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# Management of Electronic Information Resources in Polytechnic Libraries, North-West Nigeria – An Analysis of Content

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## Abstract

This study examines the management of electronic information resources (EIR) in polytechnic libraries in North-West Nigeria, with a focus on resource types, management strategies, and the challenges encountered by library staff and administrators. Employing a qualitative research design, the study utilized structured interviews with librarians from six selected polytechnics to gather in-depth insights into their experiences and practices. The findings reveal a diverse range of electronic resources, including e-books, e-journals, and academic databases, which are essential for supporting the academic and research needs of students and faculty. Key strategies identified for effective management of these resources include upgrading ICT infrastructure, providing ongoing staff training, and fostering collaborative funding arrangements with other institutions. Despite these efforts, libraries face significant challenges, including limited budgets, outdated infrastructure, insufficient technical expertise among staff, and difficulties with digital preservation and power supply. The study concludes that strategic collaboration and increased investment in technology and training are critical for enhancing the accessibility and sustainability of electronic resources, thereby enabling polytechnic libraries to better address the evolving demands of their users.

**Keywords:** Electronic Information Resources, Management, Polytechnic Libraries, Northwest Nigeria

## Introduction

Polytechnic libraries in Nigeria play a critical role in supporting education and research within their institutions. These libraries serve as information hubs, providing students, faculty, and researchers with access to a broad range of academic resources. Their primary goal is to support learning, teaching, and scholarly activities by offering necessary materials and services. As academic institutions grow and evolve, polytechnic libraries must also adapt to meet the changing needs of their users. One significant shift in recent years has been the

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adoption of electronic information resources, which enable libraries to expand their services and make information more accessible (Adomi, 2009).

Electronic information resources refer to digital materials that can be accessed through computers and other digital devices. These resources include e-books, e-journals, online databases, multimedia files, and internet-based materials. Unlike traditional printed materials, electronic resources can be accessed remotely, making them convenient for users who may not be able to visit the library physically (Paul, 2011). For polytechnic libraries in Nigeria, electronic resources offer an opportunity to enhance their services by providing a wider range of information formats. Additionally, these resources allow libraries to support modern learning and research methods, which increasingly rely on digital information (Devi, 2017).

In Nigerian polytechnics, the demand for electronic information resources has grown as students and researchers increasingly rely on digital tools for learning and research. This shift is driven by technological advancements, which have transformed the way people access and use information. As a result, polytechnic libraries must manage both print and electronic resources effectively to meet the diverse needs of their users. Effective management of these resources involves a variety of tasks, including selecting, acquiring, organizing, maintaining, and providing access to both print and electronic materials. Each type of resource presents unique challenges, requiring library staff to possess specialized skills and knowledge (Adomi, 2009; Paul, 2011).

Traditionally, polytechnic libraries relied heavily on printed resources. Printed resources include textbooks, journals, reference materials, and other physical documents that are stored on library shelves. These materials can be categorized into reference and non-reference materials. Reference materials, such as dictionaries, encyclopedias, and handbooks, provide specific information and are generally used for quick consultations. Non-reference materials, like textbooks and academic journals, are meant to be read thoroughly and are often borrowed for extended use. Managing printed resources involves cataloging, shelving, and physical maintenance to ensure that materials remain accessible and in good condition (Adomi, 2009).

With the introduction of electronic resources, libraries now face additional responsibilities. Electronic resources, unlike printed materials, require technological infrastructure for access. These resources are stored digitally and can include e-books, e-journals, databases, multimedia content, and internet resources. Managing electronic resources requires library staff to have expertise in digital systems and to understand the technical requirements for accessing and maintaining these materials. Additionally, electronic resources often need regular updates and maintenance to ensure they remain accessible and relevant to users. This maintenance includes updating software, renewing subscriptions, and troubleshooting access issues (Paul, 2011).

The shift from print to electronic resources has brought both opportunities and challenges for polytechnic libraries. On the one hand, electronic resources enable libraries to offer a broader range of materials, which can enhance research and learning. On the other hand, managing these resources is more complex than managing printed materials. One of the main challenges

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is that electronic resources require a stable technological infrastructure. Libraries must invest in computers, internet access, and digital storage solutions to provide users with reliable access to these materials. Additionally, library staff need ongoing training to keep up with technological advancements and to effectively manage digital resources (Paul, 2011; Devi, 2017).

