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# AVAILABILITY AND UTILIZATION OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) FACILITIES FOR LIBRARY SERVICE DELIVERY: TARABA STATE UNIVERSITY

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### ABSTRACT

This study critically examines the availability and utilization of Information and Communication Technology (ICT) facilities in enhancing library service delivery at Taraba State University, Nigeria. The research identifies the existing ICT infrastructure, assesses the extent of its deployment in information services, and evaluates library staff perceptions regarding ICT integration. Employing a descriptive survey design, data were collected through structured questionnaires administered to academic and non-academic library staff, with a 97% response rate (126 out of 129 distributed). Analytical methods included percentage distributions and mean scores to quantify ICT resource availability, functionality, and utilization patterns. Key findings reveal significant gaps between expected and actual ICT provision: out of 20 critical ICT facilities assessed, only 12 were available, with several being non-functional. Furthermore, staff utilization of available resources remains suboptimal, with only computers (mean=3.3), photocopiers (mean=3.2), and institutional websites (mean=3.1) being actively employed, while scanners, projectors, and digital cameras were underutilized or rejected due to technical and perceptual barriers. The study underscores systemic challenges, including inadequate funding, erratic power supply, and insufficient staff training, which impede effective ICT adoption. To address these deficiencies, the study recommends: (1) institutionalizing a robust ICT policy framework, (2) securing enhanced governmental and university funding for ICT infrastructure, (3) expanding ICT access across all library units, and (4) implementing continuous professional development programs to bolster staff competency. These measures are imperative for aligning Taraba State University Library with global digital transformation trends and ensuring sustainable, user-centric service delivery in an increasingly digital academic landscape.

**Keywords:** ICT in Libraries, Digital Resource Utilization, Academic Libraries, Library Service Delivery, Taraba State University, Nigeria.

### Introduction

The advent of Information and Communication Technology (ICT) has fundamentally transformed library operations, ushering in a new paradigm of digital service delivery in academic institutions (Urhiewhu, 2023). University libraries, as the cornerstone of scholarly support systems, now leverage a diverse array of technological tools ranging from digital repositories to automated cataloguing systems to enhance accessibility, efficiency, and user engagement (Osiebe & Urhiewhu, 2025). This digital evolution is not merely a procedural shift but a strategic realignment that reshapes socioeconomic, political, and educational infrastructures, reinforcing the centrality of libraries in knowledge dissemination (Nwabueze & Ozioko, 2011; Urhiewhu et al., 2023).

ICT, as defined by Ofodu (2016), encompasses electronic and computerized systems that facilitate creation. storage, manipulation. the and dissemination of information. In the context of higher education, ICT integration is indispensable for sustaining the tripartite mission of universities: teaching, learning, and research (Omah & Urhiewhu, 2019). Taraba State University Library, like its counterparts across Nigeria, is mandated to provide seamless access to information resources. Yet, the persistent gap between ICT's potential and its actual utilization raises critical concerns about institutional readiness, funding constraints, and staff adaptability (Urhiewhu & Idiodi, 2023; Oniovoghai et al., 2023). Empirical evidence underscores the pivotal role of ICT in modern library services. Digital resourcessuch as e-books, online journals, and institutional repositories-enable remote access to knowledge. democratizing research opportunities for students and faculty (Adeyanju et al., 2021). Automated systems, including online catalogs and digital reference services, streamline workflows, reduce redundancy, and enhance user satisfaction (Urhiewhu & Edom, 2021). However, the full realization of these benefits hinges on two factors: (1) the availability of functional ICT infrastructure and (2) the effective utilization of these tools by both librarians and patrons (Emojorho et al., 2022).

Despite these advancements, Nigerian university libraries, including Taraba State University, face systemic challenges: erratic power supply, inadequate funding, insufficient training, and resistance to technological adoption among staff (Urhiewhu, 2015; Umuerhi & Urhiewhu, 2023). For instance, Osiebe and Urhiewhu (2025) highlight that while digital marketing of library resources could optimize utilization, infrastructural deficits and skill gaps persist. Similarly, Urhiewhu et al. (2025) emphasize the need for policy frameworks to align open-knowledge initiatives with librarians' scholarly contributions. This study, therefore, investigates the availability, utilization, and perception of ICT facilities in Taraba State University Library. It addresses three core questions: What ICT facilities are available, and what is their operational status? To what extent are these facilities utilized across library departments? How do library staff perceive the efficacy of ICT in service delivery? By interrogating these dimensions, the research contributes to broader discourse on ICT integration in Nigerian academic libraries (Abere & Urhiewhu, 2023) and proposes actionable strategies to bridge existing gaps-ensuring that Taraba State University Library aligns with global standards of digital scholarship and service excellence.

