

Integrating Digital Tools for Reskilling Librarians in Nigeria's Digital Age

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Abstract

This research investigated "Integrating Digital Tools for Reskilling Librarians in Nigeria's Digital Age. The study was guided by four research objectives. Employing a survey research design, the study targeted a population of 10,210 professional librarians across Nigeria. Three zone were randomly selected: South South, South East and South West. From the 3 zones, three states chapter of Nigerian library association were selected using simple ransom sampling techniques: Delta, Anambra and Lagos state. Thereafter, 25 professional Librarians were purposively selected from each of the 3 states chapters of the Nigerian library association making a sample of 75 professional librarians. The observation checklist and questionnaire were the research instruments used for data collection. The instrument was validated by 3 experts in Library and Information Science. The Crombach Alpha reliability coefficient of 0.82 was obtained. Data collected was analyzed using descriptive statistics of mean scores and standard deviation. Findings revealed moderate availability of basic digital infrastructure and training approaches, with limited uptake of advanced, interactive reskilling technologies. Digital tools demonstrated high institutionalization for librarian reskilling, proving vital for skill enhancement and service improvement. Barriers including insufficient ICT infrastructure, technical disruptions, data privacy worries, and unadapted training programs impede effective reskilling access. Strategic interventions such as embedding continuous professional development, establishing policy requirements, and securing digital infrastructure emerged as key to advancing reskilling efforts. Recommendations urge libraries and government entities to fund and deploy state-of-the-art interactive reskilling solutions like virtual reality, AI modules, and mobile apps for enriched learning experiences.

Keywords: Digital Tool Integration, Librarian Reskilling, Nigeria Digital Age, Professional Development, Library Innovation

Introduction

Digital technologies have permeated everyday activities in the 21st century, compelling educators and information service providers like librarians to reimagine traditional practices through digital tool integration. Digital tools encompass electronic resources, software applications, and technologies that support information handling, communication, and education (Green & Haines, 2022). In libraries, these tools empower librarians to efficiently access, organize, preserve, and share information in digital formats, including integrated library systems, cataloging software, social media, and content platforms. Amid Nigeria's growing digitization of library collections, adopting such tools is vital for librarians to sustain effective service provision and information brokerage (Uzoigwe & Okeke, 2023). Integrating digital tools institutionally involves embedding them into library workflows alongside sustained professional training to reskill librarians, enabling them to optimize these technologies for modernized library functions.

Reskilling refers to equipping workers with fresh skills to align with evolving job demands, especially those spurred by technological shifts (Fisher & Frey, 2021). For Nigerian librarians, this is essential given the swift changes in library practices during the digital age, requiring expertise in digital resource handling, cybersecurity, data analysis, and online literacy. Research in Nigerian libraries shows that consistent reskilling efforts markedly boost librarians' abilities and flexibility with new digital tools, thereby elevating library operations and patron satisfaction (Chukwuma & Nwosu, 2024). Formalizing structured reskilling programs guarantees that librarians stay current with skills needed for superior digital service performance (Funom, 2017).

Professional librarians serve as expert information managers tasked with curating, maintaining, and providing access to resources across academic, public, and specialized libraries (Rubin, 2016). In Nigeria, their roles now demand digital proficiency alongside core skills to tackle demands from emerging technologies. Challenges persist, such as restricted training opportunities, inadequate digital facilities, and reluctance to embrace tech changes (Nwachukwu & Okeke, 2023). Overcoming these via institutional professional development structures helps librarians meet their responsibilities adeptly in the digital landscape.

The digital age signifies the current phase defined by pervasive technologies like the internet, mobile devices, cloud computing, and AI, which have redefined global information creation, storage, and distribution (Uzoagba, Agim & Ezejiofor, 2024). This period transforms library operations, urging digitization of collections, service automation, and online user engagement

for relevance. In Nigeria, it brings prospects and hurdles, where embedding digital tools is key to broadening access and equity in information (Okoye & Obi, 2024). Thus, librarians require ongoing institutional support to master digital technologies effectively.

