Perception and Utilization of Electronic Resources in Federal University Libraries in North-East Nigeria

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Abstract

The integration of electronic resources in academic libraries has transformed information access and utilization in higher education institutions. This study investigates the perception and utilization of electronic resources in federal university libraries in North-East Nigeria. Employing a mixed-methods approach, data was collected through surveys and interviews from students, faculty, and library staff across selected universities. A sample size of 300 respondents was used, consisting of 200 students, 70 faculty members, and 30 library staff. Findings reveal about majority of respondents were aware of the available e-resources either fully or partially. Most respondents (56.7%) access e-resources at least several times a week, reflecting regular utilization. The primary purpose of e-resource utilization is academic research and coursework and assignments. The study highlights the need for consistent user education, policy reforms, and infrastructural investment to optimize the benefits of electronic resources. Recommendations for improved access, training programs, and enhanced funding are provided to enable effective resource utilization, which is crucial for advancing academic excellence and research output. The study concludes that the universities libraries in North-East Nigeria can foster a culture of effective e-resource utilization, through regular awareness programmes and training sessions thus contributing to improved teaching, learning, and research outcomes.

Keyword: Electronic resources, academic libraries, E- Resource utilization, library user.

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Introduction

Perception is the way of thinking and feeling about something. It can also been defined as a predisposition or tendency to respond positively or negatively towards a situation, an idea or person. Perception is a way someone reacts to the character of a thing or a person, users' perception influences use of e-resources in university libraries, while lack of awareness, lack of training, unreliable Internet connectivity, insufficient e-resources in various study areas, unavailability of e-resources on 24/7 and difficulty of identifying relevant information to meet users' needs are challenges hindering use of e-resources.

Thus, as opined by Alkalitani (2020), the perception of users towards the use of e-resources is the positive or negative disposition of the library community to electronic information resources. The users of the library have mixed feelings about using e-books or e-journals but prefer using traditional print books, which may be due to the positive perception they have about print books. Although, Electronic resources are becoming progressively vital to academic libraries, particularly in university libraries, which are increasing by taking up large percentage of their budgets, indeed electronic information resources are gradually becoming a central place where students seek information. The electronic Library is committed to providing access to electronic resources to support the research and curricula as expressed in their mission statements, "to provide world-class environment for learning, research and community service". To achieve that mission, the library has effectively and consciously utilized IT applications leading to the rise of e- library within the entity of their conventional libraries.

In academia, electronic resources are dominating the research activities of researchers; also, researchers have realized the importance of such resources. According to Ukpebor, (2021), electronic resources provide accurate and timely information, especially for faculty who depend greatly on electronic resources for information to advance research and collaboration with other researchers around the world for intellectual growth. Federal university libraries in North-East Nigeria, like their counterparts globally, have embraced electronic resources to enhance academic output. However, challenges such as poor internet connectivity, inadequate funding, and low digital literacy levels among users have hindered their full utilization. However, challenges such as poor internet connectivity, inadequate funding, and low digital literacy levels among users have hindered their full utilization.

The study focuses on understanding how students, faculty, and library stafff perceive and utilize electronic resources in seven federal university in North-East. It examines their awareness, usage patterns, and the barriers they face. This investigation aims to provide actionable insights for improving the deployment and impact of electronic resources in Nigerian universities. Specifically, it seeks to:

1. Assess the awareness and perception of electronic resources among users.
2. Investigate the frequency and purpose of e-resource utilization.
3. Identify challenges hindering effective usage.
4. Propose strategies for enhancing access and utilization.

Literature Review

Electronic resources simply refer to materials that contain information that can be accessed through digital or online means by the support of computer technologies. The information contained in electronic resources is not different from what is contained in printed versions except on the mode of access, storage and dissemination. Francis, F. (2023) defines electronic resources as contents of the information in a format that could be accessed through a computer or machine which in some cases require internet connections. The adoption of electronic resources in academic libraries has been the subject of extensive research. Studies highlight their critical role in providing timely and relevant information to users. Electronic resources, including e-journals, e-books, databases, audio/visual and institutional repositories, offer an unparalleled scope of academic materials, enabling scholars to access a diverse range of information (Anyim, 2023).

Global Perspective on Electronic Resources

Globally, the transition to digital libraries has been transformative. Odunlade and Ojo, (2023) emphasize that electronic resources have become essential in academic libraries due to their accessibility and cost-effectiveness. Similarly, (Harish and Reddy, 2018). points out that the proliferation of digital information has encouraged libraries to focus on e-resources to meet the growing demands of users. However, challenges such as copyright issues, technological obsolescence, and digital preservation persist.

