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**DIGITAL LIBRARIES AND THE MANAGEMENT OF PUBLIC UNIVERSITIES**  
**IN NORTH CENTRAL NIGERIA**

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**Abstract**

*This study explores the influence of digital libraries on the Management practices of public universities in North Central Nigeria, specifically focusing on Benue and Nasarawa States. Guided by two research questions and corresponding hypotheses, a descriptive survey design was employed. The target population included 4,623 academic staff across five public universities, which are federal university health Technology Otukpo, Joseph Sarwuan Tarka University, Makurdi, Benue State University, Makurdi, Federal University of Lafia, and Nasarawa State university, Keffi, from which a sample size of 462 (10% of the total population) was selected using a multi-stage sampling technique. Data collection was facilitated through a structured questionnaire titled Digital Libraries and the Management of Universities Questionnaire (DLMUQ). The analysis utilized descriptive statistics, including mean scores and standard deviations, to address the research questions, while chi-square tests were applied to evaluate the hypotheses at a significance level of 0.05. Findings revealed a significant positive impact of smartphones and digital libraries on the management efficiency within public universities in Benue and Nasarawa States of North Central, Nigeria. Based on these findings, it is recommends, that public university administrators in Benue and Nasarawa States in North Central Nigeia, should promote the acquisition and utilization of smartphones among staff and students to enhance operational functions and accessibility of digital library. Furthermore, it is crucial for administrators to ensure that adequate digital library resources are accessible to facilitate effective management practices within these universities.*

**Keywords:** Digital Libraries, management of public universities and North Central Nigeria

**Introduction**

Management plays a pivotal role in determining the success of organizations, including public universities, which serve as vital centers for knowledge creation and development. According to Yawe and Ivagher (2018), the survival of any organization is closely tied to the quality of its management and administrative services. To achieve their objectives and maintain high standards, public universities must implement effective management practices.

The concept of management encompasses the organization and mobilization of both human and material resources within a system to achieve defined objectives. In the context of public universities, management involves systematically arranging and

utilizing available resources to facilitate the transmission of skills, knowledge, vocation, and culture through efficient teaching, learning, research, and dissemination for societal advancement (Bua, 2020).

Public universities are government-owned institutions that provide higher education services aimed at producing skilled manpower for society. They act as powerful agents of change by cultivating a highly skilled workforce that contributes to socio-economic, political, cultural, and religious development (Akpan, 2016).

The advent of Information and Communication Technology (ICT) has significantly transformed educational landscapes by merging telecommunications

with multimedia technologies. This convergence has revolutionized school management practices (Hossain, 2015).

Digital libraries have emerged as a key component of this ICT revolution in Nigeria, enabling institutions to enhance their contributions to national development through improved university education. Digital libraries have revolutionized the way information is accessed and disseminated in public universities. According to Kuhlmann (2018), digital libraries provide 24/7 access to academic resources, facilitating research and learning. A study by Chowdhury (2018) found that digital libraries have improved access to information for students and faculty in public universities.

Digital libraries have also impacted the management of public universities. According to Andrews and Law (2018), digital libraries have enabled universities to provide more flexible and personalized learning experiences. A study by Kim (2018) found that digital libraries have improved the efficiency and effectiveness of university management.

Despite the benefits of digital libraries, there are also challenges and opportunities associated with their implementation and use. According to Lee (2019), digital libraries require significant investment in infrastructure and technology. A study by Chowdhury (2018) found that digital libraries also require changes in user behavior and expectations.

Digital libraries serve as central hubs for information access, assisting management and staff in decision-making processes related to research and teaching. The effective utilization of digital libraries allows students to connect with global information sources, thereby enriching their learning experiences in public universities. When properly integrated with traditional libraries, digital libraries can significantly improve information access and flow within these institutions.

Smartphones have also become essential tools in modern educational settings. These devices offer functionalities similar to computers including internet access while providing mobile communication

capabilities. They enable schJool managers, staff, and students to engage in various activities such as communication, information browsing, and email correspondence (Al Fawareh & Jusoh (2018)). Additionally, smartphones facilitate access to university digital libraries for all stakeholders.

Smartphones have transformed the way users access and interact with digital libraries. According to Kim (2018), smartphones provide ubiquitous access to digital libraries, enabling users to access information anywhere, anytime.

Smartphones have also enabled mobile learning, which has significant implications for public universities. According to Lee (2019), mobile learning enables students to access learning materials and participate in learning activities anywhere, anytime.

Smartphones have also impacted university management, enabling administrators to access and manage university resources and services remotely. According to Andrews and Law (2018), smartphones have enabled universities to provide more flexible and personalized services to students and faculty.

