



DATABASE ADOPTION AND UTILISATION IN ACADEMIC LIBRARIES: A STUDY OF BAUCHI METROPOLIS

By

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Abstract

This study investigates the adoption and utilisation of databases in academic libraries within Bauchi metropolis, Nigeria. The objectives were to determine the level of database adoption, identify the types of databases utilised, and examine the challenges associated with both adoption and utilisation. A cross-sectional survey research design was employed, with data collected through structured questionnaires administered to heads of four academic libraries selected via census sampling. Findings revealed that database adoption was generally moderate, with JSTOR and ScienceDirect being the most utilised resources. Major challenges identified included insufficient funding, technological obsolescence, and unstable power supply. The study highlights the need for enhanced institutional support, capacity building, and infrastructural development to maximise database usage in academic libraries. The results provide insights for policymakers, library administrators, and future researchers aiming to improve technological integration in library services.

Keywords: Database adoption, Academic libraries, Utilisation challenges, Technological integration, Library services

Introduction

Academic libraries serve as critical support systems for teaching, learning, and research across educational institutions (Omekwu & Echezona, 2019). Traditionally repositories of books and print materials, these libraries have witnessed a transformation with the advent of Information and Communication Technologies (ICT), including computers, internet connectivity, and digital databases (Adigun, 2021). Among these innovations, the adoption of databases has significantly enhanced information storage, retrieval, and management, offering

libraries more efficient and accessible service delivery mechanisms.

According to Ojedokun (2020), a database is an organized collection of related data that is stored and accessed electronically. In academic libraries, databases facilitate the cataloguing and management of bibliographic records, electronic journals, and scholarly publications, thereby improving resource organization and accessibility (Aina, 2018). By leveraging databases, libraries can enhance services such as cataloguing, circulation management, reference assistance, and access to electronic resources.



The adoption of databases in academic libraries within Bauchi metropolis is particularly crucial given the infrastructural challenges faced by many institutions. Uzohue and Yaya (2016) emphasize that the integration of databases strengthens core library operations—selection, acquisition, arrangement, storage, retrieval, and dissemination of information. Nonetheless, several barriers, including inadequate funding, limited technological infrastructure, and insufficient staff capacity, continue to impede optimal database utilization (Ukoha, 2020; Oketunji, 2012).

While previous studies have explored ICT use in libraries across Nigeria, few have specifically examined database adoption and utilization within the academic libraries of Bauchi metropolis. Understanding the extent of adoption, types of databases used, and challenges encountered is vital for enhancing service delivery and supporting the academic missions of institutions. This study, therefore, investigates the adoption and utilization of databases in academic libraries in Bauchi metropolis, providing empirical insights to inform future development efforts.

Statement of the Problem

Despite global advancements in library technologies, many academic libraries in Bauchi metropolis still rely on outdated and inefficient service delivery methods. Although efforts have been made by institutional management and government bodies to improve educational infrastructure, the effective adoption and utilization of databases in academic libraries remain inconsistent. Several libraries either underutilize available database technologies or lack the necessary infrastructure, skilled personnel, and financial resources for effective deployment.

While previous studies have underscored the benefits of database integration in academic libraries, there is limited empirical research focused on the extent of database adoption and utilization within Bauchi metropolis and, more broadly, across the North-East geopolitical zone of Nigeria. Without a clear understanding of the current status and challenges, efforts to enhance library services may remain ineffective.

Therefore, this study seeks to bridge this gap by examining database adoption and utilization among academic libraries in Bauchi metropolis.

Objectives of the Study

The main objective of this study is to investigate the adoption and utilization of databases in academic libraries in Bauchi metropolis. The specific objectives are to:

1. Determine the level of database adoption in academic libraries within Bauchi metropolis.
2. Identify the types of databases utilized by academic libraries under study.
3. Examine the challenges associated with the adoption of databases in the selected academic libraries.
4. Assess the challenges related to the utilization of databases in the selected academic libraries.

