

# Usage of E-Resources in Academic Libraries

Femy Francis

JAIN (Deemed-to-be-University)

femypauljoseph@gmail.com

**Abstract:** E-resources have become indispensable tools in academic libraries for acquiring current and up-to-date information. The use of e-resources has become increasingly prevalent in research and academic settings, providing a wide range of information in a convenient and accessible format. In this study of literature on e-resources, the use of e-resources in academic libraries was examined. It highlights their importance in providing easy access to a vast range of material for academicians and researchers, as well as their impact on the academic community through modifications to collections and services. This review study also emphasises the need for more investigation into the use of e-resources, particularly in identifying obstacles that library users face and offering suggestions to get through them. To better understand the changing demands of library users and to make sure that academic libraries are successfully serving those needs, the assessment also asks for more thorough investigations on the administration and use of electronic resources. Additionally, it claims that the way information is accessed, saved, and conserved in academic libraries has been profoundly changed by e-resources.

**Keywords:** Electronic resources, E-Resources, Academic Libraries, Higher Education, Online databases, E-Learning, Digital Library.

## I. Introduction

The way academic libraries function and the research environment have both undergone major changes as a result of technological innovation. E-Resources, usually referred to as electronic resources, are digital publications that deliver knowledge through online platforms. These sources include academic publications, databases, websites, videos, and various other things. The way the material is accessed and used in academic libraries has changed due to the emergence of e-resources as indispensable tools. They are well-liked by students and academicians because they offer ease, flexibility, and a great amount of knowledge that can be accessed remotely. E-resources have completely changed how research is conducted, especially for distance learners who largely rely on them for both learning and research.

Learners have been significantly impacted by the switch from traditional library resources to electronic resources in the modern period because they provide user-friendly features that support efficient teaching, learning, and research. Additionally, it has been discovered that e-resources serve as a complement to printed resources by offering simple access to a variety of information whenever and wherever you need it (Akande 2022). Academic libraries must put the supply of electronic resources first in their collection management efforts due to the constraints of print-based materials (Rolinson, Meadows & Smith 1995).

This study of the literature looks at how e-resources are used in academic libraries and how they affect the teaching, learning, and research processes.

## II. Literature Review Methodology

The extensive search and analysis of pertinent research papers, studies, and other publications about the use of electronic resources at academic institutions formed the basis of the literature review carried out for this study.

Studies from different nations and environments were included in the search, which was done using several databases. Studies focusing on the use of electronic resources in academic libraries, particularly in the context of teaching, learning, and research activities, were included in the inclusion criteria for the literature review. Keywords like "E-Resources," "electronic libraries," "academic libraries," "distance learning," and "research activities" were used by the researchers to find pertinent papers.



A total of 177 articles were found after the search, which were then filtered for appropriateness to the subject of the study. The literature evaluation included articles that discussed the advantages and disadvantages of using electronic resources in educational settings as well as how they affected teaching, learning, and research activities. Articles that mostly covered technical issues or difficulties applying e-resources were disregarded. Several important conclusions on the use of e-resources in academic institutions were drawn from the analysis of the chosen papers.

### 2.1. Sources Consulted:

This review study includes a selection of studies on the use and impact of electronic resources in academic libraries that have been published in scholarly databases, national and international journals, and conference proceedings. The selected articles offer a thorough review of the body of research on this subject and cover the years 2010 through 2023, with some unique examples taken into account for their applicability. The selected sources offer insightful information about how e-resources are used and their impact on the academic library environment.

### 2.2. Structure of the paper:

The chosen literature was reviewed based on the following strategies.

- Users' attitudes and awareness of e-resources
- Usage patterns of e-resources
- Challenges in using e-resources
- Impact of e-resources on academics and research
- Case studies on e-resources utilization

## III. Review of Literature

The review of the literature on the use of e-resources gives significant insights into the importance and influence of these resources in academic institutions (Wan Mokhtar et al. 2023). Due to the advancement of technologies, academic libraries now have a greater variety of electronic materials available to them (Bentil, Liew & Chawner 2021). Not only have the expectations of library patrons changed as a result of this occurrence, but the nature of librarians' profession has also changed.

### 3.1. User's Attitudes and Awareness of E-Resources

Numerous studies have been done on user's attitudes and awareness of e-resources, as well as their perceptions and behaviours.

To identify the research trend in the area of use of e-resources in libraries, Subhajit Panda (2023) conducted a bibliometric study "Research trend analysis of usage of e-resources in libraries using Scopus database." The study provides a visual overview of global research output on e-resources, most relevant sources, prolific authors, productive countries etc. To find out the research performance on this topic, citation analysis was also included. It is identified from the study that there is a huge increase in the growth output of e-resources which shows the importance of e-resources globally.

In central universities in North India, Madhu Midha and Jatinder Kumar (2022) conducted a study on the awareness and usage of open educational resources among users. The study revealed that most users have awareness about OERs and they have a favourable attitude towards OERs. According to the study, the academic communities were interested in using OERs and they were well aware of their benefits. The findings of the study revealed that although users were generally aware of open educational resources, their actual use of OER is still somewhat limited.

In a research study by Okirigiti Samuel Stanley Okemw and Milka Mathu (2022) on the user skills and use of e-resources by undergraduate students at Tangaza University Library in Nairobi County, Kenya, it was discovered that the majority of students were familiar with and used e-resources for their academic purposes. The results



demonstrated that students' information literacy proficiency and resource awareness levels had an impact on how they used electronic resources.

The factors impacting student's perceptions of the adoption of e-learning during the COVID-19 pandemic in a developing country context were the subject of another pertinent study by Vusumuzi Maphosa (2021). The study shows that throughout the pandemic, access to devices and internet connectivity, technological aptitude, the perceived value of e-learning platforms, and support from teachers all had an impact on student's impressions of the uptake of e-learning. The results of this study highlight how critical it is to solve these issues to effectively encourage student acceptance of e-learning.

According to the study by Patel Adam Burhansab et al. (2020) titled "Investigating Awareness and Usage of Electronic Resources by the Library Users of Selected Colleges of Solapur University," it was found that library users had little knowledge of and limited use for e-resources. The study concluded that libraries should do more to promote and train users on how to use e-resources, to get awareness about the resources.