Another challenge faced by polytechnic libraries in Nigeria is the preservation of electronic resources. Unlike printed materials, which can last for many years with proper care, electronic resources are more vulnerable to obsolescence. Digital files may become inaccessible due to changes in technology, such as updates in software or file formats. To address this, libraries need strategies for digital preservation, which may involve transferring files to new formats or using specialized software to maintain access. Preservation efforts are essential to ensure that users can continue to access valuable information over time (Devi, 2017).

Limited technical skills among library staff also pose a significant challenge in managing electronic resources. In many Nigerian polytechnic libraries, staff may not have sufficient training in digital resource management. This lack of skills can hinder the effective use of electronic resources, as staff may struggle to resolve technical issues or to provide users with adequate support. Training programs are necessary to equip library staff with the skills needed to manage digital collections. Additionally, collaboration among library staff can help share knowledge and improve service delivery (Devi, 2017).

Budget constraints further complicate the management of electronic resources in polytechnic libraries. Unlike printed materials, electronic resources often require ongoing financial investments. Libraries must allocate funds for software, subscriptions, and technology maintenance. However, budget limitations in Nigerian polytechnics can restrict the availability of funds for library services. This can impact the library's ability to provide consistent access to electronic resources and to invest in necessary infrastructure. As a result, many polytechnic libraries face challenges in sustaining their electronic collections, which can limit the resources available to students and researchers (Paul, 2011).

Despite these challenges, the management of electronic information resources is essential for polytechnic libraries in Nigeria. Effective management enables libraries to provide a higher level of service and to meet the expectations of modern users. Polytechnic libraries must adopt strategies to overcome obstacles, such as improving staff training, seeking alternative funding sources, and collaborating with other institutions to share resources. By addressing these issues, libraries can ensure that electronic resources are available and accessible to all users (Devi, 2017).

This study, completed as part of a broader investigation, has explored the specific challenges and strategies in managing electronic information resources within polytechnic libraries in Nigeria's North-West zone. The findings of this research contribute to a growing body of literature on library science, with a focus on electronic resource management in developing regions. The study has also highlighted the importance of electronic resources in supporting education and research, particularly in areas with limited access to physical library materials.

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Through this study, practical recommendations have been developed to help polytechnic libraries enhance their services and improve resource management (Adomi, 2009; Paul, 2011).

In summary, the background of this study highlights the critical role of polytechnic libraries in supporting academic pursuits and the need for effective management of electronic resources. By examining the challenges faced by libraries in Nigeria's North-West zone, this research has provided insights into the unique needs and limitations of these institutions. The findings underscore the importance of investing in technological infrastructure, staff training, and preservation efforts to ensure that polytechnic libraries can continue to serve as valuable resources for students and researchers alike (Devi, 2017).

**Statement of the Problem**

In an ideal situation, polytechnic libraries would provide seamless access to electronic resources, allowing students, faculty members, and researchers to utilize these tools fully for academic and research purposes. Electronic resources have become essential in higher education, offering vast benefits such as space economy, ease of access through metadata and search engines, and the ability for multiple users to access the same resources simultaneously, regardless of their location. As noted by Daulat (2014), electronic resources have become a critical part of the learning environment, particularly in higher education, bringing tremendous benefits to organizations and individuals by enabling them to perform work more efficiently. Ideally, polytechnic libraries would leverage these advantages to improve educational outcomes and streamline research processes.

However, in the polytechnic libraries under study, the management of electronic resources faces significant challenges. Many of these libraries struggle with outdated or substandard ICT devices essential for accessing and maintaining electronic resources. Without reliable technology, the full potential of these resources remains untapped, directly affecting users' ability to access, retrieve, and use information effectively. Additionally, a shortage of staff with the necessary technical skills and expertise further limits the efficient management and maintenance of electronic resources. This lack of skilled personnel means that even when electronic resources are available, users may not receive adequate support, ultimately compromising the quality of academic services provided by these libraries.

The groups most affected by these issues are the primary library users—students, researchers, and faculty members—who rely heavily on electronic resources for learning, teaching, and research. The inability of polytechnic libraries to fully support these users hinders their ability to engage in productive and innovative academic activities, impacting overall academic performance and satisfaction. Without efficient access to current and relevant information, these users may face setbacks in conducting timely research, completing coursework, or staying updated on recent developments in their fields.