The interplay among digital tools, reskilling librarians, and the digital age creates an intricate framework where each component mutually reinforces library service evolution. Institutional integration of digital tools promotes ongoing reskilling, helping librarians address digital challenges and provide pertinent services. Evidence indicates that absent organized reskilling, digital tool uptake stays suboptimal, impairing library efficacy (Chukwuma & Nwosu, 2024). Accordingly, this research examines the integrating of Digital Tools for Reskilling Librarians in Nigeria's Digital Age

Statement of the Problem

Ideally, Nigerian libraries should feature robust institutional systems that systematically incorporate cutting-edge digital tools to perpetually reskill professional librarians. This setup would equip librarians with contemporary digital skills vital for advanced information services and technological adaptation. Yet, prevailing conditions show many Nigerian librarians experience limited structured reskilling access and digital tools, creating a skills deficit that hampers service quality and technological maximization (Olatoye, 2024; Elejene, Agim & Umunnakwe, 2025). This shortfall results in suboptimal library functionality, lower user contentment, and difficulty matching the fast-paced digital shift in information provision. While prior research has addressed digital literacy or context-specific issues, few have explored the integrating Digital Tools for Reskilling Librarians in Nigeria at the present Digital Age, hence the need for this study.

Objectives of the Study

The general objective of the study is on Integrating Digital Tools for Reskilling Librarians in Nigeria's Digital Age. Specifically, the study will:

1. Ascertain the digital tools integrated for reskilling professional librarians in Nigeria's digital age
2. Examine the effects of integrating digital tools on librarians' skills and service provision in the digital age

3. Determine the obstacles librarians encounter in utilizing digital reskilling tools in the digital age
4. Examine the strategies for optimally integrating digital tools to bolster reskilling among professional librarians in the digital age

Research Questions

The study was guided by four research questions:

5. What are the digital tools integrated for reskilling professional librarians in Nigeria's digital age?
6. What are the effects of integrating digital tools on librarians' skills and service provision in the digital age?
7. What are the obstacles librarians encounter in utilizing digital reskilling tools in the digital age?
8. What are the strategies for optimally integrating digital tools to bolster reskilling among professional librarians in the digital age?

Literature Review

Defining Digital Tools in Modern Libraries

Digital tools within libraries comprise diverse technological assets, software solutions, and web-based platforms crafted to streamline information management, retrieval, access, and distribution (Green & Haines, 2022). These encompass integrated library systems, digital cataloging applications, electronic databases, repositories, cloud solutions, and intuitive interfaces that elevate user interactions. By adopting digital tools, libraries transcend conventional spatial and temporal constraints, offering 24/7 remote entry to varied assets like e-books, journals, scholarly articles, and multimedia (Uzoagba, Agim & Ezejiofor, 2024). Such tools have reshaped library functions by refining resource location accuracy, optimizing preservation workflows, and enabling innovative knowledge exchange and education. They also safeguard vulnerable collections via digitization while promoting worldwide user and institutional partnerships. Ultimately, digital tools reposition libraries as vibrant, inclusive knowledge centers vital to contemporary information ecosystems (Okoye & Obi, 2024).

Aligning Digital Tools with User Expectations

Digital tools emerge in harmony with contemporary users' needs for instant, adaptable, and thorough knowledge access. They enable librarians to elevate services through task automation, personalized offerings, and superior data handling (Uzoigwe & Okeke, 2023). Furthermore, these tools promote equity by connecting remote and marginalized groups, advancing education access, and bolstering lifelong learning (Chukwuma & Nwosu, 2024). Analytics and usage tracking features empower data-informed choices on collections and enhancements. Though hurdles like poor infrastructure and training shortages persist, embedding and refining digital tools stands essential for library advancement, particularly in Nigeria amid access disparities (Nwachukwu & Okeke, 2023; Agim, Mohammed, & Obande, 2024). Strategic digital tool deployment proves crucial for libraries' enduring significance in information sharing and preservation during Nigeria's digital transition.

Advancing Librarian Reskilling and Growth

Reskilling and professional advancement for librarians rank as urgent priorities amid the fast-changing information environment fueled by tech progress. These efforts involve systematic learning via workshops, conferences, sessions, and practical training to sharpen librarians' abilities, expertise, and adaptability for ongoing relevance (Posigha & Seimode, 2025). In Nigeria, librarians must routinely refresh tech proficiencies like digital fluency, data oversight, and novel ICTs to manage resources, deliver services, and guide users through online realms (Ajayi, Ojo, Oyeniya, & Otuyalo, 2024). Such reskilling boosts digital handling, service speed, and ecosystem navigation. Yet, barriers including funding limits, weak institutional backing, and tech scarcity curb program reach in Nigerian libraries. Self-funding and sparse policy support highlight the urgency for structured institutional aid to align reskilling with global standards (Posigha & Seimode, 2025).