Among students in the College of Health Sciences at Olabisi Onabanjo University in Nigeria, Lolade Funmi Osinulu (2020), did a study on their awareness of and usage of electronic information sources. The results of the study identified that although students had a moderate level of awareness of electronic information resources, they only used these resources on a limited basis in practice. Students were not much interested in using the available e-resources. One of the major conclusions of Osinulu's study was that the low usage of electronic information resources by students was influenced by elements including a lack of access to pertinent resources, a lack of ICT skills, and a lack of knowledge of the advantages of using e-resources.

The integration of e-learning technologies for interactive teaching and learning processes in higher education institutions in Pakistan was the subject of a study by Muhammad Mujtaba Asad et al (2020). The study found that factors including device access, internet connectivity, technical proficiency of both students and teachers, institutional support, and efficient training programmes all have a role in how well e-learning technologies are integrated into the educational context. The results of the study emphasised how critical it is to solve these issues to encourage students to adopt e-learning successfully.

Abdulsalam Abiodun Salman et al. (2020) conducted a study on the availability, accessibility, and usage of electronic information resources among undergraduate students at Fountain University Library in Osogbo, Nigeria. Their research revealed that despite the considerable availability of e-resources in the library, actual student usage was quite low. This shows that there might be obstacles, including a lack of knowledge or the required abilities, preventing pupils from efficiently using and accessing these resources. According to the study, students recommended additional databases to be added to those already in use, and more e-resources, particularly books and journals, should be subscribed to. The majority of the students have a positive perception of electronic information resources and services provided.

The study "Awareness, access, and Usage of e-resource among Faculty Members in Arts and Science Colleges" by Sivakami and Rajendran (2019) reported that faculty members in arts and science colleges in Erode District, India, had low levels of awareness of and use of electronic resources. Nevertheless, despite the favourable attitudes towards e-resources, faculty members still need to be made more aware of and trained in the use of these tools.

M. Mani, S. Shahul Hameed, and Dr A. Thirumagal (2019) have conducted another research that focuses on the effect of ICT expertise and library infrastructure resources on student's consumption of electronic resources. The study discovered that student's ICT proficiency and access to a strong library infrastructure had an impact on how they used e-resources. The majority of students, according to the study, feel that using e-resources makes it simple to get the knowledge they need and to access a wide variety of sources of information.

The adoption rate of e-resources among students is low based on the research done by Talent Mawere and Kundai O.S. Sai (2018) on the adoption and utilisation of e-resources by students at Great Zimbabwe University. Students in Zimbabwe are not completely adopting and utilising e-resources, even though e-libraries are prioritised in



strategic plans of academic institutions. These results imply that there is a discrepancy between the potential advantages of electronic resources and their actual user uptake.

However, certain research shows that some academic institutions have a favourable knowledge of and use of e-resources.

In addition, Hira Tariq and Muhammad Waseem Zia (2014) examined how frequently students at the University of Karachi in Pakistan used electronic resources and discovered that this practice was widespread.

A research study by S. Thanuskodi (2012) titled "Use of E-Resources by Postgraduate Students and Researchers in the Faculty of Art at Annamalai University" revealed, for instance, that the majority of postgraduate students and researchers in the faculty of Art were aware of e-resources and used them in their research. Additionally, the study shows that the availability and usability of online resources had a substantial impact on the researchers' research findings.

According to the study, "Users Attitudes and Approaches Towards E-Resources and Services in Academic Libraries of Puducherry Union Territory" conducted by V. Radjagopal and K. Chinnasamy (2012), users in academic libraries in Puducherry Union Territory have a variety of attitudes and approaches towards e-resources. While some users praised the material's accessibility and ease, others expressed scepticism and preferred the more conventional print resources. The lack of familiarity with usage and training is very much influenced and resulted in inconsistent attitudes and approaches towards e-resources.

D Sankaranarayanan and M Nagarajan (2012), in their study "Impact of E-Resources among the Faculty Members of Constituent Colleges of Tamil Nadu Agricultural University" discovered that faculty members in Tamil Nadu Agricultural University's constituent colleges were not fully utilising e-resources. Although they had access to e-resources, their utilisation was hampered by a lack of knowledge and training regarding how to do so. The study also made clear the need for librarians to help faculty members comprehend and use e-resources to maximise their advantages in teaching, research, and consulting activities. This is done by offering assistance and orientation programmes to faculty members.

Despite libraries' investments in cutting-edge information systems and resources, Sajjad ur Rehman and Vivian Ramzy (2004) found that users lacked awareness of and skills for fully utilising online resources in the study "Awareness and use of electronic information resources at the Health Sciences Centre of Kuwait University". Asefeh Asemi and Nosrat Riyahiniya (2007) highlighted the significance of libraries playing a proactive role in bridging the gap between users' information needs and the availability of e-resources in their study on the awareness and use of digital resources in the libraries of Isfahan University of Medical Sciences, Iran. This study also discovered that users' access to useful information was restricted since they were not completely aware of the electronic resources that were available to them in their institutions.

The main aim of Kathryn Ray and Joan Day (1998) in their study "Student attitudes towards electronic resources" was to find out how often students used electronic resources and how they felt about various problems related to them. Even though students were aware of the availability of e-resources, the study indicated that their actual utilisation was low. This shows that there may be a disconnection between students' awareness of and use of e-resources.

These studies demonstrate that different academic institutions and user groups may have variable levels of e-resource awareness and usage. This can be due to many things, including less awareness of the e-resources that are accessible, a lack of training on how to use them effectively, and a preference for traditional print materials. Proper and extensive training programmes on the usage of e-resources have a great role in the attitude of users.

### 3.2. Usage Patterns of E-Resources

Numerous research studies emphasised usage patterns of e-resources among various user groups. For example, the study titled "Perception and awareness towards usage of e-books" by Dr Aarti Vyas Varma (2023) on students in



Thane City sought to explore the perceptions, awareness, and usage patterns of e-books. Students in Thane city were aware of the advantages of e-books, including their mobility, accessibility, and convenience. They understood that e-books were available and recognised their value in assisting with academic pursuits. According to the study's findings, convenience, accessibility, and the desire for current knowledge all had an impact on students' use of e-books in Thane City. The study also showed that most students utilised electronic books to reference, prepare for exams, and do their homework.