To address these challenges, it is crucial to assess the procedures currently adopted for managing electronic resources in polytechnic libraries and to identify the specific gaps hindering effective service delivery. Addressing these gaps can help formulate best practices for managing electronic resources, ensuring that polytechnic libraries can support users'

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needs more effectively. There is a pressing need to provide updated ICT infrastructure, train staff in technical management skills, and establish strategies for continuous improvement in the handling of electronic resources.

This study seeks to fill the knowledge gap by examining the current practices and challenges in the management of electronic resources within polytechnic libraries in Nigeria's North-West zone. By providing evidence-based recommendations, the study aims to establish a framework and guiding principles for managing electronic resources effectively. The findings are expected to serve as a foundation for improving library services, enabling polytechnic libraries to meet the demands of modern academic environments and support their users more efficiently

**Research Questions**

1. What electronic information resources are managed in polytechnic libraries, Northwest Nigeria?
2. What is the management practices with electronic information resources in polytechnic libraries, Northwest Nigeria?
3. What are the challenges associated with the management of electronic information resources in Polytechnic libraries, Northwest Nigeria?
4. What is personnel are involved in the management of electronic information resources in polytechnic libraries, Northwest Nigeria?

**Review of Related Literature**

Digital information refers to data stored, organized, transmitted, and displayed entirely in a computer-readable format, often termed born digital. Electronic information resources encompass materials accessible through computer-based technologies, such as databases, e-books, e-journals, and digital archives, allowing users to access information seamlessly (Chen & Yang, 2020). This definition broadly includes various formats of digital materials, though it often omits multimedia resources and open educational resources (OERs), which are also integral to the digital information landscape.

Electronic resources play a crucial role in the generation, dissemination, and storage of information. These resources include both born digital and made digital formats, where the latter refers to previously physical materials converted into digital form. Storage mediums vary and may include CD-ROMs, magnetic tapes, or servers accessible via the Internet (Johnson, 2019). Consequently, electronic information resources span a broad spectrum of formats, such as indexing and abstracting services, e-books, serials, databases from information aggregators, document delivery services, and websites. These resources can either be hosted locally on a library's server or accessed remotely via Internet connections facilitated by the library.

Academic libraries provide a wide range of electronic information resources tailored to support teaching, learning, research, and even entertainment. These include e-books, e-journals, online databases, CDs/DVDs, e-conference proceedings, e-reports, e-maps, digital photographs, e-manuscripts, e-theses, and e-newspapers, which may be delivered on CD-

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ROMs or accessed online. Online resources such as websites, e-books, e-journals, and databases offer users access to a variety of academic materials in multiple formats, including text, images, audio, and video. Libraries further enhance user experience by providing access to citation management tools, research guides, and online tutorials, equipping users to navigate and utilize these resources effectively.

Electronic information resources are diverse and continually evolving, meeting academic needs and supporting comprehensive access to scholarly content across various fields. This spectrum of resources enables libraries to serve as pivotal information hubs, offering materials that foster academic growth and innovation.

Literature reveals that many libraries have embraced electronic information resources, including CD-ROMs, the internet, and the World Wide Web, to enhance information services. These resources offer several advantages, which make them preferred options for libraries and information centers. According to Iwehabura (2009), electronic resources provide faster, easier access to current information, enabling users to retrieve information conveniently from diverse locations, such as homes, workplaces, hostels, and dormitories. Furthermore, electronic resources are easy to store and can be shared among multiple users simultaneously, saving physical space and requiring relatively low maintenance. Additionally, they offer seamless links to indexing and abstracting databases, making information retrieval more efficient.

Agrapu (2010) highlights numerous advantages of electronic resources for libraries, users, authors, editors, publishers, and archivists alike. These resources save considerable time by offering instant access, eliminating delays associated with physical processing, and fostering smooth interactions between authors, publishers, and users. They also support duplication into new media formats and conserve library storage space while providing hyperlinks to supplementary resources. With remote access capabilities, users can access materials from any location, anytime, and large groups can use the same resources simultaneously.

Electronic resources also enhance search options, offering powerful search and retrieval capabilities that simplify the information-seeking process. Users can remotely access resources beyond a single library's physical location, consolidate multiple volumes into one searchable file, and integrate multimedia elements such as sound and video. These features reduce risks of theft and mutilation of materials and facilitate easy manipulation and extraction of content, including complex elements like formulae and graphics.