Despite the benefits of smartphones, there are also challenges and opportunities associated with their use in digital libraries and university management. According to Chowdhury (2018), smartphones require significant investment in infrastructure and technology, and also require changes in user behavior and expectations.

In recent years, libraries have undergone significant technological transformations during the electronic information era powered by ICT. This evolution has led to the establishment of digital libraries across Nigerian universities. Consequently, all universities in North Central Nigeria have embraced this trend by developing their own digital library systems.

This study aims to explore the impact of digital libraries on the management practices within public universities in North Central Nigeria.

Digital libraries have the potential to significantly enhance the management and operational efficiency of public universities in Nigeria. Their primary functions include collecting, storing, and organizing information in digital formats, promoting cost-effective information delivery to users, facilitating collaborative research efforts, and leveraging communication networks to strengthen collaboration among academic researchers. Furthermore, digital libraries play a crucial role in generating and disseminating knowledge necessary for effective university management.

Despite these advantages, there are notable challenges faced by the university community. Issues such as inadequate funding, lack of formal training for staff and students, slow internet connectivity, insufficient printing facilities, and a limited number of computers hinder the optimal utilization of digital library resources. Additionally, there is a concerning trend of underutilization of ICT tools, including smartphones and other digital library facilities.

The researcher has observed that many managers, staff members, and students continue to rely on traditional methods for conducting academic and administrative tasks. This reliance often leads to inefficiencies and delays in operations. For instance, university administrators frequently spend excessive time managing office tasks, resulting in errors that could be avoided with more efficient systems. Conversely, students appear to have limited access to technological resources such as digital libraries and smartphones that could enhance their educational experience and improve academic performance.

Particularly in Benue and Nasarawa States, of North Central Nigeria, it has been noted that several public universities fail to fully leverage digital library services. This lack of utilization adversely affects the quality of information accessibility, leading to subpar research outcomes and diminished academic performance among students. Consequently, this study aims to investigate the impact of digital libraries on the management practices within public universities in these regions.

The purpose of the study was to investigate impact of Digital libraries on the management of Public Universities in Benue and Nasarawa States, North Central, Nigeria. Specifically, the study sought to:

- i. examine the influence of smart phone on the accessibility and usability of digital libraries in public universities.
- ii. examine impact of utilization of digital libraries on management of Public Universities

### **Hypotheses**

The following hypotheses were formulated and tested at 0.05 level of significance.

- 1 There is no significant difference on the influence of smart phone on the accessibility and usability of digital libraries in public universities
- 2 There is no significant difference on the impact of utilization of digital libraries on Management of Public Universities.

### **Material and Method**

The study employed a descriptive survey research design, as defined by Emaikwu (2015), which involves the examination of a group of individuals or items through the collection and analysis of data from a representative sample. This research was conducted in Benue and Nasarawa States, Nigeria, both of which are situated in the North Central region of the country.

The target population for this study consisted of 4,623 academic staff members across five public universities—three located in Benue State and two in Nasarawa State. A sample size of 462 participants was selected, representing 10% of the total academic staff from these institutions. To ensure a comprehensive representation, a multi-stage sampling procedure was implemented.

Data collection was facilitated through a structured questionnaire developed by the researchers, titled "Digital Library and Management of Universities Questionnaire (DLMUQ)." This instrument underwent

validation by three experts from the Faculty of Education at Benue State University, Makurdi. Federal university of health technology otukpo and Federal university of Lafia. The reliability analysis yielded indices of 0.78 and 0.96 for clusters one and two, respectively, resulting in an overall reliability index of 0.87. This indicates that the questionnaire is both reliable and appropriate for use in this study.

A total of 462 questionnaires were distributed to the staff members across the five public universities,

achieving a full distribution rate (100%). The data collected were analyzed using descriptive statistics specifically mean scores and standard deviations—to address the research objectives. Additionally, chi-square tests were employed to evaluate the hypotheses at a significance level of 0.05.