In the study by Okirigiti Samuel Stanley Okemw and Milka Mathu (2022) at Tangaza University Library in Nairobi County, Kenya, it was found that students were using e-resources for their academic purposes mainly reading scientific papers and journals, conducting research, and getting supplemental materials for the class. The information literacy proficiency and resource awareness levels of the students had a greater impact on how they used electronic resources.

Another study by K. Vijayakumar (2021) that looked at how students and researchers at Annamalai University in Tamil Nadu used electronic resources indicated that the majority of respondents used them for both research and education. They stated that obtaining scientific articles, research papers, and reference materials was one of the greatest benefits of using electronic resources. The study also discovered that respondents thought e-resources were crucial for job advancement, demonstrating a realisation of the useful advantages of using digital resources.

A study by Lauren Bringman-Rodenbarger and Michael Hortsch (2020), on the other hand, looked into how students select e-learning resources. In the choosing process, the study emphasised the value of comfort, familiarity, and convenience. Students frequently pick e-resources that are simple to use, familiar in terms of content and structure, and convenient for their learning requirements.

At Maharshi Dayanand University in Rohtak (Haryana), Neetika Sharma (2019) did a study on how faculty and research scholars in the social sciences access and use internet resources. Researchers and instructors in the social sciences have various degrees of access to and use of electronic resources, according to the study. The accessibility and use of e-resources were found to be influenced by variables such as the availability of e-resources, user awareness and familiarity with e-resources, and institutional support. The study also showed that for their teaching and research activities, professors and research scholars mainly utilised e-resources.

In their study on the availability, access, and use of e-resources among faculty members at arts and science colleges in Erode District, India, Sivakami and Rajendran (2019) revealed that faculty members largely used online resources for teaching and giving lecture notes. They have accessed e-resources for their study and research purposes.

Similar research was done by Talent Mawere and Kundai O.S. Sai (2018) titled "An investigation on e-resource utilisation among university students in a developing country" on how Great Zimbabwe University students accept and use e-resources. Despite Zimbabwean academic institutions giving priority to e-libraries in their strategic plans, the survey found a low adoption rate of e-resources among students. According to the study, obstacles like restricted access and a lack of knowledge of search and retrieval techniques prohibit students from properly utilising e-resources.

The purpose of the study titled "A survey of the use of electronic resources at seven universities in Wuhan, China" by Liyi Zhang, Pinghao Ye and Qihua Liu (2011) was to report on users' information behaviour in China. The findings revealed that teachers and students of the universities utilised electronic resources often. Student's levels of e-resources usage varied across disciplines, with students in scientific and technology-related fields making the most use of electronic resources. As per the study, databases, e-books, and academic journals were the most often used types of e-resources. In addition, the study found that teachers and students mostly used electronic tools for research, including citation management, data analysis, and literature reviews.

The main aim of the study "Use of electronic resources by research scholars of Kurukshetra University" by Margam Madhusudhan (2010) was to determine the use of e-resources, users' skills in handling e-resources, and



the purpose of their use. The study found that while the research scholars were aware of electronic resources, most of them were competent in their use and exploited them to help their research. According to the report, electronic information sources will always be essential to the academic community. Many researchers were introduced to e-resources through the recommendations of their professors, acquaintances, and coworkers. The study recommended that library professionals must be proactive in working with research scholars to develop virtual training programs aimed at enabling them to use e-resources more effectively. This study demonstrates how enough access to faster internet and more readily available computer systems can improve how successfully and efficiently people use e-resources.

These studies highlight how commonplace e-resource use is among students across a range of learning environments. Several elements that affect users' interaction with these resources have been discovered through analysis of E-Resource usage trends. These considerations include the educational background, disciplinary background, and goal of users when accessing electronic resources.

### 3.3. Impact of E-Resources on Academics and Research

The way users and researchers access and use information has been greatly affected by the usage of e-resources in academia and research. Researchers now have easy access to a variety of academic books, articles, and other materials thanks to e-resources. This has considerably sped up the research process and made it simpler for scientists to keep up with the most recent advancements in their disciplines. Academics and research have greatly benefited from the acceptance and use of Internet resources in the twenty-first century. According to studies, using electronic resources in academic and research settings has many advantages for both individual users and the institutions in question (Miyanda Chitumbo et al. 2021). Additionally, many studies have supported the link between using electronic information resources and bettering educational and research outcomes (Abdel-Aleem Ali 2020).

The effect of e-resources on contemporary academic libraries was the subject of research by Heramb Kumar Mishra and Dr Ramavatar Ojha (2023). They discovered that the importance of offering e-resources in academic libraries has grown. This is made possible by the practicality and accessibility of e-resources, which give people instant access to a wealth of knowledge. The study also underlined that e-resources have improved student research and learning activities.

The use of digital resources has a good effect on undergraduate students' academic performance in Nigeria, claim Kolawole Francis Ogunbodede and Chinelo Blessing Oribhabor (2022). According to their research, students who actively use electronic resources for their academic work fare better than those who merely rely on traditional sources. Additionally, the study pointed out that e-resources gave students the chance to learn at their own pace, access a variety of materials, and participate in collaborative research and learning. The results of Florence Olutunu Daramola (2022), Maxwell N. Akuffo and Stephen Budu (2019), and Michelle Kowalsky (2015) highlighted that the quality, convenient access, and complete information offered by e-resources contribute to increasing students' research and learning activities, are consistent with this.

The use of e-learning materials has a favourable effect on students in institutions in the United Arab Emirates, according to a study by Rima Shishakly (2021). The results imply that using e-resources increases students' overall academic performance, stimulates self-directed learning, and improves their learning experiences. The study also underlined how important it is to give students solid technical support and training to ensure the efficient use of e-resources.

Andhe Prafulla and Dr N. Chowdappa (2020) discovered that the availability and use of e-resources played a key influence in encouraging self-learning among the students in their study on the use of e-resources among the engineering student population. It was clear from the study that the student community placed a high importance on the convenience of using e-resources. According to the study, engineering students access course materials, journal articles, and online tutorials mostly through electronic means. The study also emphasised how using e-



resources enabled students to learn at their speed because they could access knowledge at any time and from any location, giving them the freedom to be responsible for their education.

