



ROLE OF E-RESOURCES IN ACADEMIC LIBRARIES

A Characteristic Analysis

Femy Francis

Assistant Librarian, JAIN (Deemed-to-be-University) Kochi, Kerala

Abstract: Information delivery services provided by libraries have undergone a radical change due to the emergence and development of information and communication technology (ICT) and Library 2.0. The printed resources in libraries have been replaced with electronic resources as they have evolved into digital libraries. Electronic resources (E-resources) can quickly and simply access and retrieve the ever-increasing volume of information held in global, national, or local databases, even from remote locations. The objective of this research study is to successfully emphasise the significance, varieties, problems, and difficulties of electronic resources that may be used simultaneously. These databases are most advantageously used to contribute to the academic success and achievement of their user community.

Keywords: Electronic resources, E-Resources, Academic Libraries, Higher Education, Online databases

1 INTRODUCTION

In today's digital age, academic libraries are crucial in facilitating teaching, learning, and research activities. With the global digital revolution, the landscape of academic libraries has significantly transformed (Hindagolla 2021). Traditional physical resources, such as printed books and journals, are now accompanied by a growing collection of electronic resources. According to Haridasan and Khan (2009), the term "e-resources," short for "electronic resources," refers to data and materials that are stored electronically and accessible via networks and systems. OPACs, CD-ROMs, online databases, e-journals, e-books, internet resources, print-on-demand publications, e-mail publishing, wireless publishing, electronic connections, and web publishing are just a few examples of the diverse publishing types they cover. Modern information access and retrieval systems are incredibly dependent on e-resources.

The accessibility of electronic resources in academic libraries has completely changed how information is accessed, saved, and shared (Kwafoa, Anhwere & Manu 2019). In addition to having access to a wealth of digital materials, libraries now also have the creative capacity to increase access, sharing, and publishing in academic activities.

2 CHARACTERISTICS OF E-RESOURCES

Academic libraries' e-resources differ from conventional print-based resources in numerous ways (Joshi 2021). First off, electronic resources are stored and accessed through electronic networks and systems (Haridasan & Khan 2009). Information may now be easily and quickly accessed from any location with an internet connection, thanks to this. Second, e-resources are dynamic and constantly updated. E-resources can readily be updated to include the most recent information by including new research findings, publications, and updates. Additionally, e-resources frequently have powerful search capabilities, enabling users to quickly and effectively find certain information within a large collection of resources. E-resources are also simple to share and access by several people at once, which makes them perfect for group study and learning. Finally, interactive elements like hyperlinks, multimedia, and annotation tools are frequently included in e-resources. These aspects improve learning and encourage active participation in the subject matter. E-resources' potential

for cost-effectiveness is another feature. The expenses of printing, shipping, and storage for conventional print-based resources could be decreased with the use of electronic resources. This is especially advantageous for academic libraries on a tight budget because it enables them to offer a larger variety of resources without racking up unnecessary costs.

2.1 Digital Format:

E-resources have many benefits over conventional print-based resources because they are all saved and accessed digitally. Easy access, quick updates, sophisticated search capabilities, interactive features, cost-effectiveness, and a variety of file formats, including PDF, HTML, and EPUB, are a few of these benefits.

2.2 Accessibility and Availability

Users can conveniently access information with the help of e-resources at any time and from any location. They enable users to quickly access information from any location with an internet connection. Since it reduces the need for physical presence in the library and enables students and researchers to access important material remotely, this accessibility is especially beneficial for academic libraries. E-resources also provide greater access to information. They remove geographic restrictions, enabling users to access resources that might be inaccessible locally. E-resources give users access to a wide selection of content that might not otherwise be available owing to cost or geographical restrictions (Ankrah & Acheampong 2017).

2.3 Searchability and Indexing

E-resources come with search features and indexing capabilities, which make it easier to retrieve information quickly and effectively. With the help of these capabilities, users can quickly search for and find particular information in the enormous collection of resources, saving them time and effort. Additionally, users can access additional resources and study related topics thanks to the rich linking possibilities offered by e-resources.

2.4 Enriched Learning Experience

E-resources give students and researchers access to a variety of tools and resources, which enhances the learning process. These materials offer opportunities for a variety of learning experiences since they cover a wide range of topics, disciplines, and formats. Diverse content may be easily accessed by students, who can also experience it and learn from it without having any trouble doing so.