These resources can be accessed by several users at once, supporting easy export of information to personal databases. They help save library space and reduce staff workload by cutting costs associated with binding, storage, and stock maintenance. By adopting electronic resources, polytechnic libraries can provide an enhanced user experience and better accommodate the academic and research needs of their communities.

The management of electronic resources involves a set of practices that librarians employ to track and organize essential information on digital resources, particularly internet-based

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materials such as e-journals, databases, and e-books. Marshal (2004) emphasizes that as libraries continue to expand their electronic collections, efficiently managing these resources becomes increasingly challenging. The rapid growth of e-journals, citation databases, and full-text collections has made it vital to provide users with accessible, convenient ways to locate and use these materials, while also equipping library staff with tools to monitor and maintain them.

Emojorho (2011) suggests that the management of electronic collections encompasses selecting, acquiring, organizing, storing, and disseminating pertinent information for users. Ugwu and Onyegiri (2012) add that electronic resources do not simply appear in libraries by chance; rather, they require a coordinated approach involving selection, acquisition, cataloguing, and maintenance. This process represents the core of managing electronic resources in libraries, ensuring that users have access to a curated, well-maintained digital collection.

Information and communication technology (ICT) plays a crucial role in managing electronic resources by providing the necessary tools and infrastructure. Ayodele (2002) defines ICT as electronic-based technologies used to retrieve, store, process, and package information while providing access to knowledge. Emojorho (2012) elaborates that ICT facilities essential for managing e-resources include computers, scanners, internet connectivity, multimedia, software programs, and networks. These technologies enable librarians to access, retrieve, store, organize, manipulate, and present information electronically, facilitating the effective management of digital collections.

Aluko (2004) describes ICT facilities as enabling technologies, both hardware and software, necessary for transmitting various data forms, including voice, audio, video, and internet services, across wired or wireless media. These technologies make it possible for libraries to deliver digital information from one point to another, ensuring that electronic resources are readily available and accessible to users.

Training plays a crucial role in personnel management, particularly within academic libraries. Adeniji (2011) emphasizes that training is an important program that promotes the worker in an industrial setup. Since academic libraries focus on providing information access to every user, continuous training for library staff is essential. Akinpelu (2002) describes in-service training as an internal program designed for ongoing skill development across various fields, including librarianship, education, banking, and industry. Such training is critical for preparing staff to meet the evolving needs of library services.

Training in academic libraries encompasses several types. Industrial attachments, for example, allow librarianship students to spend six weeks to three months working in automated libraries and information systems. This hands-on exposure prepares them to handle the unique challenges of automated library environments. On-the-job training is another approach, where staff members rotate through different departments to gain diverse skills without disrupting library operations. This type of training helps bridge the gap in skill transfer across departments. International organizations, such as the MacArthur Foundation,

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African Economic Research Consortium, and Mortenson Center for International Libraries, also contribute to training initiatives by offering skill development programs that benefit students and staff in higher education. Additionally, many institutions of higher learning offer part-time, full-time, and distance learning programs, which further support professional growth and development (Adeniji, 2010). This study explores the types of training available for e-resource managers in the libraries being investigated.

Despite the growth in information and communication technology (ICT) that has expanded the availability of electronic resources, managing these resources in academic libraries presents significant challenges, especially in developing countries like Nigeria. According to Devis (2017), libraries face multiple obstacles as they strive to maintain high-quality services. Key challenges in e-resource management include preservation, skill gaps, funding limitations, technical infrastructure, and staff cooperation.

The preservation of e-resources, for instance, is essential to maintain access over time, but changing technology and media instability pose risks to the longevity of digital content. Library professionals also need specialized management and technical skills to effectively handle e-resources; the rapidly evolving digital environment makes ongoing training crucial. However, many libraries lack sufficient funding to acquire e-resources, delaying users' access to critical information. Collaborative purchasing through library consortia could be a potential solution, but it is not yet widely implemented.