### Results and Discussion

Objective 1: examine the influence of smart phone on the accessibility and usability of digital libraries in public university

**Table 1: Influence of smart phone on the accessibility and usability of digital libraries in public universities.**

| S/No         | Item Description                                                                                                                                           | N   | SA  | A   | D  | SD  | $\bar{X}$ | $\delta$ | Decision |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|----|-----|-----------|----------|----------|
| 1            | Smartphones provide ubiquitous access to digital libraries, enabling users to access information anywhere, anytime.                                        | 450 | 164 | 142 | 35 | 109 | 2.80      | 1.17     | Agree    |
| 2            | Smartphones offer a user-friendly interface for accessing digital libraries, with features such as touch screens and mobile apps                           | 450 | 195 | 106 | 71 | 78  | 2.93      | 1.13     | Agree    |
| 3            | Smartphones provide a personalized experience for digital library users, with features such as recommendations and social sharing.                         | 450 | 184 | 132 | 98 | 36  | 3.03      | 0.97     | Agree    |
| 4            | Smartphones influence the way users search, retrieve, and use information from digital libraries.                                                          | 450 | 165 | 129 | 81 | 75  | 2.85      | 1.09     | Agree    |
| 5            | Smartphones are used by university administrators to easily login and access vital information on the university digital library to plan and make policies | 450 | 156 | 132 | 59 | 103 | 2.76      | 1.16     | Agree    |
| Cluster Mean |                                                                                                                                                            |     |     |     |    |     | 2.87      |          | Agree    |

Source: Researcher's Field Work, 2024

Table 1 shows Mean score values of 2.80, 2.93, 3.03, 2.85, 2.76 and cluster of 2.87 while Standard

Deviation score values stood at 1.17, 1.13, 0.97, 1.09 and 1.16. The result indicated that item 1-5 individual

scores agreed that, Smartphones provide ubiquitous access to digital libraries, enabling users to access information anywhere, anytime. Smartphones offer a user-friendly interface for accessing digital libraries, with features such as touch screens and mobile apps, Smartphones provide a personalized experience for digital library users, with features such as recommendations and social sharing, Smartphones influence the way users search, retrieve, and use information from digital libraries. Smartphones are

used by university administrators to easily login and access vital information on the university digital library to plan and make policies.

The Mean score cluster value of 2.87 was above the Mean score value benchmark of 2.50. This shows the Influence of smart phone on the accessibility and usability of digital libraries on public universities.

Objective 2: What is impact of utilization of Digital Libraries on management of Public Universities?

**Table 2: impact of utilization of digital libraries on management of Public Universities.**

| S/No         | Item Description                                                                                                                         | N   | SA  | A   | D   | SD | $\bar{X}$ | $\delta$ | Decision |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|-----|----|-----------|----------|----------|
| 6            | Digital libraries reduce the need for physical storage space, resulting in cost savings.                                                 | 450 | 186 | 111 | 82  | 71 | 2.92      | 1.11     | Agree    |
| 7            | Utilization of digital libraries helps university administrators to surf for information for decision making.                            | 450 | 190 | 80  | 82  | 98 | 2.80      | 1.20     | Agree    |
| 8            | Digital libraries facilitate research collaboration among students, faculty, and researchers from different institutions                 | 450 | 187 | 92  | 100 | 71 | 2.88      | 1.12     | Agree    |
| 9            | Digital libraries provide personalized learning experiences through tailored recommendations and adaptive learning technologies.         | 450 | 221 | 74  | 69  | 86 | 2.96      | 1.19     | Agree    |
| 10           | Utilization of digital libraries saves managers' time in accessing information to be more effective in management task of the university | 450 | 206 | 108 | 69  | 67 | 3.01      | 1.10     | Agree    |
| Cluster Mean |                                                                                                                                          |     |     |     |     |    | 2.91      |          | Agree    |

Source: Researcher's Field Work, 2024

Table 2 shows Mean score values of 2.92, 2.80, 2.88, 2.96 and cluster of 3.01 while Standard Deviation score values stood at 1.11, 1.20, 1.12, 1.19 and 1.10. The

result indicated that item 6-10 individual scores agreed that utilization of Digital libraries reduce the need for physical storage space, resulting in cost savings,

utilization of Utilization of digital libraries helps university administrators to surf for information for decision making, utilization of Digital libraries facilitate research collaboration among students, faculty, and researchers from different institutions, utilization of Digital libraries provide personalized learning experiences through tailored recommendations and adaptive learning technologies, and utilization of digital libraries saves managers' time in accessing information to be more effective in management task of

public universities. The Mean score cluster value of 2.91 was above the Mean score value benchmark of 2.50. This shows the impact of utilization of digital libraries on management of Public Universities.

Hypothesis 1: There is no significant difference on the influence of smart phone on the accessibility and usability of digital libraries in public university.