2.5 Current and Updated Information

E-resources give users access to current and up-to-date information. E-resources are regularly updated, unlike traditional resources, which could eventually become out-of-date, guaranteeing that consumers always have access to the latest and pertinent information. This is particularly significant in academic libraries, where students and scholars must stay up-to-date on the most recent research and information.

2.6 Interactive

E-resources also have interactive elements that let users interact with the content. Interactive tests, simulations, multimedia components, and discussion forums are a few examples of these features. Users can actively participate in their education and meaningfully interact with the knowledge in a dynamic learning environment provided by e-resources.

2.7 Multimedia Integration

Multimedia components like audio files, photos, and videos are frequently included in e-resources. These multimedia components improve learning because they offer visual and audio assistance that promotes engagement and comprehension.

2.8 Storage and Portability

E-resources offer practical solutions for transport and storage. Electronic resources can be accessed by users from a variety of places and platforms, including desktop, laptop, tablet, and mobile devices (Akuffo & Budu 2019). E-resources can also be quickly accessed and kept digitally, negating the need for physical storage space and lowering the possibility of loss or damage that could happen with physical resources.

2.9 Cost and Distribution

E-resources provide academic libraries with a cost-effective solution. Libraries can devote more funds to obtaining and maintaining e-resources by removing the requirement for print materials and the accompanying expenditures. E-resources can be accessed remotely by users regardless of their location or financial limitations, enabling a larger distribution of materials.

2.10 Global Collaboration

Researchers, students, and academics can collaborate internationally thanks to e-resources. Users can connect with people from all over the world who have similar research interests or expertise through online databases, journals, and repositories. E-resources open up new possibilities for collaboration and knowledge sharing within the academic community by enabling the global exchange of concepts, research findings, and academic conversations.

2.11 Remote Learning and Remote Access:

E-resources are essential for enabling remote access to educational resources and remote learning. The function of electronic resources in academic libraries is crucial in the quickly changing world of today. They offer a vibrant learning environment where users can take an active role in their education and meaningfully interact with the content.

2.12 Usage Tracking and Analysis

E-resources give academic libraries useful information on user usage, enabling them to monitor and assess how resources are being used. Making informed decisions about resource allocation, collection development, and user assistance is possible using this information.

E-resources play a crucial role in academic libraries overall. They have a considerable impact on the process of converting the conventional physical environment into a digital environment. For academic libraries, e-resources present a wide range of advantages and prospects (Kwafoa et al. 2019).

3 TYPES OF E-RESOURCES IN ACADEMIC LIBRARIES

Academic libraries offer a wide variety of items and formats as e-resources, all of which are accessible digitally or electronically (Khairnar & Malavi 2019). These comprise, but are not restricted to:

- E-books: Books that can be viewed and read digitally on electronic devices
- E-journals: accessible online editions of academic periodicals that publish scholarly works, research papers, and other academic works. It gives users access to both recent and old academic articles.
- Online databases: Research papers, academic articles, and other materials from many different disciplines can be found in large quantities in digital repositories.
- Online repositories: platforms for storing and giving users access to datasets, research data, and other kinds of digital content.
- Multimedia resource: Learning and research experiences are improved by using digital resources, including audio, video, and interactive information like educational videos, podcasts, online lectures, and simulations.
- E-learning platforms: Access to course materials, lectures, tests, and interactive learning exercises is made possible through online platforms or learning management systems.
- E-Zine (E-Magazine): digital periodicals or online publications that offer current information on a variety of topics in a visually pleasing way.
- Digital Archives: Historical document repositories, picture archives, manuscript collections, and other primary source collections have been digitally preserved and made accessible to researchers.
- Open Educational Resources (OER): Open Educational Resources are educational products that are publicly available, have an open licence, and can be used for teaching, learning, and research.
- Other Electronic Devices: Other electronic resources include CDs, DVDs, USB drives, and hard drives which can not be accessed online.

4 NEED FOR E-RESOURCES IN ACADEMIA

In today's digital age, academic libraries cannot function without electronic resources. With the rapid advancement of technology, there has been a tremendous increase in the demand for electronic resources in academia. Academic institutions require electronic resources for a multitude of reasons. First, there's the need for information to be readily available and easy to access. Users of electronic resources have much easier and faster access to a large amount of information than those who rely on conventional library research methods.

In addition, many materials that would not physically be in a library's collection are made available to users through e-resources. A wealth of academic literature is at your fingertips through electronic books, databases, and journals.