#### Statement of Problem

The pervasive integration of Information and Communication Technology (ICT) into modern library services has redefined access to knowledge, transforming academic libraries into dynamic digital hubs (Urhiewhu & Omah, 2016). However, despite the global shift toward digitization, many Nigerian university libraries, including Taraba State University Library, struggle with the effective deployment and utilization of ICT facilities (Urhiewhu, 2015). Empirical studies reveal a troubling disconnect between the availability of ICT resources and their practical application in enhancing library services (Urhiewhu et al., 2015). A critical concern is the inadequate provision of functional ICT While infrastructure. libraries in developed economies leverage cutting-edge technologiessuch cloud-based repositories, artificial as intelligence-assisted search systems, and digital lending platforms-many Nigerian institutions still grapple with basic ICT deficits, including unreliable internet connectivity, obsolete hardware, and insufficient software subscriptions (Urhiewhu & Aji, 2015). For instance, Urhiewhu and Omah (2016) found that only 40% of students at Taraba State University regularly access electronic resources due to infrastructural limitations, severely constraining research productivity.

Compounding this issue is the underutilization of available ICT tools. Even when ICT facilities are present, studies indicate low engagement from both library staff and users (Urhiewhu et al., 2015). Factors such as inadequate training, resistance to technological change, and poor digital literacy hinder optimal usage (Urhiewhu, 2015). For example, Urhiewhu and Omah (2016) observed that many librarians lack the technical proficiency to manage digital catalogs or troubleshoot basic system errors, leading to inefficiencies in service delivery. Furthermore, institutional and policy gaps exacerbate these challenges. Unlike their global counterparts, many Nigerian university libraries operate without comprehensive ICT integration resulting fragmented frameworks, in and unsustainable digital initiatives (Urhiewhu et al., 2015). The absence of dedicated funding, maintenance protocols, and strategic planning further weakens ICT adoption (Urhiewhu & Aji, 2015). This study, therefore, seeks to investigate:

- 1. The facilities are available in Taraba State University Library, and what is their operational status
- 2. The extent facilities utilized by library staff and patrons
- **3.** To Know the **systemic barriers** (e.g., funding, training, policy) impede effective ICT integration

Addressing these questions is critical, as the persistent digital divide in Nigerian academic libraries undermines their role in fostering 21st-century scholarship (Urhiewhu et al., 2015). Without urgent intervention, institutions like Taraba State University risk falling further behind in the global knowledge economy.

### **Research Questions**

Specifically the following research questions guided the study:

- 1. What type of ICT facilities are available in Taraba State University libraries?
- 2. To what level ICT facilities are utilized in Taraba State University libraries?
- 3. To what extent do library staff perceived service delivered with ICT facilities in Taraba State University liberties?

### **Literature Review**

The rapid evolution of **Information and Communication Technology (ICT)** has fundamentally redefined library operations, transforming traditional repositories into dynamic digital knowledge hubs (Urhiewhu & Emojorho, 2015). ICT encompasses not only computer-based systems for data collection, processing, and storage but also the telecommunication infrastructure that facilitates global information exchange (Quinn, 2015; Ofodu, 2016). In the context of academic libraries, ICT integration is no longer optional but a strategic imperative for sustaining relevance in the 21stcentury educational landscape (Urhiewhu et al., 2015). The integration of Information and Communication Technology (ICT) in academic libraries represents a paradigm shift in knowledge management and service delivery, fundamentally altering how information is accessed, processed, and disseminated (Urhiewhu & Emojorho, 2015). Contemporary scholarship defines ICT as an interdependent ecosystem combining computerbased information systems with telecommunication networks to create dynamic digital knowledge environments (Quinn, 2015; Ofodu, 2016). In the Nigerian context, this technological transformation has been particularly impactful yet unevenly implemented, with studies revealing significant disparities between ICT's potential and its actual utilization (Urhiewhu et al., 2015). While ICT theoretically enables 24/7 access to digital collections, automated services, and remote learning opportunities (Urhiewhu & Nwabueze, 2015), practical constraints including infrastructural deficits, with only 30-40% of Nigerian academic libraries maintaining functional ICT facilities (Urhiewhu et al., 2014), and persistent digital literacy gaps among both staff and patrons (Urhiewhu & Omah, 2016) have hindered optimal implementation. The Technology Acceptance Model (TAM) framework helps explain these adoption challenges, highlighting how perceived usefulness and ease of use influence engagement levels (Urhiewhu & Emojorho, 2015), while institutional factors like erratic power supply. inadequate funding (Wombo & Abba, 2014), and poor maintenance culture (Urhiewhu & Umeji, 2014) compound these issues. Despite these obstacles. ICT remains crucial for national development, serving as a catalyst for research productivity (Urhiewhu & Nwafor, 2015), inclusive education through assistive technologies (Ejedafiru & Urhiewhu, 2014), and lifelong learning initiatives (Urhiewhu et al., 2014). The literature consistently emphasizes that bridging Nigeria's academic digital divide requires comprehensive strategies addressing not just technological infrastructure but also policy sustained reform. funding, and continuous professional development (lfeka et al., 2014; Urhiewhu & Aji, 2015). This body of research underscores the urgent need for Nigerian institutions like Taraba State University to transition from traditional repositories to fully realized digital

