for expressing thoughts that is less costly, takes up less room, is easy to handle, has a long lifespan, and does not accumulate dust.

**E-newspapers:** An electronic newspaper, like an ETD, is an independent, eco-friendly, and refreshable version of a regular newspaper that electronically collects and stores all of the information in the newspaper.

**E-reference books:** Numerous reference books are also available in CD-ROM format and may be purchased online. A lot of free online reference sources are available over the Internet.

**CD/DVD:** These discs are used to hold vast amounts of structured data, bibliographic data, full text material, and photographs, among other things. The network operating system, when used in conjunction with a Web server, allows CD programmes to be launched from Web browsers by clicking on hypertext links on an HTML page (Narayan, S. k, March, 2016).

### **2.3 The Need of E-Resources:**

E-resources are required for a variety of reasons. E-resources, for example, may be downloaded instantaneously and offer the ability to grasp and turn pages with ease. The copies will not be misplaced if the users use this resource. It doesn't need to be bound, cared for, or repaired. Physically challenged people can readily hear audio E-Resources. It is well-known in the field of human resource management for shelving and correction. It allows users to take it with them wherever they go and read it on any computer at any time. The font size of an E-resource can be changed to suit the situation, and it has a huge potential while taking up no physical space (Shuling, 2006).

### **2.4. Purpose of Using E-Resources**

The primary benefit of utilizing E-resources is that it helps to solve the space problem in the library. This implies that in order to house books in the library, a large facility and shelves are required. However, by utilising E-resources, millions of materials may be stored in memory. The material is simple to use and distribute. It significantly saves users' time. Another major benefit of adopting E-Resources is that it provides up-to-date material, particularly for researchers and academics.

### **2.5. Characteristics of Electronic Resource**

- Advent of the internet, e-resources are no longer restricted to a single location or country, but are available worldwide.
- One of the key benefits of e-resources is that users may access the material at any time of day or night.
- The same resource can be accessed by multiple users at the same time.
- The procedure of looking for e-resources has a user-friendly interface.

- In digital libraries, the limitation of physical storage space that exists in traditional libraries is not an issue.

## **2.6 Impact of Electronic Resources on Libraries:**

Where everything has benefits and drawbacks, e-resources have both bad and good effects (Narayan, S. k, March, 2016).

### **Beneficial Effects:**

Academic libraries and information centres benefit greatly from e-resources. Materials for E-resources are available as soon as the print edition is released. E-publishing may be 70-90 percent less expensive than paper, and it is available 24 hours a day, seven days a week. It enables fast access to materials and allows for subject searches across a variety of titles. Many people can utilise electronic resources in different electronic devices at the same time by using the World Wide Web (WWW). It is low-cost to maintain and interactive, which means they may initiate an online exchange of ideas via e-mail. E-resources are interactive between writers and readers, allowing people to remark on journal articles. It also helps libraries conserve space. It is much easier to discover the usage of electronic media in E-resource monitoring, and it can be simply managed by adding bookmarks and personal comments to the sites. It is capable of resolving the issue of missing journal issues. Furthermore, E-resources may simply be combined with changing services (Narayan, S. k, March, 2016).

### **Negative Effects:**

Despite the fact that e-resources have many good effects on their users, they also have certain negative effects. Initially, it necessitates a substantial investment in infrastructure and installation. When using E-resources, there are occasionally challenges with hardware and software compatibility between publishers and users. Access to electronic resources necessitates the use of specialised equipment. This makes it difficult for users in underdeveloped countries to gain access to the equipment. When using the resource, fast communication is necessary. Users may not receive the relevant items they seek if they are unfamiliar with the search approach to be utilised. They are challenging in nature when dealing with a huge volume of info on a screen.

## **3.1. Concurrent Research Work**

The use of electronic resources by different demographic groups at an institution has been the subject of several research studies, and their usage provides an important basis for choosing and offering successful library collections and services. The usage of electronic resources and digital libraries by university and college professors has been linked to a number of issues.

As according Duki and Stri (2015), there are four factors to consider: the likelihood of utilising electronic resources, the benefits of using them, the enticements and causes for using them, besides the requirements for using them. These are the essential concepts that can be used to classify students` attitudes approximately digital resources. Based on those

characteristics, the researchers discovered that students prefer electronic resources over printed resources just little, despite the fact that they place a high value on the advantages of using electronic forms. Furthermore, students say they are well-equipped and have the necessary skills to use technological resources effectively. Differences by gender and research field were generally confirmed, while differences in educational background and enrollment status were not identified. This study builds on previous results with a particular focus on the study of differences between different groups of learners at the latent level.

Rehman and Ramzy (2004) explored health academics' knowledge of and usage of electronic information resources. The results show that libraries are often used for research, lecture groundwork, and information gathering. The major reason for not utilising technological resources is a lack of time (37 percent). Then there's the unfamiliarity with electronic searches (22.6 percent).