Professional growth markedly lifts librarians' effectiveness, flexibility, and fulfillment. Research links sustained learning to superior service quality and user alignment (Ajayi et al., 2024). Crucially, it instills lifelong learning habits, building assurance to champion digital innovations institutionally. In Nigeria, reskilling success ties to institutional backing via budgets, policies, and planning (Nwachukwu & Okeke, 2023). Strengthening these initiatives closes digital divides, empowering librarians to lead libraries as digital knowledge and

engagement hubs. Thus, tackling obstacles and formalizing growth remains key to placing Nigerian librarians ahead in library digitization.

Hurdles in Acquiring Digital Skills for Nigerian Librarians

Digital skill development barriers for Nigerian librarians span infrastructure, finances, organizations, and individual factors. Core issues involve deficient ICT setups like erratic power and scarce devices, restricting practical engagement with digital tools (Atchrimi & Ogunbodede, 2024). Absent reliable power and equipment, skill-building via hands-on practice falters. Economic pressures exacerbate this, with librarians often funding training independently amid absent sponsorships (Adetunla & Chowdhury, 2025). Libraries' constrained budgets further limit staff programs and upgrades (Olatoye, 2024). This forces reliance on informal peer learning, often inadequate for depth or currency. Gender dynamics add layers, as women navigate family duties and cultural limits to training (Ajayi et al., 2024). Collectively, these gaps severely limit Nigerian librarians' digital proficiency.

Beyond physical and fiscal constraints, structural and mindset obstacles persist. Weak institutional dedication shows in poor training planning and support (Nwachukwu & Okeke, 2023). Librarians cite minimal leadership incentives, undervaluing growth culturally. Overloads and shortages squeeze training time (Atchrimi & Ogunbodede, 2024). Scarce expert trainers and obsolete curricula fail to deliver relevant skills. Mindset issues like tech fear and change aversion, though rarer, dampen enthusiasm (Adetunla & Chowdhury, 2025). These intertwined challenges demand institutional overhauls and investments to cultivate supportive reskilling ecosystems for Nigeria's librarians.

Pathways for Successful Digital Reskilling Integration

Launching effective digital reskilling for librarians calls for comprehensive strategies tackling systemic and personal dimensions. Core institutional resolve via budgets, policies, and leadership builds cultures prioritizing digital growth (Anunobi & Ukwoma, 2022). This embeds reskilling into HR frameworks beyond sporadic efforts. Ties with associations, academia, and tech firms unlock premium content. Blended formats merging online, sessions, and practice suit varied styles for skill mastery (Chikodiri & Emecheta, 2024). Assessments and feedback refine programs to tech shifts and contexts. Incentives like certifications, promotions, and accolades spur engagement for longevity.

Closing skill voids also demands self-directed learning empowerment and experimental spaces (Anunobi & Ukwoma, 2022). Reliable infrastructure such as fast internet, updated gear underpins application. Policies granting development time ease workload barriers (Agwu & Owolabi, 2023). Peer networks and mentoring accelerate sharing and uptake. Nigerian evidence favors mentorship-enhanced programs for literacy durability (Okpi & Ojerinde, 2023). Monitoring frameworks drive refinements, keeping reskilling aligned with library digitization demands.

Methodology

This study adopts the survey research design. The population comprised 10, 210 professional librarians in Nigeria. Three zone were randomly selected: South South, South East and South West. From the 3 zones, three states chapter of Nigerian library association were selected using simple ransom sampling techniques: Delta, Anambra and Lagos state. Thereafter, 25 professional Librarians were purposively selected from each of the 3 states chapters of the Nigerian library association making a sample of 75 professional librarians. The reason for the adoption of the purposive sampling method was to select participants who are familiar with digital tool. The observation checklist and questionnaire were the research instruments used for data collection. The instrument was validated by 3 experts in Library and Information Science. The Crombach Alpha reliability method was used to test the internal consistency of the instrument. A reliability coefficient of 0.82 was obtained. Data collected was analyzed using descriptive statistics of mean scores and standard deviation

Results

Research Question 1: What are the digital tools integrated for reskilling professional librarians in Nigeria's digital age?