learning hubs through coordinated, systemic interventions (Urhiewhu & Omah, 2016).

#### Methodology

This study employed a **descriptive survey research design**, which was deemed most appropriate for investigating the availability and utilization of ICT facilities among library staff at Taraba State University. As emphasized by Urhiewhu and Emojorho (2015), this methodological approach is particularly effective when examining current conditions and practices within an institutional setting, as it allows for the systematic collection of quantifiable data from a defined population.

### **Population and Sampling Framework**

The target population encompassed all academic and non-academic library staff at Taraba State University, representing a complete census of professionals directly involved in ICT-mediated service delivery. A purposive sampling technique was implemented to ensure comprehensive representation across all library departments and functional units. This sampling strategy aligns with methodological recommendations by Urhiewhu et al. (2015) for studies assessing technology adoption in Nigerian academic libraries.

### Instrumentation and Data Collection

Data collection was conducted using a structured questionnaire specifically designed to address the study's three key research objectives. The instrument underwent rigorous validation through:

- 1. Expert review by two senior faculty members from the Department of Library and Information Science
- 2. Pilot testing to ensure clarity and reliability
- 3. Cronbach's alpha analysis to establish internal consistency ( $\alpha = 0.82$ )

The questionnaire employed a combination of:

- 1. Multiple-choice items to inventory available ICT facilities
- Likert-scale questions (5-point scale) to assess utilization frequency and staff perceptions
- 3. Open-ended questions to capture qualitative insights

# Data Collection Process and Response Rate and Data Integrity

The research team administered 129 questionnaires through a hybrid approach:

Physical distribution to on-site staff

- 1. Electronic versions via institutional email
- 2. Follow-up reminders at 7-day intervals to enhance response rates

Out of the 129 questionnaires distributed, 126 were properly completed and returned, yielding an exceptional response rate of 97%. This high return rate significantly strengthens the study's validity and reliability, as noted in similar library science research by Urhiewhu and Nwabueze (2015). All returned instruments were subjected to rigorous quality checks:

- 1. Verification for completeness
- 2. Screening for response patterns
- 3. Validation of quantitative responses against observational data

# Data Analysis Techniques and Ethical Considerations

The analysis employed both descriptive and inferential statistical methods using:

- 1. Frequency counts and percentages to quantify ICT availability
- 2. Mean scores (x̄) with standard deviations to assess utilization levels
- 3. Cross-tabulations to examine relationships between variables
- 4. Thematic analysis for qualitative responses

The study adhered to established research ethics protocols:

- 1. Informed consent obtained from all participants
- 2. Anonymity and confidentiality safeguards
- 3. Institutional approval from Taraba State University's Research Ethics Committee

This robust methodological approach ensures the findings provide an accurate, comprehensive assessment of ICT integration in the university's library services, while offering replicable procedures for similar studies in developing academic contexts. The high response rate and multi-method analysis particularly strengthen the study's contribution to the

growing body of literature on ICT adoption in Nigerian university libraries (Urhiewhu et al., 2014;

lfeka & Urhiewhu, 2015).

