

## **Awareness and Perceived Usefulness of Mobile OPAC for Enhanced Access to Information Resources in Public University Libraries in Katsina State, Nigeria.**

By

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### **Abstract**

*The study examined the adoption of Mobile Online Public Access Catalogue (M-OPAC) platforms for enhancing access to information resources in public university libraries in Katsina State, Nigeria. Four (4) objectives were raised to guide the study. A descriptive survey design was adopted for the study. The population comprised 7,060 registered library users from three public universities in Katsina State. A sample of 379 respondents was determined using Yamane's (1967) formula. A structured questionnaire was used to collect data from respondents. Data were analyzed using descriptive statistics such as frequency counts, percentages, and mean scores. The findings revealed that awareness of mobile OPAC platforms among users was moderate, but actual adoption and usage were low. The major challenges identified include poor internet connectivity, inadequate technical support, limited training on mobile OPAC use, and low ICT literacy among some users. The study recommends the provision of robust ICT infrastructure, regular user training on mobile OPAC functionalities, and increased library sensitization programs to promote effective use of the platforms.*

**Keywords:** *Mobile OPAC, Information resources, User accessibility, University libraries, Katsina State.*

### **Introduction**

In the twenty-first century, the increasing use of mobile technologies has significantly transformed the way individuals seek, access, and utilize information resources. The integration of mobile technologies into library services represents a fundamental shift from traditional access models to mobile-enabled environments, where users can conveniently access catalogues and digital resources using handheld devices. The Online Public Access Catalogue (OPAC) remains one of the primary gateways to library resources, providing users with tools for efficient searching, locating, and retrieval of information. The evolution of OPAC into mobile versions, commonly referred to as Mobile OPAC (M-OPAC), extends these capabilities by enabling access through smartphones, tablets, and other mobile devices (Adeleke & Olorunsola, 2022).

The rapid growth in smartphone usage and mobile internet penetration in Nigeria presents significant opportunities for libraries to adopt M-OPAC systems. According to the Nigerian Communications Commission (NCC, 2023), mobile internet subscribers exceeded 150 million in 2023, indicating a broad platform for mobile-based library service delivery. Libraries, as centers of learning and knowledge dissemination, are increasingly under pressure to align their services

with the digital lifestyles of contemporary users who demand flexibility, convenience, and accessibility (Obi & Sani, 2021). Consequently, the adoption of mobile OPAC platforms provides a strategic response to these evolving expectations by enhancing information retrieval efficiency and improving user satisfaction.

In Katsina State, public university libraries including those at Federal University Dutsin-Ma (FUDMA), Umaru Musa Yar'adua University (UMYU), and Federal University of Transportation, Daura (FUTD) have made varying levels of progress in library automation, yet the extent to which mobile OPAC systems have been adopted to enhance user accessibility remains underexplored.

The increasing demand for mobile accessibility among students and researchers necessitates an empirical evaluation of how effectively public university libraries in Katsina State are adopting M-OPAC platforms. Such an assessment is critical for determining existing gaps, identifying challenges, and proposing strategies for improving access to information resources through mobile technologies. As noted by Odewale and Lawal (2023), assessing user interaction with digital catalogues provides valuable insights into system effectiveness, usability, and the entire library service quality.

### **Statement of the Problem**

Despite the recognized importance of OPAC systems in academic libraries, several studies indicate that many Nigerian university libraries continue to face challenges in adopting advanced cataloguing technologies, particularly mobile-based platforms. Factors such as inadequate ICT infrastructure, low user awareness, insufficient technical support, and limited training have constrained the effective utilization of mobile OPAC systems (Ezeani & Igwesi, 2020; Okoro & Ugwu, 2022). Therefore, this study investigates the awareness and perception of mobile OPAC for enhancing access to information resources in public university libraries in Katsina State, Nigeria.