One major factor impacting the demand for electronic resources in academia is the increasing significance of collaborative and interdisciplinary research. In today's academic world, working together and conducting research across disciplines are growing trends. Incorporating relevant information from multiple fields into one's work becomes much simpler with the help of electronic resources, which in turn support these kinds of endeavours by making it easier to share and distribute research findings across different fields.

When it comes to enhancing classroom instruction and student achievement, electronic resources are equally crucial. They provide opportunities for students to actively engage in their own education by giving them 24/7 access to a wealth of learning materials, facilitating online discussions, and interacting with multimedia content.

Online resources also provide students who are physically unable to attend class with the opportunity to remotely access course materials.

5 CHALLENGES FACED BY E-RESOURCES IN ACADEMIA

Academic libraries can profit greatly from e-resources, but several issues need to be resolved. The ever-evolving state of technology is one of the difficulties e-resources in academia encounter. To ensure efficient and effective use of these resources, keeping up with the quick pace of technological changes necessitates continual training for library staff and users, as well as regular updates and improvements to e-resource platforms.

The problem of pricing and accessibility is another obstacle. Despite the great variety of content that may be accessed through e-resources, not all organisations or people can afford pricey subscriptions or access to specific databases. Due to differences in access to information and resources, certain researchers and students may not be able to fully utilise online resources.

Furthermore, there are times when the overwhelming amount of information provided by internet resources is too much to handle. It might be difficult for users to sort through all the options and find the information they need. There may also be concerns about the reliability and authenticity of e-resources. In order to ensure that the data acquired from electronic resources is accurate and dependable, academic libraries and users must carefully evaluate the sources. Another major issue is the maintenance and accessibility of electronic resources over time. Careful management and preservation are required to guarantee the availability and usability of these resources for generations to come.

Another common issue that academic libraries face when using e-resources is slow internet and password problems (Yebowaah & Plockey 2017). Users often find themselves frustrated when they encounter difficulties accessing e-resources due to password issues. Inadequate internet speeds can impede users' capacity to access and utilise e-resources uninterruptedly, impacting their capacity to conduct research and study.

Academic libraries need to find solutions to these problems if they want to make the most of electronic resources. Academic libraries need to invest in staff professional development and ongoing training if they want to overcome these challenges and make good use of electronic resources. In order to acquire affordable e-resources, they should also investigate funding opportunities or consortium partnerships. Academic libraries also have a responsibility to advise and assist patrons in making the most of their time spent using electronic resources. One way to accomplish this is through the use of programmes, workshops, or individual assistance. Addressing these issues can assist academic libraries in helping their users maximise the use of electronic resources (Kwafoa et al. 2019).

6 COMPARISON OF E-RESOURCES WITH PRINT RESOURCES

In comparison to printed materials, electronic resources offer many advantages. They may be easier to access, have better search capabilities, a wider range of content, regular updates, and lower prices. The need for a computer and access to the internet is one of their downsides. 'Table 1' shows the comparison of E-Resources with print resources.

Table 1 Comparison of e-resources with print resources

Feature	E-resources	Print resources
Accessibility	Can be accessed from anywhere with an internet connection, 24 hours a day, 7 days a week.	Can only be accessed in the physical location where they are stored.
Content	Offers a vast array of content, including books, journals, articles, databases, and multimedia.	Offers a more limited range of content, typically books and journals.
Updatability	Is constantly being updated with new content.	Is updated less frequently, typically once a year or more.
Searchability	Typically, it has powerful search tools that allow users to quickly and easily find the information they need.	Has less powerful search tools, which can make it more difficult to find the information you need.
Cost-effectiveness	Can be a cost-effective alternative to traditional print materials.	Is typically more expensive than e-resources.
Interactive learning experiences	Can provide interactive learning experiences that engage users and help them learn more effectively.	Does not offer the same level of interactivity as e-resources.
Preservation and sustainability	Can be easily preserved and stored digitally.	Requires physical storage space, which can be limited or expensive.

7 FUTURE OF E-RESOURCES IN ACADEMIC LIBRARIES

Academic libraries' use of electronic resources has a bright future as technology advances continue to modify and improve information access. The finding and retrieval of e-resources can be further streamlined by the incorporation of artificial intelligence and machine learning algorithms, improving user efficiency. Further, the growth and accessibility of e-resources in academic libraries may be aided by the rise of open-access publications and open educational materials.