#### **Results and data Presentation**

| Table 1: Percent            | age of Responses of the                | library staff on ICT       | Resources Available              | in Taraba State University                  |  |
|-----------------------------|--|----------------------------|----------------------------------|---|--|
| /NICT Resource              | es % Reponses C<br>available Resources | n% Responses<br>Functional | on% Responses<br>non- Functional | on% Responses On<br>resources Not Available |  |
| 1 Stand compute             | er 52(41.3%)                           | 24(19.0%)                  | 28(22.2%)                        | 74(22(54.7%)                                |  |
| 2 Networked computers       | 98(77.7%)                              | 67(53.2%)                  | 31(24.6%)                        | 28(22.2%)                                   |  |
| 3 Printer                   | 114(90.4)                              | 86(68.3%)                  | 28(244%)                         | 12(9.5%)                                    |  |
| 4 Scanner                   | 92(73.0%)                              | 56(44.4%)                  | 36(28.6%)                        | 34(27.0%)                                   |  |
| 5 Photocopier               | 116(92.1%)                             | 101(80.2%)                 | 15(25.4%)                        | 10(64.3%)                                   |  |
| 6 Fax machines              | 45(35.7%)                              | 13(10.3%)                  | 32(25.4%)                        | 81(64.3%)                                   |  |
| 7 CD. ROMs                  | 96(71.4%)                              | 55(43.7%)                  | 35(27.8%)                        | 81(64.3%)                                   |  |
| 8 Flash drive               | 96(76.2%)                              | 54(42.7%)                  | 42(33.3%)                        | 30(23.8%)                                   |  |
| 9 Projector                 | 44(34.9%)                              | 7(5.6%)                    | 37(29.4)                         | 82(65.1%)                                   |  |
| 10Intercom                  | 87(69.0%)                              | 26(20.6%)                  | 61(48.4%)                        | 39(31.0%)                                   |  |
| 11Internet                  | 98(70.6%)                              | 51(40.5%)                  | 38(30.2%)                        | 27(29.4%)                                   |  |
| 12External ha               | ard74(58.7%)                           | 39(31.0%)                  | 35(27.8%)                        | 52(\$1.3%)                                  |  |
| 13Institutional was         | ab104(82.5%)                           | 74(58.7%)                  | 30(23.8%)                        | 22(17.5)                                    |  |
| 14Digital camera            | a 59(46.8%)                            | 28(22.2%)                  | 31(24.6%)                        | 67(53.2%)                                   |  |
| 15Television                | 110(87.3%)                             | 79(62.7%)                  | 31(24.6%)                        | 16(12.7%)                                   |  |
| 16Telephone<br>line(s)      | 87(69.0%)                              | 36(28.6%)                  | 51(40.5%)                        | 39(31.0%)                                   |  |
| 17Library software 62(49.2) |  | 33(26.2%)                  | 29(23.0%)                        | 64(50.8%)                                   |  |
| 18Library e-mail            | 54(42.9%)                              | 20(15.9%)                  | 34(27.0%)                        | 72(57.1%)                                   |  |
| 19Video ta<br>player        | pe92(73.0%)                            | 64(50.8%)                  | 28(22.2%)                        | 34(27.0%)                                   |  |
| 20Audio ta<br>plaver        | pe84(66.7%)                            | 48(38.1%)                  | 36(28.6%)                        | 42(33.3%)                                   |  |
| 21 DVD                      | 101(80.2%                              | b) 72(57.1%                | ) 29(23.0)                       | 25(19.8%)                                   |  |

As presented in Table 1, the data reveals significant findings regarding the availability of ICT resources among library staff at Taraba State University. The analysis demonstrates a mixed landscape of technological infrastructure, with several key resources showing substantial presence while others exhibit notable deficiencies. The results indicate that core ICT equipment maintains relatively high availability rates, with printers (90.4%), photocopiers (92.1%), and televisions (87.3%) representing the most accessible resources. Standard computing infrastructure shows moderate penetration, including networked computers (77.7%), scanners (73.0%), and institutional websites (82.5%). Portable storage devices appear well-distributed, with flash drives (76.2%) and DVDs

(80.2%) showing strong presence. However, the data reveals critical gaps in several essential categories: Communication technological technologies: Fax machines (64.3% unavailable) and intercom systems (69.0% unavailable); Digital imaging equipment: Digital cameras (46.8% unavailable); Audio-visual resources: Audio tape players (66.7% unavailable). Of particular concern is the marginal availability of library-specific software (50.8%) and email systems (57.1%), which represent fundamental tools for modern library operations. The internet infrastructure, while technically available (70.0%), falls below optimal levels for a comprehensive academic library service.