The research undertaken by Abdel-Aleem Ali (2020) at Princess Nourah bint Abdulrahman University places a strong emphasis on the contribution of electronic resources to enhancing academic staff institutions' research productivity. The results of Ali's study lend credence to the notion that using e-resources is essential for improving academic staff members' research production. The results showed that using e-resources can enhance teaching skills and have a favourable impact on the entire educational process by fortifying the bond between students and teachers. Additionally, students' use of online databases and e-resources helps them develop their skills, which has a significant impact on their academic outcomes. This agrees with research by Pauline Adeniran's findings (2013).

P. Viji and P. Balasubramanian (2018) discovered that faculty members showed a high degree of knowledge and usage of electronic resources in their study on the use of electronic resources by faculty members in Arts & Science institutions affiliated with Manonmaniam Sundaranar University in Tamil Nadu. The study found that faculty members mostly used electronic resources for research, reading academic books and periodicals, and finding course materials. The researchers concluded that faculty members' use of and dependence on electronic resources for their academic and professional purposes was significantly influenced by their accessibility and availability.

Students at the University of Professional Studies in Accra, Ghana were highly aware of electronic resources and actively use them for research and assignments, according to Ebenezer Ankrah and Ebenezer Kakra Acheampong (2017). The main challenge faced in to use of the e-resources of the library were overcrowding of the library's e-resources section by students due to an inadequate number of computers, and inadequate skills and training to use the resources.

The Study "Awareness and Use of Electronic Resources in University Libraries" by Franklina Adjoa Yebowaah and Florence Dedzoe Dzokotoe Plockey (2017) indicated that most of the respondents were users of the library and they were aware of the availability of e-resources in the library. It is understood that awareness was high but utilization was low. The study also discovered that inadequate Library infrastructure,

low internet bandwidth, and inadequately trained library staff were the major challenges confronting the use of e-resources in the library. The study recommends ways of creating user awareness, training/workshops for users and staff, and responding to the challenges confronting utilisation. Additionally, it has been demonstrated that using e-resources helps academic and research institutions as a whole immensely.

The study on the Impact of electronic resources and usage in academic libraries

in Ghana by Maxwell Akussah, Edward Asante and Rosemary Adu-Sarkodee (2015) found a strong correlation between the use of electronic resources and user behaviour at the academic libraries of Koforidua Polytechnic and All Nations University College in Ghana.

In the study titled "Use of Electronic Resources by Research Scholars of Kurukshetra University", Margam Madhusudhan (2010) discovered that, as long as access is quick, e-resources can effectively replace traditional ones in meeting the information needs of research researchers at Kurukshetra University.

Additionally, the study by Hepu Deng (2010) looked at the influence and impact of using electronic resources in both research and instruction at Australian universities. According to this study's findings, both academic staff and students are frequently using electronic resources, which has a favourable impact on both research output and instructional efficacy.

### 3.4. Challenges in Using E-Resources

Even though there is no denying that e-resources have revolutionised the way academic and research institutions access and use information, it is important to recognise that there are so many challenges in using them.



According to a study by Ozioma Prudent Ogbuagu et al. (2023), students at Rhema University Library faced some difficulties in using electronic information resources. The study highlighted the various e-resources utilised by the students, challenges in the utilisation of electronic information resources and the strategies that can be adopted to enhance proper utilisation of electronic information resources. These challenges included a lack of ICT skills, difficulty in locating required EIRs, frequency of systems breakdown etc. The study also recommended that authorities should ensure frequent maintenance of computer systems and recruitment of librarians with skills in the deployment and management of electronic information resources among other things. The study also suggested including searching strategies for EIRs in the university curriculum.

In a similar vein, research by Mboni Ruzagea and Sydney Msonde (2021) titled "University students' e-resource usage: Predictors, problems, and practical implications" looked into how students used e-resources. Factors like student digital literacy abilities, access to technology, and the availability of dependable internet connections would affect how often students use e-resources. The challenges faced by the users in navigating through intricate databases were also emphasised. The report also mentioned the need for institutions to deal with these issues and give students the help and instruction they need to improve their use of e-resources.

Amjid Khan and Shamsahd Ahmed (2020) found lots of challenges and viewpoints in their study on the use of e-databases and e-journals by the academic community in Pakistani universities. They found that although the research community generally preferred to use e-resources, there were some obstacles like restrictions on using e-resources, slow internet connection etc. Students were unaware of available e-resources due to a lack of training. These difficulties prevented researchers from utilising electronic resources to their full potential. The study emphasised the need for better accessibility and training programmes to raise their level of digital literacy.

J. Kavithanjali (2019), in the study analysis "E-resources: their importance, types, issues and challenges" clearly mentioned the difficulties faced while accessing e-resources. These obstacles included not knowing, what kinds and where to find electronic resources, having trouble navigating them, and having insufficient knowledge of how to use them well.

The study by Harriet U. Igbo and Nwabuisi T. Imo (2017) on the networking and sharing of electronic information resources among university libraries in Nigeria exposed some barriers to efficient e-resource use. It was found that the university libraries had different kinds of electronic information resources and some ICT facilities. However, the lack of fundamental things for e-resource sharing like web-based OPAC and library management software kept away the users from e-resources. They could not engage in any meaningful form of structured resource-sharing initiative as a result of a lack of institutional policies and standards.

There are some difficulties that librarians must overcome, according to the study by Ligimol Benny (2015) on the selection and acquisition of e-resources in academic libraries. These difficulties included selecting acceptable and pertinent e-resources from a sizable selection, coping with the high expense of doing so, guaranteeing interoperability with current library systems, and keeping up with the quickly changing e-resource landscape.

According to the results of a study by Pauline Adeniran (2013) on undergraduate students at Redeemer's University in Nigeria using electronic resources, respondents had many difficulties when using e-resources. Dealing with a lot of irrelevant material, the need to filter search results, download delays, trouble finding information, inadequate search skills, and the expensive cost of accessing e-resources were some of these obstacles.