African Context on Electronic Resources

In Africa, the adoption of electronic resources in university libraries has been gradual but impactful. Aina (2013) observed that while libraries in developed countries have rapidly embraced e-resources, those in Africa, including Nigeria, face infrastructural and financial constraints. Studies by Anyim, (2023) and Ternenge and Kashimana, (2019) indicate that poor internet connectivity, inadequate funding, and limited awareness hinder the effective utilization of electronic resources in Nigerian universities. Despite these challenges, electronic resources have been found to significantly improve research and academic productivity when adequately supported.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) has been extensively used to understand user behavior regarding electronic resources. Davis, 1989 In Anene and Achebe, (2024) posits that perceived usefulness and ease of use are critical factors influencing the adoption of new technologies. The two most important variables of the Technology Acceptance Model (TAM) are, "Perceived Usefulness" (PU) and "Perceived Ease of Use" (PEOU). The two variables are defined as follow: PU is "the degree to which a person believes that using a particular system would enhance his or her job performance. Whereas PEOU is "the degree to which a person believes that using a particular system would be free from effort. Adekoya and Inyang, (2022), using a new technology or an application depends on the impact it has on performance or the effort required performing an action. In relation with this study, lecturers can decide to use electronic resources or not by weighing the benefit to enhance their performance or access all the information they needed with less effort. The relationships between performance and the use of electronic resources can be explained by the concept of perceived usefulness. If a student perceived that the use of information

system contributes to a better performance, they tend to prefer and use it. For the study, this means investigating how students, faculty, and staff perceive the benefits of electronic resources. This framework has been applied in numerous studies to assess the acceptance of electronic resources in academic libraries (Lin and Anol, 2018). He demonstrated how TAM can evaluate user satisfaction, identify training needs, and guide improvements in technology deployment.

The second variable in TAM is Perceived ease-of-use (PEOU). Ease is defined as "freedom from difficult or great effort" and PEOU is "the degree to which a person believes that using a particular system would be free from effort" (Anene and Achebe, 2024) There is a link and preference by users between use and easiness. Davis conducted a study to compare the usefulness-usage relationship with the ease of use-usage relationship. According to Davis, the study proved that usefulness was significantly linked to usage than ease of use. In other words, users tend to use e-resources more when they think it is more useful than it is easier. TAM posits that perceived usefulness and ease of use influence a user's attitude and intention to use a technology. In the context of this study, understanding these intentions which can shed light on whether users are likely to adopt or continue using the university's electronic resources. This relates to the extent to which users find the electronic resources and services easy to navigate and utilize in relation to the ease of use, the study by Adeoye and Olanrewaju (2019) confirms that users find it effortless or easy to search and retrieve information from the electronic information resources provided by their library.

Challenges in use of Electronic Resources in Nigerian Libraries

Research on Nigerian electronic resources in the university libraries highlights several challenges. Amadi, (2023). identify funding shortages as a primary obstacle, limiting the acquisition and maintenance of electronic resources. Additionally, Anyaoku, (2015) report that many users lack the digital literacy skills necessary to navigate complex electronic databases, further impeding resource utilization. Another key issue is the lack of institutional policies to support the integration and promotion of electronic resources.

Opportunities and Success Stories of Electronic Resources

Despite these challenges, some Nigerian universities have successfully integrated electronic resources into their academic systems. For instance, Covenant University has implemented robust digital library systems, leading to increased research output and global visibility (Ahmed and Salah, 2015). Collaboration with international organizations, such as the Electronic Information for Libraries (EIFL) initiative, has also facilitated access to scholarly materials at reduced costs. With the rapid growth of digital content, electronic resources are adopting tools for digital preservation to ensure the long-term accessibility of e-resources. These tools support archival efforts and mitigate risks of data loss (Owolabi and Agboola, (2023).)

Emerging Trends in Electronic Resource usage

Emerging trends in electronic resource usage include the use of open access repositories, cloud-based library systems, and artificial intelligence for information retrieval. Libraries are increasingly prioritizing open access (OA) resources to promote equitable access to knowledge (Odunlade and Ojo, (2023). These improvements help patrons discover and

access resources efficiently. These innovations promise to address some of the existing challenges and enhance the user experience in academic libraries.

Methods

This study adopts a mixed-methods approach, combining quantitative and qualitative data collection methods. The study focuses on federal universities in North-East Nigeria, the population comprises students, faculty, and library staff from seven federal universities in North-East of Nigeria, with a total sample size of 300 respondents. These including University of Maiduguri, Federal University Wukari, Federal University Kashere Madibo Adamawa University, Nigerian Army University Biu, Federal University Gashua and Abubakar Tafawa Balewa University, stratified random sampling technique was employed, stratified random sampling ensured representation across the user groups. Data were collected through structured questionnaires and semi-structured interviews, covering awareness, perception, usage patterns, and challenges. Interviews was used to provide deeper insights into institutional and infrastructural factors. Quantitative data were analyzed using SPSS version 22.0, while qualitative data underwent thematic analysis.