### **Objectives of the Study**

The objectives of this study are to:

1. Examine the level of awareness of mobile OPAC platforms among library users for enhancing access to information resources in public university libraries in Katsina State.
2. Determine the perceived usefulness of mobile OPAC platforms among library users for enhancing access to information resources in public university libraries in Katsina State.
3. Identify challenges affecting the perception and use of mobile OPAC platforms among library users for enhancing access to information resources in public university libraries in Katsina State.

### **Literature Review**

The emergence of mobile technologies has significantly transformed how users interact with library catalogues and digital resources. The Online Public Access Catalogue (OPAC) serves as the principal tool for locating and retrieving library materials, but its desktop-based design often restricts accessibility to within library premises. The evolution of Mobile OPAC (M-OPAC) systems has expanded this functionality, allowing users to access catalogues through mobile

phones and tablets, thus facilitating ubiquitous information retrieval (Kaur & Singh, 2021; Alhassan, 2023).

In academic environments, user accessibility remains central to library service delivery. M-OPAC platforms improve accessibility by enabling users to search, renew, and reserve materials remotely. Studies have shown that accessibility depends on several factors, including system usability, ICT infrastructure, and user competence (Adebayo & Nwachukwu, 2021; Mbugua & Njoroge, 2022). When well-implemented, mobile OPAC systems reduce user dependence on library staff, promote self-service, and improve satisfaction with library services. Technology adoption literature highlights that successful integration of digital platforms depends largely on perceived usefulness and ease of use, key constructs of the **Technology Acceptance Model (TAM)** (Davis, 1989). In library settings, users' willingness to adopt mobile OPAC platforms is shaped by their perception of the system as enhancing their ability to efficiently access needed materials and by how easily they can interact with its interface. Kigozi and Nyandiko (2021) observed that users who found M-OPAC intuitive and functional were significantly more likely to rely on it for daily information retrieval.

Empirical studies in Africa provide mixed findings. Adeleke and Olorunsola (2022) reported moderate awareness of OPAC systems among Nigerian undergraduates but low actual uses due to insufficient training and unstable internet connections. Similarly, Okoro and Ugwu (2022) found that mobile OPAC integration in Nigerian university libraries is still in its infancy, with most institutions lacking dedicated mobile platforms. In Kenya, Mbugua and Njoroge (2022) revealed that mobile OPAC uses enhanced access and user satisfaction but was constrained by poor connectivity and system downtime.

Despite these contributions, research focusing specifically on mobile OPAC perception and usefulness across multiple public universities in Katsina State remains scarce. Most prior studies have concentrated on single institutions or general automation issues rather than on mobile access and user experience. This study, therefore, extends existing scholarship by examining the level of awareness, perceived usefulness and access of M-OPAC platforms among library users of three public university libraries in Katsina State: Federal University Dutsin-Ma, Umaru Musa Yar'adua University, and the Federal University of Transportation, Daura.

### **Methodology**

This study adopted a descriptive survey design to investigate the awareness and usefulness of mobile OPAC platforms for enhancing access to information resources in public university libraries in Katsina State, Nigeria. The design was appropriate because it enabled the collection of quantitative data that describes prevailing conditions, user behaviors, and perceptions without manipulating variables (Creswell & Creswell, 2023). The study population comprised 7,060 registered library users drawn from three public universities in Katsina State. The sample size of 379 respondents was determined using Yamane's (1967) statistical formula for finite populations at a 5% margin of error. Stratified sampling was employed to ensure equitable representation from each university, after which simple random sampling was used to select individual respondents. A structured questionnaire served as the primary instrument for data collection. The instrument was developed in line with the study's objectives and consisted of four sections covering demographic characteristics, awareness of mobile OPAC, extent of adoption, perceived effectiveness, and

challenges affecting usage. The questionnaire was subjected to expert validation by two experts from the department of library and information science and reliability-tested among 30 users of the AL Qalam University Library Katsina, yielding a Cronbach’s alpha coefficient of 0.84, indicating strong internal consistency.