In their study, Chandel and Saikia (2012) examined the advantages and disadvantages of e-resources. They discovered that the excessive volume of useless information offered by online resources is one of consumers' biggest problems. Users also struggle with refining search results, encounter download delays, and struggle to locate the data they require.

The difficulties users encounter in gaining access to and making use of e-resources were emphasised by Angello and Wema (2010) in their study on the availability and use of ICTs and e-resources by livestock researchers in





Tanzania. These difficulties included a lack of ICT infrastructure, inadequate e-resource training and awareness, and the high expense of gaining access to and using these resources.

In his study, Madhusudhan (2010), concluded that inadequate training is a significant barrier to the correct and effective use of e-journals. Similar to this, Ray and Day's (1998) study sought to ascertain the extent of utilisation of electronic resources and students' attitudes toward several related topics. Academic institutions and libraries must prioritise teaching digital literacy, enhancing internet connectivity, and providing accessibility for all users to address these issues.

### 3.5. Case Studies on E-Resources Utilization

In the current digital era, e-resources have established themselves as an essential tool for researchers and academics. Numerous case studies have been undertaken to examine how e-resources are used in a variety of academic disciplines, such as medicine, higher education, engineering, and others. These case studies have repeatedly shown the advantages and influence of using electronic resources in study and instruction.

In the case study "Usage Statistics of E-resources during Pandemic Period: A Case Study of Chandigarh University Library", Ram Veer and Subhajit Panda(2021) looked at Chandigarh University Library's e-resource utilisation data during the pandemic. The study discovered that the use of electronic resources increased significantly throughout the epidemic period. During this time, college students primarily relied on electronic resources for their academic needs. They used electronic resources to conduct research, learn, and acquire academic materials. The study also discovered that the use of online resources throughout the pandemic period aided in the continuation of education and made it easier for students to learn remotely. E-resources supported online teaching and learning activities during the pandemic, ensuring that students had access to current and pertinent material for their studies, according to the study's findings.

Dr.Bharat Dhiman (2021) investigated how research scholars used e-resources in a case study at Kurukshetra University. He discovered that Kurukshetra University's research scientists significantly relied on electronic resources for their academic work. These academics regarded electronic resources as important informational sources because they gave them easy access to a variety of scholarly publications. The study came to the conclusion that research scholars at Kurukshetra University have greatly benefited from the use of e-resources because it has given them access to the most recent and pertinent information, improved their research capabilities, and raised the overall standard of their research output.

Kuldeep Singh (2020) investigated how students at Punjabi University Patiala used e-resources and were aware of them. The survey found that Punjabi University students are highly aware of and use electronic resources. They were aware of the ease, easy access to a large variety of information, and up-to-date resources offered by e-resources. According to the study's findings, Punjabi University Patiala students' academic performance and learning process have benefited from the availability and use of online resources.

Dipti Mehta and Xiaocan Wang (2020) investigated the effects of COVID-19 on digital library services through a case study at a university library. According to the survey, there was a noticeable increase in the use of digital library services during the COVID-19 pandemic. To obtain academic materials while physical libraries were closed, students mainly depended on electronic resources. The study emphasised the vital part that online resources play in maintaining constant access to information and meeting students' learning needs in emergencies.

College students' use of e-resources was explored in the study by Rebilyn G. Roman et al. (2020). The results showed that e-resources are widely used by college students for a variety of tasks, including research, learning, and acquiring academic materials. They discovered that college students view electronic resources as practical and effective tools for information access. The study also discovered that college students think e-resources improve their academic accomplishment and learning experience.

In the case study from the University of Namibia on "Use of electronic resources by law academics", Anna Leonard et al. (2020) looked at how law professors use digital resources. The survey indicated that for their research and



teaching needs, law academics heavily relied on Internet resources. They accessed scholarly publications, legal databases, and online journals using e-resources. The survey also showed that since they can quickly seek and get pertinent material from a variety of sources, law scholars value the accessibility and ease of e-resources. The study also discovered that law academics recognised the advantages of e-resources in keeping them abreast of the most recent advancements in their industry and boosting the calibre of their research and teaching materials.

It was discovered that faculty members had good attitudes towards e-resources and recognised their importance in assisting teaching and research in the case study "Effective use of E-Resources by faculty members in Engineering College Libraries of Thanjavur District" done by L. Raja & C. Muthusamy (2018). Compared to traditional library resources, they thought of e-resources as a quick and effective way to get pertinent information.

In addition, a case study by Tintswalo Pascalis Tlakula and Madeleine Fombad (2017) on the usage of e-resources at the University of Venda in South Africa highlights the crucial importance of e-resources in improving information access and enhancing teaching and learning experiences for teachers, research scholars, and students. According to the study, the availability and use of e-resources at the University of Venda improved teaching strategies, increased research output, and improved the overall learning experience for teachers, research scientists, and students.

Rajender Kumar (2016) looked into how medical students used e-resources in a case study at M.M. University in Ambala. The study's findings showed that medical students at M.M. University heavily rely on electronic resources for their educational needs. They view e-resources as priceless instruments that improve their educational experience and give them access to the most recent medical information. Furthermore, Kumar discovered that medical students at M.M. University have benefited academically from using e-resources, which has also helped their overall success in the medical industry.

The use of e-resources by life scientists is the topic of the case study undertaken by Bipin Bihari Sethi and K. C. Panda (2012) at Sambalpur University in India. According to the study, life scientists' information-seeking habits and research production dramatically improved when they used electronic resources. Researchers at Sambalpur University found that having access to e-resources allowed life scientists to collaborate with colleagues around the world, stay current on the most recent findings, and improve their overall research capacities.

The use and impact of e-resources at Guru Gobind Singh Indraprastha University in India are highlighted in this case study by Sharma (2009). The study discovered that e-resources had a considerable impact on academic and student research and teaching at the university. E-resource accessibility has increased access to a wide range of scholarly knowledge while also broadening the scope of research and instruction.

The importance of e-resources in academic institutions was highlighted in each case study. It shows that e-resources are frequently used by academicians from various disciplines and offer many advantages, including ease, accessibility, and the capacity to stay current with the most recent knowledge in their domains. Academic staff members and researchers largely rely on e-resources for their work in teaching, researching, and doing research.