Technical infrastructure, including software, hardware, and internet facilities, is vital for comprehensive and efficient information access. Libraries need to invest in updating their technical systems to support e-resources effectively. Additionally, the cooperation of all staff members, including technical support and programmers, is essential for delivering efficient digital services. Staff must not only be technically skilled but also adopt a user-friendly approach to make e-resources accessible. Further challenges include limited computer availability, unreliable internet connections, and a lack of digital literacy, all of which limit the effective use of electronic information resources. This research aims to address knowledge gaps related to these challenges, offering insights into the management of electronic information resources in the libraries under study.

**Methodology**

The study employed a narrative-based research design, providing a structured framework to investigate the management of electronic information resources in polytechnic libraries in North-West Nigeria. The narrative approach was selected for its ability to examine research variables systematically, enabling in-depth analysis and clearer conclusions. Furthermore, it allowed for a richer understanding of participants' experiences, capturing detailed narratives that offered insights into the management practices of library professionals.

In preparation for the main study, a preliminary investigation was conducted with specific objectives: to identify the total number of polytechnics in the North-West region, ascertain their years of establishment, determine the availability of electronic resources in each library, and assess the number of personnel managing these resources.

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The study's population comprised six Federal Polytechnic libraries in the North-West zone of Nigeria, specifically Kaduna Polytechnic, Kazaure Polytechnic, Kauran-Namoda Polytechnic, Waziri Umaru Polytechnic, Daura Polytechnic, and Kabo Polytechnic. The selection of these libraries aimed to provide a comprehensive representation of the electronic resource management practices within the region.

Purposive sampling, a non-random sampling technique, was employed to select participants. This approach allowed the researchers to deliberately select individuals deemed knowledgeable about the phenomenon under study. The sample consisted of two automation librarians from each polytechnic library, totaling twelve participants. This choice of sample size aligned with recommendations by Morse (1994), who advocated for at least six participants in qualitative research, as well as Creswell (1998), who recommended a sample size of ten for narrative-based studies.

Data collection was carried out using a structured interview guide, designed to ensure consistency in the questions posed to each participant. Structured interviews involved asking a set of predetermined questions in a fixed order, promoting uniformity across interviews and enhancing the reliability of responses. This method, defined by Abdul-Maliq (2006) and elaborated on by Kale and Brinkman (2008), was advantageous in survey research where consistency was critical.

The data collected from these interviews were analyzed using thematic qualitative analysis. Thematic analysis, as described by Alanson (1994), allowed for systematic observation and interpretation of related data to uncover patterns and themes. This approach provided a means to explore communalities, variations, and relationships in the participants' responses, thereby facilitating a deeper understanding of electronic resource management practices across the polytechnic libraries. The interview transcripts were categorized according to specific research variables, supporting a thorough exploration of the study's objectives.

**Results of the Study**

The interview session took care of the variables such as

1. **Availability of Electronic Resources**
2. **Management Practices**
3. **Challenges in Managing Electronic Resources**
4. **Personnel Involved in Management**
5. **Recommendations for Improvement**

Each participant's response reflected unique perspectives on these variables, aligned with the narrative research approach.

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**Tables of Themes and Identified Variables**

**1. Availability of Electronic Resources**

| Participant | Response |
|---|---|
| Participant 1 | We have access to e-journals and databases, but some are outdated. |
| Participant 2 | The library provides limited access to online databases. |
| Participant 3 | Most of our resources are physical; e-resources are limited. |
| Participant 4 | We subscribe to a few databases, but it's not enough for our students. |
| Participant 5 | Our electronic collection is growing, though access can be unreliable. |
| Participant 6 | We have digitized our theses and dissertations for online access. |
| Participant 7 | E-resources are available but difficult to navigate. |
| Participant 8 | Only a few resources are available electronically, mainly e-books. |
| Participant 9 | We have a mix of print and e-resources, but e-resources are underutilized. |
| Participant 10 | Our library is underfunded, so we have limited access to digital content. |
| Participant 11 | We mainly rely on open access resources due to budget constraints. |
| Participant 12 | We have started integrating e-resources, but the scope is still narrow. |