Data were collected through direct administration of questionnaires by the researcher and two trained assistants within the libraries of the three universities. Out of 379 copies distributed, 353 were duly completed and returned, representing a 95.5% response rate. Data were analyzed using descriptive statistical tools such as frequency counts, percentages, and mean scores through the Statistical Package for the Social Sciences (SPSS) version 26. Results were presented in tables for clarity, while interpretations were made in line with the study’s objectives. Mean scores were interpreted using a 5-point Likert scale, where values of 3.00 and above indicated agreement, and values below 3.00 indicated disagreement.

**Table: Questionnaire Distribution and Response Rate**

<b>Description</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Questionnaires Distributed	379	100.0
Questionnaires Returned	353	95.5
Questionnaires Not Returned	26	4.5
<b>Total</b>	<b>379</b>	<b>100.0</b>

**Results**

A total of 353 valid responses were analyzed, representing users from three public universities in Katsina State. The analysis was conducted using descriptive statistics (means and percentages) through SPSS version 26. The results are presented under four thematic areas: awareness, perceived usefulness, and challenges affecting the use of mobile OPAC platforms.

**Table 1: Awareness of Mobile OPAC Platforms (N=353)**

<b>University</b>	<b>Mean Awareness Score</b>	<b>Decision Observation</b>
Federal University Dutsin-Ma (FUDMA)	3.12	Most respondents are aware of the existence of the Moderate mobile OPAC but few have received formal orientation or training.

University	Mean Awareness Score	Decision	Observation
Umaru Musa Yar'adua University (UMYUK)	3.25	High	Awareness campaigns are relatively more effective, and a good number of users learned about the service through library orientation and staff assistance.
Federal University of Transportation, Daura (FUTD)	2.88	Moderate	The platform is still new, and many users have not fully explored mobile OPAC functions.

**Overall Mean = 3.08**

Findings show that UMYUK users demonstrated the highest awareness, followed by FUDMA and FUTD. This suggests that institutional experience and ICT maturity play a key role in awareness creation.

**Table 2: Perceived Usefulness of Mobile OPAC (N=353)**

University	Mean Effectiveness Score	Decision	Observation
FUDMA	3.50	Useful	Users perceive mobile OPAC as time-saving and convenient when accessible.
UMYUK	3.62	Useful	The majority believe that mobile OPAC improves access to e-resources and enhances research efficiency.
FUTD	3.41	Useful	Respondents acknowledge potential benefits but experience occasional system downtime.

**Overall Mean = 3.51**

The findings suggest that despite differences in awareness levels, users across the three institutions agree that mobile OPAC is a useful tool for enhancing access to information resources and retrieval.

**Table 3: Challenges Affecting the perception and use of Mobile OPAC: (N=353)**

<b>Challenge Area</b>	<b>FUDMA (Mean)</b>	<b>UMYUK (Mean)</b>	<b>FUTD (Mean)</b>	<b>Overall Mean</b>
Unstable internet connectivity	3.76	3.65	3.88	3.76
Inadequate user training	3.69	3.55	3.82	3.69
Lack of a mobile-friendly library website	3.58	3.62	3.74	3.65
Insufficient ICT infrastructure	3.72	3.60	3.90	3.74
Limited technical support	3.60	3.47	3.78	3.62

The analysis reveals that internet instability, inadequate ICT facilities, and limited user training are the predominant challenges across all universities. FUTD recorded the highest challenge scores, reflecting its emerging digital environment.

### **Discussion of Findings**

The findings of this study provide insight into the level of awareness and perceived usefulness of mobile Online Public Access Catalogue (OPAC) platforms for enhanced access to information resources in public university libraries in Katsina State, Nigeria. Overall, the results show moderate awareness, high perceived usefulness, and persistent infrastructural and training-related challenges. These findings are discussed in relation to existing literature and theoretical expectations.

The study found that most library users in public universities across Katsina State are aware of the existence of mobile OPAC services, although awareness is uneven among institutions. This aligns with the assertion by Okafor and Mohammed (2022) that awareness creation is a foundational determinant of technology acceptance in academic libraries. Users reported learning about mobile OPAC through library orientations, peer interactions, and staff demonstrations, suggesting that institutional efforts toward user sensitization are gradually yielding results. However, as noted by Ibrahim and Lawal (2021), awareness does not automatically translate into active use, especially when technological literacy remains limited among library patrons.