These sources provide more affordable options than conventional subscription-based models, giving readers broader access to scholarly content. Additionally, there will probably be more cooperative projects and resource sharing among institutions in the future of e-resources in academic libraries. By pooling their resources, libraries will be able to offer their customers a greater selection of online materials. Additionally, technological developments like the installation of Wi-Fi and high-speed internet can considerably enhance access to e-resources in academic libraries. Libraries must alter and accept these changes as e-resources proliferate in academic libraries and technology improvements continue to influence how information is accessed and disseminated. Academic libraries should make sure they are addressing the changing demands of their users and aiming for excellence in service delivery by keeping up with the most recent trends and regularly analysing their e-resources offerings. Overall, e-resources play a crucial role in academic libraries by offering timely and current information to improve the productivity of academic labour and research. In conclusion, e-resources are essential in academic libraries because they may deliver current and up-to-date material, act as significant research tools, and boost research output in institutions of higher learning.

8 EVALUATING THE EFFECTIVENESS OF E-RESOURCES

Academic libraries must conduct efficacy evaluations of their electronic resources to ensure that these tools are beneficial to users and promote academic success.

University libraries' electronic resources might be valued according to several criteria. It is worth noting that the information provided by e-resources is of excellent quality and relevance. The effectiveness of the electronic resources can be evaluated by looking at how well they match the requirements of the school's courses and research. An important aspect in this decision is the degree to which the sources are credible, authoritative, and reliable, and how effectively they match with the academic goals of the school.

It is essential to consider the ease of use and navigation while assessing the efficacy of electronic resources. One way to determine the efficacy of the electronic resources is to check how user-friendly they are. Factors including platform availability, search functionality, and user interface design are incorporated into this procedure.

In addition, the effectiveness of academic libraries' electronic resources can be measured by the level of user satisfaction and feedback. Surveys, focus groups, and user interviews may tell you a lot about how satisfied users are with the e-resources.

The effectiveness of e-resources can also be assessed with the use of data and analytics. Looking into how often, for how long, and how the resource is used can give you a good idea of how popular and useful it is.

It is also important to think about how electronic resources will affect how productive academic work and research are. To achieve this goal, it is necessary to track the quantity and quality of research outputs that are made possible by electronic resources, as well as the citation rates of articles or publications that use these resources. Additionally, it is important to determine whether the use of these resources has improved students' academic performance and outcomes.

9 STRATEGIES FOR OVERCOMING E-RESOURCE CHALLENGES

Academic libraries may have difficulties in incorporating and utilising electronic resources, despite their numerous advantages. A few approaches to these problems are as follows:

1. offering thorough instructions on how to use electronic resources to both teachers and students. To guarantee that users can effectively utilise electronic resources, workshops, tutorials, and direct support can all be helpful.
2. giving money to build a strong technical foundation so that electronic resources may be used easily. To that end, it is feasible to take measures such as enhancing server and network capabilities, making sure it works with various operating systems and hardware, and establishing secure authentication procedures to safeguard user data and privacy.
3. finding mutually beneficial licencing and price arrangements with vendors and publishers. Academic libraries can benefit from this since it allows them to purchase and offer a variety of high-quality electronic materials to their users at a reduced cost.
4. working together with consortiums and academic libraries to share resources and gain access to more electronic resources. By doing so, consumers can have access to a wide variety of electronic materials, which helps to get around the problem of restricted resources.
5. drawing attention to and advocating for the inclusion of electronic resources in order to encourage their use by the academic community. Marketing, informational sessions, and presentations can all play a role in getting the word out about how great e-resources are for research and education in the classroom.
6. keeping a careful eye on and assessing how the academic ecosystem is using technological resources to find problems and satisfy individual demands. As part of this process, it may be necessary to collect and analyse data on how often and how effectively e-resources are used, as well as to conduct surveys to get feedback from users.
7. protecting the availability and usability of digital materials. Redesigning user interfaces, implementing more effective search tools, and organising materials in a logical and straightforward way may be important to attain this goal.
8. continuously developing and upgrading the assortment of online resources to reflect changing student and teacher interests and needs.

This entails continuously reviewing and updating current resources as well as looking for new and developing e-resources that are pertinent to the research and learning requirements of the academic community.

In conclusion, the transformation of teaching and learning in a digital environment is greatly aided by the use of e-resources in academic libraries.