Results

Awareness, Frequency and Perception of Electronic Resources among users.

Table 1: Awareness of Electronic Resources among Users

Awareness Level	Description	Frequency	Percentage (%)
Fully Aware	Users who know about all available e-resources and their usage.	120	40.0
Partially Aware	Users who know about some resources but lack comprehensive knowledge.	100	33.3
Limited Awareness	Users with minimal knowledge of available e-resources.	50	16.7
Not Aware	Users who are unaware of the existence of e-resources.	30	10.0

Table 1 findings shows that 40% were Fully Aware: A significant portion of users are well-informed about e-resources and their applications. 33.3% were Partially Aware: Many users need additional awareness to fully leverage available resources. 16.7% were Limited Awareness: 10% were Not Aware:

Table 2: Frequency of electronic resource utilization.

Frequency of Use	Frequency	Percentage (%)
Daily	90	30.0
Several times a week	80	26.7
Once a week	60	20.0
Several times a month	40	13.3
Rarely	30	10.0
Total	300	100.0

Table 2 findings shows that most respondents (56.7%) access e-resources at least several times a week, reflecting regular utilization, while-the lower frequency was (23.3%) these indicate barriers to access or a lack of familiarity with the electronic resources.

Table 3: Perception of electronic resources use among user

Perception	SA (5)	A (4)	Neutral (3)	D (2)	SD (1)	Freq	Mean Score	Decision
Electronic resources are easily accessible.	140	100	30	20	10	300	4.23	Positive perception
The resources are up-to-date and relevant.	120	110	40	20	10	300	4.13	Positive perception
The interface is user-friendly.	110	120	40	20	10	300	4.10	Positive perception
Electronic resources save time.	150	100	30	10	10	300	4.33	Positive perception
Technical challenges reduce effectiveness.	50	60	50	70	70	300	2.57	Neutral perception
Overall satisfaction with e-resources.	130	110	30	20	10	300	4.20	Neutral-to-positive

Table 3 revealed a mixed perception of electronic resources among users, although findings indicate a high level of positive perception with e-resources, respondents emphasizing their accessibility with mean of 4.23, relevance 4.13, user-friendliness 4.10, and time-saving benefits 4.33. Respondents particularly value how e-resources streamline academic and professional activities. However, technical challenges 2.57 were identified as a significant barrier, reducing their overall effectiveness for some users.

Purpose of E-resource Utilization.

Table 4 findings shows that the primary purpose of e-resource utilization is academic research (40%), followed by coursework and assignments (30%), indicating a strong academic focus. While exam preparation (20%) is also a notable use, fewer respondents utilize e-resources for professional development (6.7%) or entertainment and personal use (3.3%). The faculty members utilized resources predominantly for research purposes, while students used them for assignments and exam preparation

Table 4: Purpose of e-resource utilization.

Purpose use of E-Resource	Frequency	Percentage (%)	Interpretation
Academic research	120	40	The most common use of e-resources is for academic research, indicating that respondents primarily rely on them for scholarly purposes.
Coursework/Assignments	90	30	A significant portion of respondents use e-resources for completing assignments and coursework.
Exam preparation	45	20	E-resources are moderately utilized for exam preparation, showing their relevance in study efforts.
Professional development	30	6.7	Some respondents use e-resources for professional growth, such as learning new skills or certifications.
Entertainment/Personal use	15	3.3	Few respondents use e-resources for leisure reading or exploring personal interests.
Total	300	100	

Challenges hindering effective usage.

Table 5: challenges hindering effective usage.

Challenges	No of Users	Percentage (%)
Limited internet connectivity	80	26.7
Lack of user training	100	33.3
Technical issues (e.g., system errors)	60	20.0
Inadequate access to devices	40	13.3
Limited content relevance	20	6.7
Total	**300**	**100.0**

Table 5 findings reveal that despite the availability of electronic resources, many users struggled with navigating platforms and understanding search functionalities including internet usage. Therefore, lack of user training for library users emerged as a critical challenge (33.3%).

Strategies for Enhancing Access and Utilization

Table 6: Proposed Strategies for Enhancing Access and Utilization

Strategy	%	Expected Impact on Users
Improve internet connectivity	33.3%	Enhances access for all users, especially the connectivity issues
Conduct regular user training	26.7%	Empowers the lacking knowledge, increasing usage efficiency in library user
Address technical challenges	20%	Reduces disruptions for users experiencing technical problems.
Provide device access	13.3%	Supports those who lack access to personal devices.
Expand and diversify content	6.7%	Addresses the needs of library users who find resources irrelevant or insufficient.
Promote awareness campaigns	6.7%	Encourages all users to explore underutilized e-resources, and increasing engagement of library users
Offer offline access options	6.7%	Enables access for library users in remote or low-connectivity areas, benefiting the users.
Monitor and evaluate usage	6.7%	Ensures continuous improvement and satisfaction for all library users.