### 3.6. E-Resources: Future Perspectives

The widespread usage of e-resources in the educational sector is a reflection of the rising significance of digital information in the contemporary world. Academic staff and research scholars are very much aware of the advantages of e-resources, including access to current information, improved research and teaching materials, and distant resource access. To fulfil the changing needs of its users, academic libraries will need to extend and modify their e-resource collections and services. To guarantee that all users have equitable access to e-resources, they should also address the difficulties with off-campus access and technical limits. The use of e-resources in higher education has grown to be essential, and it is anticipated that this trend will continue (Asha 2023). To promote learning, teaching, and research activities in universities around the world, using electronic resources is essential (Wan Mokhtar et al. 2023). E-resources are now a crucial part of the academic ecosystem since they give students, faculty members, and researchers quick and easy access to a variety of materials.



#### IV. Findings

- The results of numerous studies demonstrate how much electronic resources have changed academics and research. This result lends credence to the idea that e-resources improve students' research and educational endeavours by delivering thorough, high-quality material quickly. These advantages include greater opportunities for learning and study, easier access to high-quality data, and quick access to a wealth of data.
- In academic and scientific environments, e-resources have proven to be important research aids. By giving academics the current and pertinent information they need for their research, they expand their knowledge. E-resources also make it easier for scholars from many locations to collaborate by facilitating simple information sharing and dissemination.
- The improvement of education and research outputs is regularly shown to be positively correlated with the utilisation of electronic information resources in these studies. This relationship is significantly shaped by elements including infrastructure, available budget, user skills, training, and technical support.
- Through aggressive marketing tactics, training programmes, and knowledge of information retrieval techniques, libraries play a crucial part in increasing awareness of and use of e-resources. Because of this, library personnel need to increase user awareness and e-resource utilisation through inspiring marketing campaigns and instruction in information search and retrieval techniques for all users. Users will be able to more successfully meet their information needs thanks to improved overall research outcomes.
- It is obvious that enhanced awareness and use of e-resources are required to improve research and learning activities, notwithstanding differences in awareness and usage levels of e-resources among various academic institutions and user groups. Numerous research has revealed that faculty members and students have little awareness of and use of e-resources.
- Additionally, e-resources' expanded accessibility and user-friendliness have changed how library patrons behave. Whether they are online or on-campus students, they are now more likely to rely on electronic resources for their studies. However, it's crucial to remember that using and accessing e-resources efficiently calls for a certain level of digital information literacy. Lack of adequate training, poor search abilities, and ignorance of particular databases and systems will result in less usage of e-resources. Library's efforts to raise awareness of and promote these resources are essential to their effective use.
- There are several challenges associated with using electronic resources in academic libraries. Users may feel overwhelmed by the large amount of information available in e-resources. The main obstacles include the difficulty of accessing the right information, download delays, and difficulties navigating via e-resources due to the deluge of irrelevant information. Without the right information literacy abilities, users could find it difficult to quickly find and assess the information they require. This would reduce the productivity of their study. Accessing and using e-resources might often be difficult due to technical limitations and system compatibility.

#### V. Conclusion: Insights from Literature Review on E-Resources

As e-resources provide simple access to a variety of digital items such as journals, books, articles, and databases, they are the greatest method for acquiring current and up-to-date information. The study of the literature on the use of e-resources in academic libraries offers a new outlook on the importance and influence of electronic information sources in academic contexts. E-resources are currently used more frequently than print resources, highlighting the academic community's rising reliance on digital information. The evaluation recognises the value of e-resources in giving academic staff, researchers, and students the information they require. This study underlines that print-based resources still have value and cannot be fully discounted, even though e-resources have changed how we think of libraries. In contrast, it advises academic libraries to employ a hybrid operating system, providing both print and e-resources to cater to the various needs of library users. The literature study, taken as a whole, emphasises the expanding significance of e-resources in academic libraries and their influence on how information is accessed, saved, and kept.