10 ROLE OF E-RESOURCES IN ENHANCING ACADEMIC RESEARCH

E-resources are essential for improving academic research since they give users access to a wide range of scholarly information. Researchers can quickly and conveniently access and retrieve a large selection of electronic books, journals, articles, and other scholarly materials from these venues. Electronic resources also offer a number of benefits that make them useful for scholarly research (Kwafoa et al. 2019).

Access to information is a top priority when using e-resources. There is no longer any need for researchers to physically visit libraries or wait for interlibrary loan requests in order to obtain relevant materials. Electronic resources, on the other hand, are accessible 24/7 from any device, allowing users to conduct research more quickly and with less interruptions. E-resources also supply a vast array of data. Thus, researchers can be certain that they will have access to a wealth of information necessary to probe their research questions thoroughly. Collaboration and the sharing of research findings are two more areas that e-resources promote. To facilitate cooperation and the rapid dissemination of information, researchers can easily share links to online resources with one another.

Expert search features included into e-resources allow researchers to swiftly sift through mountains of data in search of specific materials. Many of these search features include filters, sophisticated keyword search tools, and the option to personalise results according to a plethora of criteria. E-resources also provide users with access to information that is current and up-to-date. Scholars can keep abreast of the latest developments in their field by using e-resources to access newly published articles and research results. Similarly, academic libraries need to adapt to the needs of their patrons as they evolve.

The availability of digital resources that adapt to the dynamic character of scholarly inquiry is one facet of this. Academic libraries provide access to a wealth of electronic resources that span many disciplines and topics. Books, journals, and newspapers in electronic form are also part of this category. These resources cater to the needs of researchers by providing them with access to a wealth of information relevant to their fields of study.

To meet the demands of modern users, academic libraries must adapt and provide access to a wide range of electronic resources. Investing in digital infrastructure, acquiring licencing for electronic content, and ensuring user familiarity and proficiency with available e-resources are all necessary steps in this direction. Also affected by the challenges posed by e-resources are academic libraries. One of these challenges is the cost, since many electronic resources require costly subscription and licencing fees. Since copyright laws may prohibit the sharing or downloading of materials without authorization, another issue is managing access and ensuring that only authorised users have access to the online resources.

11 CONCLUSION

Electronic resources (e-resources) are indispensable to academic libraries because they provide researchers with quick and easy access to a wealth of information through innovative search tools. They transformed libraries into vital research and education tools by completely reimagining the concept of a library. Because of the influx of new electronic resources, academic libraries have had to adapt to meet the needs of today's students and researchers. Academic libraries are increasingly adopting a hybrid operating model that integrates print and electronic resources in order to cater to the diverse needs of their patrons in the digital era.

These tools have changed the way that academic tasks are taught and learned since they have made them more accessible, shareable, and publishable. Academic libraries have been able to adapt and deal with these issues so that they may offer their users the finest resources and support possible. These resources have also brought obstacles, such as affordability and managing access, but they have been able to overcome these challenges. E-resources play a crucial role in academic libraries. With easy access to a variety of materials for researchers and students, e-resources have emerged as crucial tools in academic libraries. In conclusion, e-resources play a substantial and expanding role in academic libraries.

12 REFERENCES

- [1] 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).
- [2] 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.
- [3] Haridasan, S. & Khan, M., 2009, 'Impact and use of e - resources by social scientists in National Social Science Documentation Centre (NASSDOC), India' , The Electronic Library, 27(1), 117 - 133.
- [4] Hindagolla, B.M.M.C.B., 2021, 'Exploring Undergraduates' Satisfaction with Library Resources and Services: A Case Study of the Science Library, University of Peradeniya, Sri Lanka', Journal of the University Librarians Association of Sri Lanka, 24(2), 1–26.
- [5] Joshi, A.M., 2021, 'E-Resource: A Need in Today's Pandemic', International Journal of Trend in Research and Development, 8(4), 2394–9333.
- [6] Khairnar, J.M. & Malavi, U., 2019, 'E-Resources: Need, Types, Forms and Utility', International Journal for Research in Engineering Application & Management.
- [7] Kwafoa, P.N.Y., Anhwere, B.K. & Manu, A.E., 2019, 'Use of electronic resources by postgraduate students in University of Cape Coast', International Journal of Library and Information Science, 11(2), 7–13.
- [8] 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).