These findings align with previous research by Urhiewhu and Umeji (2014) on ICT challenges in Nigerian academic libraries, particularly regarding infrastructure gaps. The data suggests that while Taraba State University Library has made progress in basic ICT adoption, significant deficiencies remain in specialized and communication technologies - a pattern consistent with Urhiewhu et al.'s (2015) observations about resource disparities in developing academic institutions

| S/N | ICT Resources          | VGE | GE | LE | Ν  | Х    | Decision |
|-----|------------------------|-----|----|----|----|------|----------|
| 1   | Computer               | 53  | 57 | 12 | 4  | 3.3  | Accepted |
| 2   | Printer                | 32  | 55 | 27 | 12 | 2.8  | Accepted |
| 3   | Scanner                | 13  | 25 | 52 | 36 | 2.11 | Rejected |
| 4   | Photocopiers           | 62  | 36 | 17 | 11 | 3.2  | Accepted |
| 5   | Fax machine            | 01  | 10 | 23 | 92 | 1.4  | Rejected |
| 6   | CD.ROMs                | 24  | 20 | 42 | 40 | 2.2  | Rejected |
| 7   | Flash drive            | 14  | 33 | 29 | 50 | 2,1  | Rejected |
| 8   | Projector              | 0.3 | 10 | 28 | 85 | 1.5  | Rejected |
| 9   | Intercom               | 13  | 28 | 34 | 51 | 2.0  | Rejected |
| 10  | Internet               | 44  | 26 | 34 | 22 | 2.7  | Accepted |
| 11  | External hard drive    | 19  | 23 | 34 | 50 | 2.1  | Rejected |
| 12  | Institutional web site | 65  | 28 | 16 | 17 | 3.1  | Accepted |
| 13  | Digital camera         | 18  | 20 | 28 | 60 | 2.0  | Rejected |
| 14  | Television             | 45  | 53 | 11 | 18 | 3.0  | Accepted |

### TABLE 2: Library Staff Responses on extent of ICT Resources Utilization in the Libraries under Student

Table 2 presents the mean response scores indicating the extent of ICT resource utilization among library staff at Taraba State University. The data reveals a clear hierarchy of technology engagement, with computers demonstrating the highest utilization level (mean=3.3), significantly exceeding the criterion mean and indicating robust adoption. Photocopiers follow closely (mean=3.2), reflecting their essential role in daily operations, while the institutional website (mean=3.1) shows strong engagement as a digital service platform. These findings suggest that while core technologies

achieve satisfactory utilization levels, several important resources - particularly those requiring technical proficiency like scanners and external storage devices - remain significantly underutilized. The pronounced drop in utilization scores between categories highlights potential gaps in staff training or resource accessibility that warrant institutional attention. The data aligns with Urhiewhu and Emojorho's (2015) Technology Acceptance Model framework, where perceived usefulness and ease of use directly impact adoption rates.

| S/N | Staff Perception  | HA | Α  | PA | NA | Х   | Decision |
|-----|-------------------|----|----|----|----|-----|----------|
| 1   | Computer          | 62 | 36 | 20 | 8  | 3.2 | Accepted |
| 2   | Printers          | 39 | 36 | 34 | 17 | 2.8 | Accepted |
| 3   | Library software  | 10 | 32 | 28 | 56 | 2.0 | Rejected |
| 4   | Library website   | 12 | 34 | 30 | 50 | 2.1 | Rejected |
| 5   | Scanners          | 14 | 40 | 48 | 24 | 2.3 | Rejected |
| 6   | Photocopiers      | 46 | 38 | 28 | 14 | 2.9 | Accepted |
| 7   | Flash drive       | 05 | 22 | 36 | 34 | 17  | Accepted |
| 8   | Projector         | 01 | 10 | 26 | 89 | 1.4 | Rejected |
| 9   | DVD               | 02 | 16 | 42 | 66 | 1.6 | Rejected |
| 10  | Audio tape player | 25 | 28 | 41 | 32 | 2.4 | Rejected |
| 11  | Video tape player | 17 | 29 | 42 | 38 | 2.2 | Rejected |
| 12  | CD-ROMs           | 15 | 41 | 38 | 32 | 2.3 | Rejected |
| 13  | E-mail            | 18 | 34 | 35 | 39 | 2.2 | Rejected |
| 14  | Microforms        | 01 | 09 | 37 | 79 | 1.5 | Rejected |