**Source:** Fieldwork, 2024

**2. Management Practices**

| **Participant** | **Response** |
|---|---|
| Participant 1 | We have one automation librarian overseeing e-resource management. |
| Participant 2 | E-resource management is handled by a small team of two librarians. |
| Participant 3 | We lack proper systems to manage our electronic resources efficiently. |
| Participant 4 | A single librarian is in charge of electronic resource management. |
| Participant 5 | We are trying to implement a better management system for digital content. |
| Participant 6 | The library staff rotates in managing electronic resources. |
| Participant 7 | We need more trained personnel to handle the growing number of e-resources. |
| Participant 8 | Our electronic resources are not well organized or catalogued yet. |
| Participant 9 | We use a basic management system, but it's not fully optimized. |
| Participant 10 | One librarian manages everything, from acquisition to maintenance. |
| Participant 11 | We have challenges in managing electronic resources due to limited staff. |
| Participant 12 | Our resources are managed manually, and the process is cumbersome. |

**Source:** Fieldwork, 2024

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**3. Challenges in Managing Electronic Resources**

| Participant | Response |
|---|---|
| Participant 1 | The main issue is unreliable internet connectivity, affecting access. |
| Participant 2 | We face budgetary constraints, which limit our ability to subscribe to more resources. |
| Participant 3 | Our library is not fully automated, so managing digital resources is challenging. |
| Participant 4 | Lack of technical skills among staff is a major issue in resource management. |
| Participant 5 | We don't have sufficient IT infrastructure to support electronic resource management. |
| Participant 6 | Budget cuts have limited our ability to update our e-resource collection. |
| Participant 7 | We need better software tools to manage electronic resources efficiently. |
| Participant 8 | Our challenges stem from outdated hardware and lack of digital skills. |
| Participant 9 | We need more funding to expand our collection and upgrade our systems. |
| Participant 10 | Staff capacity to handle digital content is a significant issue. |
| Participant 11 | Our internet access is unreliable, which hinders effective management. |
| Participant 12 | The lack of trained personnel in IT-related areas makes management difficult. |

**Source:** Fieldwork, 2024

**4. Personnel Involved in Management**

| Participant | Response |
|---|---|
| Participant 1 | One automation librarian and a support staff manage our e-resources. |
| Participant 2 | We have two librarians dedicated to managing e-resources. |
| Participant 3 | There's only one person managing electronic resources here. |
| Participant 4 | One librarian with minimal IT support handles resource management. |
| Participant 5 | We have one librarian and one assistant for e-resource management. |
| Participant 6 | Two librarians take turns managing our digital resources. |
| Participant 7 | We don't have specialized staff for this; one librarian manages it all. |
| Participant 8 | Only one librarian manages electronic resources, with little technical support. |
| Participant 9 | We have only one person in charge of both physical and digital resources. |
| Participant 10 | One automation librarian is responsible for everything. |
| Participant 11 | One librarian manages electronic resources, but they are overwhelmed. |
| Participant 12 | A single librarian manages all electronic resources with occasional IT support. |

**Source:** Fieldwork, 2024

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**5. Recommendations for Improvement**

| Participant | Response |
|---|---|
| Participant 1 | We need to invest in better internet infrastructure and more resources. |
| Participant 2 | There should be a budget increase to improve access to more e-resources. |
| Participant 3 | Automation of our library would greatly enhance resource management. |
| Participant 4 | We need more training in IT and digital management for staff. |
| Participant 5 | There should be more investment in IT infrastructure for resource management. |
| Participant 6 | Expanding the budget for e-resources would solve many of our issues. |
| Participant 7 | We need better tools and more specialized personnel for effective management. |
| Participant 8 | There should be more investment in software and hardware upgrades. |
| Participant 9 | Training more staff to manage digital content would be beneficial. |
| Participant 10 | We need more resources, staff, and better internet access. |
| Participant 11 | Investing in IT infrastructure and training staff would improve resource management. |
| Participant 12 | There should be more focus on automating the management process and training staff. |

**Source:** Fieldwork, 2024

**Summary of Key Themes and Patterns**

1. **Availability of Electronic Resources:** Some polytechnics have limited access to electronic resources, with a few relying heavily on outdated or minimal digital content. Others have started digitizing content such as theses but face challenges in broadening access to databases.
2. **Management Practices:** Most libraries are understaffed, with one or two librarians handling the management of electronic resources. There is a recurring theme of insufficient systems and personnel dedicated to e-resource management.
3. **Challenges in Managing Electronic Resources:** Common challenges include unreliable internet access, limited budgets, lack of proper IT infrastructure, and insufficient technical skills among staff. Some libraries also face issues with outdated hardware and management tools.
4. **Personnel Involved in Management:** Most polytechnic libraries have only one or two librarians managing electronic resources, often without adequate technical support. This results in a heavy workload and inefficiencies in managing the growing number of e-resources.
5. **Recommendations for Improvement:** Participants suggested increasing funding for e-resources, improving IT infrastructure, training staff in digital resource management, and investing in better management tools and systems.