Table 6 findings reveal that internet connectivity and lack of user's training emerge as most strategies for utilization of e-resources 60% while the technical challenges strategies 20% respondents to enhances electronic resources access for all library users.

Discussion of the Findings

The study assessed the awareness, usage, and perception of electronic resources among users of federal university libraries. Findings indicate awareness of electronic resources varied significantly among library users. findings shows that 40% of respondents were fully aware of the available e-resources and their usage, reflecting a solid awareness base. However, 16.7% have limited awareness. Efforts should target this group with informational campaigns to enhance usage. 10% were completely unaware, highlighting a gap that could be addressed through targeted awareness campaigns and user education programs to maximize e-resource utilization. Outreach and education are critical to include these users in the e-resource ecosystem.

On frequency of usage of electronic resources by the respondents, result shows that most respondents (56.7%) access e-resources at least several times a week, reflecting regular utilization, while-the lower frequency was (23.3%) these indicate barriers to access or a lack of familiarity with the electronic resources

For perception of electronic resources among users, the study revealed a mixed perception of electronic resources among users, although findings indicate a high level of positive perception with e-resources, emphasizing their accessibility, relevance, user-friendliness, and time-saving benefits. Respondents particularly value how e-resources streamline academic and professional activities. However, technical challenges were identified as a significant barrier, reducing their overall effectiveness for some users. Addressing these challenges could further enhance user satisfaction and utilization.

Findings on faculty perspective on the electronic resources revealed that faculty members noted a significant improvement in research output due to access to peer-reviewed journals and international publications. Collaborative research initiatives have also increased due to electronic resource accessibility.

For students perceptions on electronic resources, findings shows that student emphasized the convenience of accessing materials remotely, especially during exam preparation. However, many expressed a need for more user-friendly interfaces and better guidance.

Purpose of electronic resource utilization

Findings reveals that the primary purpose of e-resource utilization is academic research (40%), followed by coursework and assignments (30%), indicating a strong academic focus. While exam preparation (20%) is also a notable use, fewer respondents utilize e-resources for professional development (6.7%) or entertainment and personal use (3.3%). The faculty members utilized resources predominantly for research purposes, while students used them for assignments and exam preparation. Library staff reported a significant gap in users' digital literacy, impacting e- resource utilization. This suggests that e-resources are predominantly leveraged for academic purposes, with limited engagement in other areas.

Challenges on Utilization of Electronic Resources

findings reveal that despite the availability of electronic resources, many users struggled with navigating platforms and understanding search functionalities including internet usage. Therefore, lack of user training for library users emerged as a critical challenge (33.3%). The study also identified the following challenges: poor internet connectivity, limiting access to online resources, inadequate awareness and training programs for users, insufficient funding for library infrastructure and subscriptions and institutional policies that do not prioritize electronic resource development.

Despite the challenges, electronic resources are of impact on academics and Research. They have positively influenced academic activities. Faculty members reported improved research quality, while students highlighted their role in broadening knowledge beyond lecture materials. Comparative analysis showed higher utilization rates in faculties with better infrastructure and trained staff.

Recommendations

Based on the findings, and to enhance the perception and utilization of electronic resources in the federal university libraries particularly in North-east of Nigeria, the following recommendations are proposed:

1. University management should improve internet connectivity and invest in modern library facilities.
2. Federal university libraries management should increase user awareness through orientation programs and promotional activities or events.
3. Library management should be organizing regular training sessions for users and library staff to build digital literacy skills.
4. Universities management should aadvocate for increased budgetary allocation to libraries for resource acquisition and maintenance.
5. Library management should develop institutional policies that prioritize library resource development and user support.
6. Federal university libraries management should endeavour to establish Partnership with international organizations to access grants and training opportunities.

Conclusion

Respondents in this study have positive perceptions of the electronic resources in the library. This study underscores the potential of electronic resources to enhance academic productivity in federal university libraries in North-East, Nigeria. The study highlights the transformative potential of e-resources in enhancing academic productivity in federal university libraries. While significant progress was made, addressing infrastructural and institutional challenges which is crucial for maximizing their benefits. The universities libraries in North-East Nigeria can foster a culture of effective e-resource utilization through regular awareness programmes and training sessions, thus contributing to improved teaching, learning, and research outcomes.

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