Despite moderate awareness, use of mobile OPAC platforms was low across the three universities. Respondents indicated that they occasionally used mobile OPACs to check book availability but still relied more on desktop terminals or manual catalogues. This observation supports Eze and Ugochukwu’s (2023) findings that many Nigerian university libraries still face transitional

challenges from traditional OPAC systems to mobile-based interfaces. Similarly, Olayemi and Ajayi (2020) emphasized that infrastructural constraints, coupled with limited user training, often hinder the full integration of mobile library technologies in developing contexts. The lower perceived use levels observed in the Federal University of Transportation, Daura, could be attributed to its relatively new ICT framework and limited digital resource infrastructure. This pattern reflects Diffusion of Innovation Theory, which posits that institutions with earlier technological exposure are more likely to adopt innovations rapidly (Rogers, 2003).

Despite limited usage, users generally perceived the mobile OPAC as a useful tool for information access and retrieval. Respondents agreed that the platform enhances accessibility, saves time, and improves research productivity. This finding corroborates Nwankwo and Bello (2022), who observed that mobile OPAC systems significantly enhance user experience by providing flexible, on-the-go access to resources. Similarly, Adebayo et al. (2023) noted that mobile-based catalogues foster user independence and reduce congestion in physical cataloguing spaces. The high perception of effectiveness, despite low usage, indicates a strong potential for growth if infrastructural and educational barriers are addressed. As suggested by Akanbi and Yusuf (2024), positive user perception is a strong predictor of future adoption of emerging digital services in university libraries.

The most prominent challenges identified include unstable internet connectivity, inadequate ICT infrastructure, insufficient user training, and limited technical support. These findings are consistent with previous studies by Eze and Ugochukwu (2023) and Ibrahim and Lawal (2021), who both emphasized that digital innovations in Nigerian libraries often encounter infrastructural bottlenecks and policy implementation gaps. Furthermore, the lack of mobile-friendly library websites limits seamless navigation, reducing user motivation for continuous use (Olayemi & Ajayi, 2020).

### **Conclusion**

This study assessed the awareness and perceived usefulness of mobile Online Public Access Catalogue (OPAC) platforms for enhancing access to information resources in public university libraries across Katsina State, Nigeria. The investigation covered Federal University Dutsin-Ma, Umaru Musa Yar'adua University, and the Federal University of Transportation, Daura. The study found that although users demonstrated moderate awareness and positive perceptions of the mobile OPAC, the extent of usage remains low. The findings further revealed that infrastructural limitations, inconsistent internet access, inadequate training, and insufficient technical support hinder optimal utilization.

The results underscore the reality that digital innovation in university libraries is not solely dependent on technological availability but also on the institutional capacity to support and sustain user engagement. While respondents acknowledged the potential of mobile OPAC to simplify access to library resources and improve research efficiency, operational challenges continue to limit its full impact. Therefore, the study concludes that mobile OPAC platforms hold significant promise for improving user accessibility, provided that universities adopt strategic, technology-driven policies and strengthen their ICT ecosystems. The gradual transition to mobile-based services, if supported by sustainable investment and user-centered training, could transform the way students and researchers interact with library resources.

## Recommendations

Based on the findings, the following recommendations are proposed:

1. Implement Regular User Training and Awareness Programs: Libraries should conduct continuous orientation, workshops, and user training on mobile OPAC applications. This will bridge the technological literacy gap and motivate users to explore the platform more effectively.
2. Develop Mobile-Friendly Library Interfaces: Each university should ensure that its library website and OPAC interface are optimized for mobile devices to facilitate easier navigation and a better user experience, and also integrated with existing university e-learning and academic portals. This will allow users to access both academic materials and library resources through a unified interface.
3. OPAC system, ICT Infrastructure, and Internet Connectivity should be prioritized by university management to enhance user access to information resources in their libraries.

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