## References

- [1] Abdel-Aleem Ali, D.A.-G., 2020, 'Electronic Resources as a Main Tool for Improvement of Research Output of Academic Staff: A Case Study of Princess Nourah bint Abdulrahman University', *Journal of Library and Information Sciences*, 8(1), 70–82.
- [2] Adeniran, P., 2013, 'Usage of electronic resources by undergraduates at the Redeemers University, Nigeria', *International Journal of Library and Information Science*, 5(10), 319–324.
- [3] Akande, R.M., 2022, 'UTILIZATION OF E-RESOURCES FOR TEACHING AND LEARNING OF PHYSICAL AND HEALTH EDUCATION COURSES IN COLLEGES OF EDUCATION OYO, OYO STATE, NIGERIA', *European Journal of Physical Education and Sport Science*, 7(6).
- [4] Akuffo, M.N. & Budu, S., 2019, 'Use of electronic resources by students in a premier postgraduate theological university in Ghana', *SA Journal of Information Management*, 21(1).
- [5] Akussah, M., Asante, E. & Adu-Sarkodee, R., 2015, 'Impact of Electronic Resources and Usage in Academic Libraries in Ghana: Evidence from Koforidua Polytechnic & All Nations University College, Ghana', *Journal of Education and Practice*, 6(33), 33–38.
- [6] Angello, C. & Wema, E., 2010, 'Availability and usage of ICTs and e-resources by livestock researchers in Tanzania: Challenges and ways forward', *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 6(1), 53–65.
- [7] Ankrah, E. & Acheampong, E.K., 2017, 'Students' Use of Electronic Resources in University of Professional Studies, Accra, Ghana', *Journal of Information Science, Systems and Technology*, 1(2), 11–26.
- [8] Asad, M.M., Hussain, N., Wadho, M., Khand, Z.H. & Churi, P.P., 2020, 'Integration of e-learning technologies for interactive teaching and learning process: an empirical study on higher education institutes of Pakistan', *Journal of Applied Research in Higher Education*, 13(3), 649–663.
- [9] Asemi, A. & Riyahiniya, N., 2007, 'Awareness and use of digital resources in the libraries of Isfahan University of Medical Sciences, Iran', *Electronic Library*, 25(3), 316–327.
- [10] Asha, K.A., 2023, 'Study on Awareness and Use of e-Resources Among the Students in Academic and Research Work', *Indian Research Journal of Extension Education*, 23(2), 69–74.
- [11] Benny, L., 2015, 'SELECTION AND ACQUISITION OF E-RESOURCES IN ACADEMIC LIBRARIES: CHALLENGES', *International Journal of Digital Library Services (IJODLS)*, 5(2), 124–137.
- [12] Bentil, W., Liew, C.L. & Chawner, B., 2021, 'An examination of electronic resource management in academic libraries in Ghana through the Techniques of Electronic Resource Management (TERMS) framework', *The Journal of Academic Librarianship*, 47(1), 102265.
- [13] Bihari Sethi, B. & Panda, K.C., 2012, 'Use of E-Resources by Life Scientists: A Case Study of Sambalpur Use of E-Resources by Life Scientists: A Case Study of Sambalpur University, India', *Library Philosophy and Practice (e-journal)*, 681.
- [14] Bringman-Rodenbarger, L. & Hortsch, M., 2020, 'How students choose E-learning resources: The importance of ease, familiarity, and convenience', *FASEB BioAdvances*, 2(5), 286–295.
- [15] Burhansab, P.A., Sadik Batcha, M., Ahmad, M. & Batcha, S., 2020, 'Investigating Awareness and usage of Electronic Resources by the Library Users of Selected Colleges of Solapur University', *Library Philosophy and Practice (e-journal)*.
- [16] Chandel, A.S. & Saikia, M., 2012, 'Challenges and opportunities of e-resources', *Annals of Library and Information Studies*, 59, 148–154.
- [17] Daramola, F.O., 2022, 'Utilization of E-Resources for Learning Among Undergraduates...', *Indonesian Journal of Educational Research and Technology*, 3(1), 36.
- [18] Deng, H., 2010, 'Emerging patterns and trends in utilizing electronic resources in a higher education environment', *New Library World*, 111(3/4), 87–103.
- [19] Dhiman, B., 2021, 'Use of E-Resources by Research Scholars of Kurukshetra University: A Case Study', *International Journal of Interdisciplinary Organizational Studies*.
- [20] Igbo, H.U. & Imo, N.T., 2017, 'Electronic Information Resource Sharing among University Libraries in Southern Nigeria: Opportunities and Challenges', *African Journal of Library, Archives and Information Science*, 27(1), 77–91.
- [21] Kavithanjali, J., 2019, 'E-Resources: Their Importance, Types, Issues and Challenges: An Analysis', *IJRAR-International Journal of Research and Analytical Reviews*, 6(1), 775–778.
- [22] Khan, A. & Ahmed, S., 2020, 'Usage of E-Databases and E-Journals by Research Community in Pakistani Universities: Issues and Perspectives', *Library Philosophy and Practice (e-journal)*.
- [23] Kowalsky, M., 2015, 'Opportunity Costs of Electronic Resources', *Procedia Economics and Finance*, 23, 948–952.



- [24] Kumar, R., 2016, 'Use of E-resources by the Medical Students of M.M. University, Ambala: A Case Study', *DESIDOC Journal of Library and Information Technology*, 36(1), 10–16.
- [25] Leonard, A., Hamutumwa, N.M. & Mnubi-Mchombu, C., 2020, 'Use of electronic resources by law academics: a case study from the University of Namibia', *Collection and Curation*, 39(3), 57–68.
- [26] Madhusudhan, M., 2010, 'Use of electronic resources by research scholars of Kurukshetra University', *The Electronic Library*, 28(4), 492–506.
- [27] Mani, M., Shahul Hameed, S., Thirumagal, A. & Librarian, A.T., 2019, *IMPACT OF ICT KNOWLEDGE, LIBRARY INFRASTRUCTURE FACILITIES ON STUDENTS' USAGE OF E-RESOURCES-AN EMPIRICAL STUDY*.
- [28] Maphosa, V., 2021, 'Factors Influencing Student's Perceptions Towards E-Learning Adoption During COVID-19 Pandemic: A Developing Country Context', *European Journal of Interactive Multimedia and Education*, 2(2), e02109.
- [29] Mawere, T. & Sai, K.O.S., 2018, 'An investigation on e-resource utilisation among university students in a developing country: A case of Great Zimbabwe University', *SA Journal of Information Management*, 20(1).
- [30] Mehta, D. & Wang, X., 2020, 'COVID-19 and digital library services – a case study of a university library', *Digital Library Perspectives*, 36(4), 351–363.
- [31] Midha, M. & Kumar, J., 2022, 'Users' Awareness and Usage of Open Educational Resources in Central Universities of North India', *DESIDOC Journal of Library and Information Technology*, 42(1), 47–56.
- [32] Mishra, H.K. & Ojha, R., 2023, 'IMPACT OF E-RESOURCES ON MODERN ACADEMIC LIBRARIES', *Research Spectra*, 4(1), 227–234.
- [33] Miyanda Chitumbo, E.M., Chewe, P., Makondo, F.N.S. & Kabilwa, S., 2021, 'Trending Usage Levels of EIFL-Based Electronic Resources among the Zambian Library Consortium Institutions', *ČITALIŠTE: the scientific journal on theory and practice of librarianship*, 20(38), 73–85.
- [34] Ogbuagu, O.P., Ezenwa, E.N., Osedo, O.A. & Arisukwu, F.E., 2023, 'Electronic Information Resources Utilisation by Student of Rhema University Library', *Journal of Library and Information Science*, 25(1).
- [35] Ogunbodede, K.F. & Oribhabor, C.B., 2022, 'Digital Resources Usage and Academic Performance of Undergraduate Students in Nigeria: A Case Study', *European Journal of Interactive Multimedia and Education*, 3(2), e02213.
- [36] Okemwa, O.S.S. & Mathu, M., 2022, 'User Skills and Utilization of E-Resources by Undergraduate Students at Tangaza University Library, Nairobi County, Kenya', *International Journal of Current Aspects*, 6(3), 152–160.
- [37] Osinulu, L.F., 2020, 'Awareness and Use of Electronic Information Resources by Students of College of Health Sciences in Olabisi Onabanjo University, Nigeria', *Information Impact: Journal of Information and Knowledge Management*, 11(3), 1–11.
- [38] Panda, S., 2023, 'Research Trend Analysis of Usage of E-Resources in Libraries Using Scopus Database', *E-Resources in University Libraries India*, 90–106.
- [39] Prafulla, A. & Chowdappa, N., 2020, 'E-Resources Usage Fosters Self-Learning among the Engineering Student Community', *Journal of Engineering Education Transformations*, 33(4), 31–37.
- [40] Radjagopal, V. & Chinnasamy, K., 2012, 'Users Attitudes and Approaches Towards E-Resources and Services in Academic Libraries of Puducherry Union Territory: A Study', *Journal of Advances in Library and Information Science(JALIS)*, 1(4), 149–152.
- [41] Raja, L. & Muthusamy, C., 2018, 'Effective use of E-Resources by faculty members in Engineering College Libraries of Thanjayur District: A Case Study', *Indian Journal of Information Sources and Services*, 8(3), 1–6.
- [42] Ray, K. & Day, J., 1998, 'Student attitudes towards electronic information resources', *Information Research*, 4(2).
- [43] Rehman, S. ur & Ramzy, V., 2004, 'Awareness and use of electronic information resources at the health sciences center of Kuwait University', *Library Review*, 53, 150–156.
- [44] Rolinson, J., Meadows, A.J. & Smith, H., 1995, 'Use of information technology by biological researchers', *Journal of Information Science*, 21(2), 133–139.
- [45] Roman, R.G., Trobada, C.S.P., Gatón, F.P., Gania, C.K., Oluyinka, S.A., Cuenco, H.O. & Daenos, R.G., 2020, 'A Study on the Utilization of e-Resources among College Students', *International Journal of Knowledge Engineering*, 6(1), 24–29.
- [46] Ruzegea, M. & Msonde, S., 2021, 'University Students' E-Resource Usage: Predictors, Problems and Practical Implications', *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 17(2), 104–119.
- [47] SALMAN, A.A., Okanla AHMED, A., RAHEEM, R.O. & PELEMO, G.D., 2020, 'Availability, Accessibility, and Use of Electronic Information Resources among Undergraduate Students in Fountain University Library, Osogbo', *JOURNAL OF LIBRARY AND INFORMATION SCIENCES*, 8(1).