**Table 3: Chi-square Analysis Summary of influence of smart phone on the accessibility and usability of digital libraries in public university**

| Responses | Fo  | Fe    | P     | Df | x <sup>2</sup> Cal. | Decision |
|-----------|-----|-------|-------|----|---------------------|----------|
| SA        | 173 | 112.5 | 0.000 | 3  | 84.809 <sup>a</sup> | Sign.    |
| A         | 128 | 112.5 |       |    |                     |          |
| D         | 69  | 112.5 |       |    |                     |          |
| SD        | 80  | 112.5 |       |    |                     |          |
| Total     | 450 |       |       |    |                     |          |

Source: Researcher's Field Work 2024

Table 3 showed Chi-square calculated value of 84.809<sup>a</sup> at 3 degree of freedom; P=0.000 is less than 0.05. With this result, the null hypothesis which states that there is no significant influence of smart phone on the accessibility and usability of digital libraries in public university was rejected. This can be interpreted to mean that there is significant positive influence of smart

phone on the accessibility and usability of digital libraries in public university in north central Nigeria.

Hypothesis 2: There is no significant impact of utilization of Digital Libraries on management of Public Universities?

**Table 4 Chi-square Analysis Summary of Impact of utilization of Digital Libraries on Management of Public Universities**

| Responses | Fo  | Fe    | P     | Df | x <sup>2</sup> Cal. | Decision |
|-----------|-----|-------|-------|----|---------------------|----------|
| SA        | 198 | 112.5 | 0.000 | 3  | 71.618 <sup>a</sup> | Sign.    |
| A         | 93  | 112.5 |       |    |                     |          |
| D         | 80  | 112.5 |       |    |                     |          |
| SD        | 79  | 112.5 |       |    |                     |          |
| Total     | 450 |       |       |    |                     |          |

Source: Researcher's Field Work 2024

Table 4 showed Chi-square calculated value of 71.618<sup>a</sup> at 3 degree of freedom; P=0.000 is less than 0.05. With this result, the null hypothesis which states that there is no significant impact of utilization of digital libraries on management of Public Universities was rejected. This can be interpreted to mean that there is significant

positive impact of the utilization of digital libraries on management of Public Universities.

### Discussion of Findings

Influence of smart phone on the accessibility and usability of digital libraries in public universities



The first significant finding of this study indicates a notable positive impact of smartphone utilization on the management of public universities. This conclusion aligns with the research conducted by Al Fawareh and Jusoh (2018), which revealed that smartphones have effectively supplanted traditional computers in many educational settings. Notably, the result indicated that, Smartphones provide ubiquitous access to digital libraries, enabling users to access information anywhere, anytime. Smartphones offer a user-friendly interface for accessing digital libraries, with features such as touch screens and mobile apps, Smartphones provide a personalized experience for digital library users, with features such as recommendations and social sharing, Smartphones influence the way users search, retrieve, and use information from digital libraries. Smartphones are used by university administrators to easily login and access vital information on the university digital library to plan and make policies in North Central Nigeria.

Impact of utilization of Digital Libraries on Management of Public Universities. The second finding highlights a significant impact of digital library utilization on the management of public universities. This observation corroborates the findings of Ali (2020), which emphasize that digital libraries are extensively employed within higher education institutions. The usefulness of digital library has been shown to greatly enhance students' academic performance and support their research endeavors, thereby contributing positively to their overall educational experience. Utilization of Digital libraries reduce the need for physical storage space, resulting in cost savings, utilization of Utilization of digital libraries helps university administrators to surf for information for decision making, utilization of Digital libraries facilitate research collaboration among students, faculty, and researchers from different institutions, utilization of Digital libraries provide personalized learning experiences through tailored recommendations and adaptive learning technologies, and utilization of

digital libraries saves managers' time in accessing information to be more effective in management task of public universities in north central Nigeria.

In conclusion, both findings underscore the transformative role that digital libraries play in enhancing the management and operational efficiency of public universities.

### **Conclusion**

The findings of the study indicate that digital libraries have a significant positive impact on the Management of public universities in Benue and Nasarawa States, of North Central, Nigeria. The results specifically reveal a positive relationship between the utilization of smartphones and other digital library resources, which plays a crucial role in enhancing the management processes within these institutions.

### **Recommendations**

Based on the study's findings, the following recommendations are proposed:

1. Encouragement for Smartphone Acquisition: Public university administrators, along with staff and students in Benue and Nasarawa States, of North central Nigeria should be encouraged to acquire and utilize smartphones. This technology can facilitate various administrative functions and improve overall management efficiency. To support this initiative, university management may consider purchasing institutional smartphones, while staff and students are encouraged to obtain personal smartphones that can serve both personal and academic purposes.
2. Enhancing Digital Library Resources: It is imperative for public university administrators to ensure that adequate digital library resources are readily available. This will not only promote effective usage but also enhance presentations and overall management capabilities within public universities in Benue and Nasarawa States of north Central Nigeria.

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