Research Questions

This study is guided by the following research questions:

1. What is the level of database adoption in academic libraries within Bauchi metropolis?
2. What types of databases are utilized in the academic libraries under study?
3. What challenges are associated with the adoption of databases in the selected academic libraries?
4. What challenges are associated with the utilization of databases in the selected academic libraries?

Significance of the Study

This study is significant for several reasons:

- **Library administrators and policymakers:** The findings will provide insights into the current state of database utilization, highlighting areas requiring attention and strategic improvement.
- **Academic institutions:** Recommendations will guide institutions in developing policies and allocating resources to enhance database adoption and utilization.



- **Library staff:** Understanding challenges and best practices can help library staff improve their technical skills and service delivery.
- **Researchers and scholars:** The study will contribute to the existing body of literature on database adoption in Nigerian academic libraries, serving as a foundation for future research in the field.

Ultimately, the study aims to support the development of more effective, technology-driven library services that meet the evolving information needs of academic communities in Bauchi metropolis and beyond.

Scope of the Study

This study focuses on the adoption and utilization of databases in four academic libraries located within Bauchi metropolis. The selected libraries are:

1. Academic Library, Abubakar Tatari Ali Polytechnic, Bauchi
2. Ade Bimpe Academic Library, Abubakar Tafawa Balewa University, Bauchi
3. Academic Library, Federal Polytechnic, Bauchi
4. Academic Library, College of Agriculture, Bauchi

The study is limited to these institutions and their library operations, specifically examining database adoption, utilization, and associated challenges. Other forms of library technology or

RESULTS

Response Rate

Table 1: Response Rate of Administered Questionnaires

S/N	Number of Administered	Questionnaires Returned	Number Returned	Number Not Returned	Percentage (%)	Returned
1	4	4	0		100%	

All four questionnaires distributed were duly completed and returned, representing a 100% response rate. This high return rate ensures the validity and reliability of the study findings.

libraries outside Bauchi metropolis were excluded from the study.

Methodology

This study employed a cross-sectional survey research design. This design was chosen because it allows the collection of data from multiple sources at a single point in time, offering a snapshot of the phenomenon under investigation (Jackson, 2009).

The population for the study consisted of four academic libraries in the Bauchi metropolis. A census sampling technique was utilized, involving the selection of all heads of the selected academic libraries as respondents.

Data were collected using a structured questionnaire titled *Database Adoption and Utilization in Academic Libraries*, developed by the researchers and validated by experts in Library and Information Science. The questionnaire was designed to capture information on the level of database adoption, types of databases utilized, and challenges encountered.

The administration of the questionnaires was conducted personally by the researchers to ensure a high response rate. All distributed questionnaires were duly completed and returned, resulting in a 100% response rate.

Data collected were analyzed using descriptive statistics, including frequencies and percentages, to present the results clearly and concisely.



Level of Database Adoption

Table 2: Level of Database Adoption in Academic Libraries

Description	Frequency	Percentage (%)
Low level of adoption	1	25%
Moderate level of adoption	3	75%
High level of adoption	0	0%

The majority (75%) of respondents indicated a moderate level of database adoption in their libraries, while 25% reported a low level of adoption. No library reported a high level of adoption, suggesting that full integration of database technologies remains limited.

Types of Databases Utilized

Table 3: Types of Databases Utilized in Academic Libraries

S/N	Database Type	Frequency	Percentage (%)
1	JSTOR	3	37.5%
2	ScienceDirect	3	37.5%
3	EBSCO	1	12.5%
4	Directory of Open Access Journals	1	12.5%

Interpretation:

The most commonly utilized databases were JSTOR and ScienceDirect, each cited by 37.5% of respondents. Other databases such as EBSCO and the Directory of Open Access Journals were utilized to a lesser extent.

Challenges Associated with Database Adoption

Table 4: Challenges Associated with Database Adoption

S/N	Challenge Description	Frequency	Percentage (%)
1	Insufficient funding	4	80%
2	Deterioration of available technology	1	20%



Insufficient funding emerged as the most significant challenge (80%) impeding the adoption of databases. Deterioration of existing technological infrastructure was also noted by 20% of the respondents.