According to Warwick et al., libraries, archives, museums, research centers and web pages containing information about them are essential for humanities scholars. (2008). Even compared to Google, the university library website is regarded as the most important resource. "Because digital resources do not replace physical information resources or the people who maintain them, both forms of information continue to need support."

On the University College Hospital in Ibadan, Ajuwon et al. (2003) conducted a research on the use of ICTs by health science students. Due to a lack of understanding, lack of access to computers, insufficient training, and the high cost of providing, this study discovered that 57 percent of students selected could not use a computer and that database utilisation was poor.

According to Bates' (1996) two-year survey, most humanities scholars utilise internet databases sparingly. Scholars praised the databases' breadth of coverage, but expressed frustration with the search language's complexity and the lack of availability of sought resources. Scholars considered themselves experts in their fields and did not anticipate to learn anything new from the databases, which is noteworthy to observe.

### **3.2 Summary of similar works**

It is feasible to conclude from reading several publications that electronic resources are commonly used in colleges. The usage of electronic resources and computer literacy are inextricably linked. Academics are mostly computer proficient, but they need to improve their search abilities. The majority of studies attempt to explain why user attitudes about using electronic resources are fast expanding; almost 80-90 percent of studies claim that practically everyone in engineering education, particularly researchers, instructors, scholars, and students, uses electronic resources. Despite the fact that many users utilise electronic resources, there is a tiny group of users who do not use them, as well as a group of users who use both electronic and traditional resources.

E-resources have a substantial influence on research scholar, student, and all other engineering learning institution communities' academic achievement. Even if E-resources

have a lot of beneficial effects on their usage, they also have certain negative effects that are primarily caused by the users.

It is conceivable to deduce from the above-mentioned research effort that:-

- There is a significant correlation between research skills and the use of electronic resources. There is a strong correlation between awareness and use of electronic resources
- There is a significant correlation between preferred database and/or website and electronic resource usage and between satisfaction and use of electronic.
- There is a strong relationship between computer skills and the use of electronic resources.

#### **4.1. Specific suggestions and conclusions:**

A kind of mind may be made in Engineering Learning Institutions to decorate the facilities and services for maximum dependable use of digital resources.

- Because many users are seeking electronic literature on their own, user training is crucial for effective use of electronic resources in the library.
- To significantly simplify the electronic search process, users of electronic resources need to learn advanced search tactics and use controlled languages.
- Universities and university administrations are required to provide funding for subscriptions to additional electronic primary and secondary sources.
- Libraries should also take steps to identify those who do not use electronic materials and convert them into future users.
- Furthermore, because users are having difficulty acquiring information, the most appropriate methods to address this issue should be done.
- In the near future, libraries will need to introduce an electronic document management system. Also, rather than expecting users to accept everything available on the market, the correct approach is to understand and provide the right electronic resource for the user in a particular situation (Kebede, 2002). As a result, library management must conduct user research programs to learn more about user needs for electronic resources.
- Finally, the governing body of the institution must include sufficient information technology literacy content in the curriculum for engineering education faculty and students. University libraries also need to receive offline electronic materials.

The curriculum of each department should include basic hardware and software training such as MS Office, Internet research, advanced research, and use of electronic resources.

If the steps indicated above are completed, the situation in universities and other academic institutions with relation to electronic resources information would vastly improve.

#### **Perspective :**



It would be beneficial for researchers and those concerned to investigate the extent of academician reliance on internet resources in the future. This research will aid in understanding how teachers and students rely on electronic resources rather than using their own minds, even if they have limited expertise, to complete their tasks. For example, if we assume no internet access for at least one month, it will be difficult to deliver the lesson, and students would struggle to complete their assignments, prompting them to seek an additional day to submit their work. In the case of an engineering learning institution, another topic of research that may be pursued in the future is the student's ability to search for relevant content. Almost all academicians and students at engineering education institutions now do simple searches in a variety of search engines (i.e. google and yahoo). Despite the fact that there are several sites and methods of searching for relevant resources, such as advance search, Boolean search, and others, there is presently insufficient research in these two areas. As a result, it is advised that any interested party conduct research in the above-mentioned topics.

## **Conclusion**

According to studies, teachers and research scientists at universities and other learning institutions frequently use e-resources. It also demonstrates that the majority of instructors and researchers rely on e-resources to obtain necessary and relevant knowledge. However, it was demonstrated that the value of e-resources in terms of practical application does not match the cost of getting them.

E-resources have a significant influence on the academic performance of research scholars, students, and other members of the engineering education community. Even if E-resources have a lot of beneficial effects on their usage, they also have certain negative effects that are primarily caused by the users (i.e. when the users use the resources for long period of time it impose an effect on their visual system and etc.). Furthermore, that allows you to make higher use of digital sources in better schooling institutions; infrastructure and schooling programmes are required. Analysing many articles, it's miles possible to infer that the provision of e-sources on campus is sort of enough for all present disciplines, however that the infrastructure to get right of entry to the sources is insufficient, delaying the capability to fulfil the wishes of users.

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