- [48] Sankaranarayanan, D. & Nagarajan, M., 2012, 'Impact of E-Resources among the Faculty Members of Constituent Colleges of Tamilnadu Agricultural University', *Journal of Advances in Library and Information Science (JALIS)*, 1(1), 9–13.
- [49] Sharma, C., 2009, 'Use and Impact of E-Resources at Guru Gobind Singh Indraprastha University (India): A Case Study', *E-JASL: The Electronic Journal of Academic and Special Librarianship*, 10(1), 123.
- [50] Sharma, N., 2019, 'ACCESS AND USE OF ELECTRONIC RESOURCES BY THE FACULTY MEMBERS AND RESEARCH SCHOLARS OF SOCIAL SCIENCES IN MAHARSHI DAYANAND UNIVERSITY, ROHTAK, HARYANA', *Library Philosophy and Practice (e-journal)*.
- [51] Shishakly, R., 2021, 'A Further Understanding of the Dominant Factors Affecting E-learning Usage Resources by Students in Universities in the UAE', *Eurasia Journal of Mathematics, Science and Technology Education*, 17(11), 1–15.
- [52] Singh, K., 2020, 'Awareness and Use of E-Resources among students of Punjabi University Patiala: A Case Study.', *Journal of Indian Library Association*, 55(4), 59–66.
- [53] Sivakami, N. & Rajendran, N., 2019, 'AWARENESS, ACCESS AND USAGE OF E-RESOURCES AMONG FACULTY MEMBERS IN ARTS AND SCIENCE COLLEGES', *Library Philosophy and Practice (e-journal)*, 2549.
- [54] Tariq, H. & Zia, M.W., 2014, 'USE OF ELECTRONIC INFORMATION RESOURCES BY THE STUDENTS OF FACULTY OF SCIENCE, UNIVERSITY OF KARACHI', *International Journal of Digital Library Services*, 4(3), 80–91.
- [55] Thanuskodi, S., 2012, 'Use of E-resources by the Students and Researchers of Faculty of Arts, Annamalai University', *International Journal of Library Science*, 1(1), 1–7.
- [56] Tlakula, T.P. & Fombad, M., 2017, 'The use of electronic resources by undergraduate students at the University of Venda, South Africa', *The Electronic Library*, 35(5), 861–881.
- [57] Veer, R. & Panda, S., 2021, 'Usage Statistics of E-resources during Pandemic Period: A Case Study of Chandigarh University Library', *Library Philosophy and Practice (e-journal)*, 6339.
- [58] Vijayakumar, K., 2021, 'An Analytical Study on the Use of Electronic Resources by the Students and Research Scholars of Annamalai University, Tamil Nadu', *Asian Journal of Information Science and Technology*, 7(2), 62–64.
- [59] Viji, P. & Balasubramanian, P., 2018, 'Usage of Electronic Resources by the Faculty Members in Arts & Science Colleges Library affiliated to Manonmaniam Sundaranar University, Tirunelveli District, Tamil Nadu', *Journal of Advances in Library and Information Science*, 7(4), 336–340.
- [60] Vyas Varma, D.A., 2023, 'Perception and Awareness Towards Usage of E-Books (A Study with Reference to Students in Thane City)', *IJARSCMT International Journal of Advanced Research in Science*, 4(3).
- [61] Wan Mokhtar, W.N.H., Shaifuddin, N., Mohamad, A.A., Rofee, F.H.A. & Rambeli, S.A., 2023, 'Electronic Resources in Academic Libraries and Its Contribution Towards Sustainable Development Goals', *Journal of Information and Knowledge Management (JIKM)*, 13(1).
- [62] Yebowaah, F.A.M. & Plockey, F.D.D.M., 2017, 'Awareness and Use of Electronic Resources in University Libraries: A Case Study of University for Development Studies Library', *Library Philosophy and Practice (e-journal)*.
- [63] Zhang, L., Ye, P. & Liu, Q., 2011, 'A survey of the use of electronic resources at seven universities in Wuhan, China', *Program: electronic library and information systems*, 45(1), 67–77.