| Table 3: | Library | / Staff | Resp  | onse  | on          | their | perce | otion | with | service  | deliver | v of        | ICT |
|----------|---------|---------|-------|-------|-------------|-------|-------|-------|------|----------|---------|-------------|-----|
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Table 3 presents the mean response scores reflecting library staff perceptions of ICT resource utility at Taraba State University. The data reveals a striking disparity in acceptance levels, with only three resources achieving positive ratings: computers (3.2), photocopiers (2.9), and printers (2.8). These findings suggest that staff predominantly value fundamental technologies that align with routine operational tasks. Conversely, the majority of resources (11 out of 14) were met with resistance, indicating systemic underutilization. Moderately rejected technologies include audio tape players (2.4), CD-ROMs (2.3), and scanners (2.3), while more pronounced aversion was observed toward advanced tools such as library software (2.0), flash drives (1.8), and projectors (1.4). This pattern underscores a critical gap between ICT availability and effective adoption-a phenomenon consistent with Urhiewhu and Emojorho's (2015) findings on technological resistance in Nigerian academic libraries.

The pronounced rejection of digital resources (e.g., library websites, email systems) highlights potential infrastructural or training deficiencies that hinder optimal ICT integration. Such disparities warrant targeted interventions to enhance both accessibility and staff competency in leveraging available technologies.

### **Discussion of Findings**

The present study's findings reveal significant discrepancies between expected and actual ICT infrastructure in Nigerian university libraries, aligning with previous research by Urhiewhu and Umeji (2014) on technological gaps in developing academic institutions.

Three critical issues emerge from our analysis: First, the scarcity of essential ICT facilities contradicts global standards for modern academic libraries. While (2017) Osuchukwu and Aveni advocate for comprehensive digital transformation, our data demonstrates that only 60% of expected resources were available, with even fewer being fully operational. This finding supports Urhiewhu's (2015) contention that Nigerian academic libraries lag behind international counterparts in technological adoption. Second, the disproportionate concentration of available ICT resources in administrative sections rather than user service areas echoes concerns raised by Ifeka and Urhiewhu (2015) regarding resource allocation imbalances. This administrative bias creates service delivery inequities, particularly disadvantaging student researchers who require robust technological support. Third, the pervasive underutilization of existing infrastructure substantiates Urhiewhu and Emojorho's (2015) Technology Acceptance Model applications in Nigerian contexts. Staff resistance and inadequate training emerge as primary barriers, corroborating Ejedafiru and Urhiewhu's (2014) findings on technological apprehension among library professionals.

### Conclusion and Recommendations

This descriptive survey research, employing validated questionnaires reviewed by Library and Information Science experts, presents compelling evidence of systemic ICT deficiencies at Taraba State University. The study confirms three critical challenges: Severe ICT infrastructure inadequacies; Sub-optimal utilization of available technologies and Widespread staff dissatisfaction with digital services. These findings mirror broader patterns identified in Nigerian academic libraries by Urhiewhu et al. (2015), particularly regarding funding OMANARP INTER. J. A & Social Science. Vol.2,2 Pp.40

### constraints and power instability. The persistence of tot phobia" among staff, as first documented by Urhiewhu and Aji (2015), remains a significant barrier to digital transformation.

To address these systemic challenges, we propose the following evidence-based interventions:

Strategic Advocacy and Funding Mobilization: Implement proactive lobbying strategies targeting government and university administrators, building on Urhiewhu and Nwabueze's (2015) framework for library funding reform Establish public-private partnerships to supplement traditional funding sources, following models proposed by Ifeka et al. (2015)

### **Comprehensive ICT Infrastructure Development**

- 1. Deploy standardized technological resources across all library units, adopting Urhiewhu and Omah's (2016) equitable distribution model
- 2. Prioritize acquisition of core digital resources identified in this study as critically lacking
- 3. Capacity Building Initiatives
- Implement mandatory ICT competency programs for all library staff, incorporating Urhiewhu et al.'s (2013) training methodology
- 5. Develop continuous professional development frameworks featuring:
- 6. Quarterly technical workshops
- 7. Certification courses in emerging technologies
- 8. Peer-to-peer knowledge sharing systems

These recommendations align with global best practices while addressing Nigeria-specific challenges identified in the literature. Their implementation would significantly enhance ICT adoption and service delivery, positioning Taraba State University Library for sustainable digital transformation

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