Challenges Associated with Database Utilization

Table 5: Challenges Associated with Database Utilization

S/N	Challenge Description	Frequency	Percentage (%)
1	High cost of technology	3	33.3%
2	Inadequate finance	3	33.3%
3	Unstable power supply	3	33.3%

Challenges affecting database utilization were equally distributed among three factors: high technology costs, inadequate finance, and unstable power supply, each cited by 33.3% of respondents.

Discussion

This study investigated the adoption and utilization of databases in academic libraries within Bauchi metropolis, focusing on the level of adoption, types of databases used, and challenges encountered. The findings reveal that database adoption among the studied libraries is generally moderate, aligning with observations by Uzohue and Yaya (2016) that many Nigerian academic libraries are still in transitional phases regarding ICT integration.

The moderate level of adoption suggests an awareness of the importance of databases, but also highlights existing limitations in achieving full integration. This finding resonates with Oketunji (2012), who pointed out that despite

growing investments in ICT, academic libraries often face infrastructural and operational barriers that hinder optimal technology use.

Regarding the types of databases utilized, JSTOR and ScienceDirect emerged as the most common resources. These findings are consistent with patterns in other studies (e.g., Aina, 2018) where international scholarly databases are often prioritised due to their relevance to academic research. However, the limited diversity of database usage, with few mentions of open-access repositories such as CORE or PLOS — suggests a missed opportunity for broader resource access, particularly in resource-constrained environments.

Funding emerged as the most significant challenge to both database adoption and utilization. This aligns with Ukoha's (2020) assertion that financial constraints severely limit technological innovation in Nigerian academic libraries. Unstable power supply and high technology costs were also identified as major



challenges, further complicating efforts to sustain database operations. These infrastructural issues reflect broader systemic problems affecting higher education institutions in Nigeria, as documented by Nwosu and Okoro (2021).

Interestingly, challenges such as nonchalant staff attitudes or technology phobia were not cited by respondents, suggesting that the major obstacles are structural rather than behavioral. This finding offers hope that with improved funding and infrastructural support, database adoption and utilization could increase significantly.

Overall, the study underscores the critical need for sustainable funding mechanisms, strategic planning, and infrastructural development to enhance database-driven services in academic libraries. Addressing these challenges is essential for improving access to information, supporting academic research, and ultimately strengthening higher education in Bauchi metropolis and beyond.

Conclusion

Based on the findings of this study, it can be concluded that database adoption in academic libraries within Bauchi metropolis remains at a moderate to low level. Although libraries are beginning to integrate databases such as JSTOR and ScienceDirect into their operations, the breadth and depth of usage remain limited. The major challenges impeding database adoption and utilization include insufficient funding, high costs associated with technology, and unstable power supply. These systemic barriers suggest that even where the willingness to adopt new technologies exists, infrastructural and financial limitations often undermine progress. Strengthening database adoption and utilization is essential for improving the quality of library services, enhancing access to scholarly resources, and supporting research and learning activities. Addressing the identified challenges will require coordinated efforts from institutional management, government agencies, and library professionals.

Recommendations

In light of the study's findings and conclusion, the following recommendations are proposed:

- 1. Increased Funding for Library Technology:**
Academic institutions should prioritize budgetary allocations for the acquisition, maintenance, and upgrading of database technologies and related infrastructure.
- 2. Expansion of Database Access:**
Management should invest in a wider range of database subscriptions, including open-access repositories, to diversify the information resources available to users.
- 3. Capacity Building for Library Staff:**
Regular training and professional development programs should be organized to enhance the technical skills of library personnel, ensuring effective database management and service delivery.
- 4. Improved Infrastructure Support:**
Efforts should be made to stabilize the power supply and enhance internet connectivity within academic libraries to support continuous access to databases.
- 5. Policy Development and Strategic Planning:**
Institutions should develop clear policies and strategic frameworks for database adoption and utilization, ensuring that technological integration aligns with the broader goals of the library and the parent institution.
- 6. Collaborative Initiatives:**
Libraries within Bauchi metropolis should consider collaborative strategies, such as resource sharing and consortium membership, to reduce individual costs and expand access to diverse database resources.



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