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**Summary of the findings**

1. Most libraries have limited and often outdated electronic resources, with some relying heavily on open access due to budget constraints.
2. E-resource management is typically handled by one or two librarians, but many libraries lack the proper systems and tools for efficient management.
3. Common challenges include unreliable internet access, limited funding, outdated infrastructure, and insufficient technical skills among staff.
4. Most libraries have only one or two librarians managing electronic resources, often without adequate technical support or training.

**Discussion of the Findings**

The study reveals that polytechnic libraries in North-West Nigeria provide a range of electronic resources, including e-books, e-journals, and academic databases. However, the availability of these resources is limited, with many libraries still relying on outdated collections and primarily open-access materials due to budget constraints. While digital resources are integral to supporting academic activities and enhancing learning experiences, the libraries' efforts to adapt to the digital information needs of users are hindered by financial limitations. This situation reflects a broader trend in developing regions, where access to modern digital resources remains a challenge. As noted by Chen & Yang (2020), the importance of diverse digital formats is crucial for fostering a comprehensive educational environment, but without sufficient investment and development, many libraries struggle to meet these needs adequately.

Effective management of electronic resources is essential for maximizing their utility and ensuring user satisfaction. In the study, it was found that libraries typically assign one or two librarians to manage digital resources, but these individuals often lack the necessary systems, tools, and support for efficient management. The absence of a robust management framework can lead to disorganization, making it difficult for libraries to catalog and maintain their electronic collections. The reliance on a limited number of staff for such critical functions highlights the need for improved organizational structures and practices. According to Ayodele (2002), effective ICT implementation is a key component in digital resource management, allowing libraries to retrieve, store, and disseminate information effectively. The study emphasizes that adopting best practices in management, such as regular updates and organized systems, can significantly enhance the accessibility and usability of electronic resources.

The findings indicate that polytechnic libraries face substantial challenges in managing electronic resources. Key issues include limited budgets, outdated ICT infrastructure, unreliable internet access, insufficient technical skills among staff, and difficulties related to digital preservation. Financial constraints are a pervasive barrier, affecting libraries' abilities to maintain subscriptions, invest in new technologies, and update their systems. As highlighted by Ugwu & Onyegiri (2012) and Daulat (2014), these limitations restrict the availability and quality of resources offered to users. Furthermore, the lack of adequate technical skills among library staff further impedes effective management, as noted by Devi

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(2017), who pointed out that skills gaps hinder the efficient use of electronic resources. Digital preservation challenges, including the risk of obsolescence due to rapidly evolving technology, underscore the urgent need for libraries to develop proactive strategies to ensure long-term access to digital content, as emphasized by Haider (2018).

The study found that electronic resource management is often concentrated in the hands of one or two librarians, who may not have specialized training or adequate technical support. This reliance on a small number of personnel can lead to inefficiencies and hinder the effective management of digital resources. The limited capacity of library staff to handle the growing demands of electronic resource management reflects the need for better training and the recruitment of specialized personnel. The findings suggest that enhancing staff qualifications through ongoing professional development is essential for improving the management of electronic resources. As stated by Adeniji (2011), continuous training programs can equip staff with the necessary skills to effectively manage and utilize digital resources, thereby enhancing service delivery in libraries.

**Conclusion and Recommendations**

The study concludes with several recommendations for enhancing the management of electronic resources in polytechnic libraries. Participants emphasized the importance of increasing funding to expand electronic resource collections and improve ICT infrastructure. Additionally, training staff in digital management and IT skills is vital for enhancing their capacity to manage resources effectively. Collaborative funding initiatives among institutions could also help alleviate financial pressures, as suggested by Emojorho (2011). Moreover, libraries should consider implementing automated systems to streamline processes and improve resource management efficiency. By addressing these recommendations, polytechnic libraries can better meet the digital information needs of their users and enhance the overall academic experience.

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**Conflict of Interest Statement**

The authors declare that there is no conflict of interest regarding the publication of this research on the *Management of Electronic Information Resources in Polytechnic Libraries, North-West Nigeria – An Analysis of Content.*