Table 1: Observation Checklist on digital tools integrated for reskilling professional librarians in Nigeria's digital age

S/N	Items	Available	Not Available
1	Automated Library Management Systems		✓
2	Digital Learning Management Systems (LMS)		✓
3	E-learning and Online Training Platforms	✓	
4	Virtual Meeting and Webinar Tools	✓	
5	Interactive Digital Tutorials		✓
6	Mobile Learning Applications		✓
7	AI-powered Chatbots for Learning Assistance		✓

S/N	Items	Available	Not Available
8	Digital Skills Assessment Tools	✓	
9	Cloud-based Collaboration Tools		✓
10	Virtual Reality (VR) and Augmented Reality (AR) Training		✓

The data presented in Table 1, based on the observation checklist indicates that while Nigerian libraries have integrated access to several key digital tools for reskilling librarians such as, E-learning Platforms, Virtual Meeting tools, and Digital Skills Assessment tools, there remain critical gaps. Majority of tools like Automated Library Management Systems, Digital Learning Management Systems, Interactive Digital Tutorials, Mobile Learning Apps, AI-powered chatbots, Cloud Collaboration platforms, and VR/AR training are largely unavailable. This suggests that although foundational digital infrastructure and training modalities are present to some extent, more innovative and interactive reskilling technologies have not yet been widely adopted. Consequently, the reskilling efforts may not fully engage or meet the diverse needs of librarians, potentially limiting their digital capacity growth.

Research Question 2: What are the effects of integrating digital tools on librarians' skills and service provision in the digital age?

Table 2: Mean Responses on effects of integrating digital tools on librarians' skills and service provision in the digital age

S/N	Items	Mean	SD	Decision
1	Institutionalized digital tools improve librarians' ability to manage digital resources effectively	3.40	0.65	Strongly Agree
2	Digital tool institutionalization increases the speed and efficiency of information service delivery	3.25	0.70	Strongly Agree
3	Reskilling through digital tools enhances librarians' competencies in emerging ICT	3.35	0.67	Strongly Agree
4	Institutionalized training with digital tools improves librarians' ability to assist users more effectively	3.10	0.75	Agree
5	Digital tools enable librarians to provide up-to-date and accurate information services	3.20	0.62	Strongly Agree
6	Access to institutional digital tools motivates librarians to continuously improve their skills	2.95	0.72	Agree
7	Institutionalization of digital tools fosters innovation in information service delivery	3.30	0.66	Strongly Agree
	Grand Mean	3.22	0.68	Strongly Agree

The data presented in table 2 indicate that Nigerian professional librarians strongly agree that integrating digital tools can positively affects their competencies and enhances the quality of information services delivered. Most items scored high means between 3.10 and 3.40,

reflecting affirmative views on digital tools improving digital resource management, information delivery speed, competency development, and user assistance. Items with means slightly lower, such as motivation for continuous improvement and training effectiveness, still garnered agreement, suggesting general but somewhat variable acceptance. The grand mean of 3.22 confirms an overall strong agreement among the respondents that the integrating digital tools is crucial for enhancing librarians' skills and service provision outcomes.

Research Question 3: What are the obstacles librarians encounter in utilizing digital reskilling tools in the digital age?

Table 3: Mean Responses on obstacles librarians encounter in utilizing digital reskilling tools in the digital age

S/N	Items	Mean	SD	Decision
1	High cost of acquiring digital reskilling tools limits access for librarians	3.15	0.68	Agree
2	Insufficient technical expertise among library staff hinders effective use of digital training tools	3.30	0.70	Strongly Agree
3	Inadequate ICT infrastructure within libraries restricts access to digital reskilling programs	3.05	0.75	Strongly Agree
4	Resistance to change or lack of motivation reduces librarians' engagement with digital reskilling efforts	2.85	0.78	Agree
5	Frequent technical issues or system failures discourage consistent use of digital training resources	3.25	0.65	Strongly Agree
6	Concerns about data privacy and security limit willingness to use institutional digital tools	3.10	0.80	Strongly Agree
7	Lack of customization in digital reskilling programs fails to meet diverse librarian needs	3.35	0.67	Strongly Agree
	Grand Mean	3.13	0.72	Strongly Agree

The data in table 3 show that the professional librarians in Nigeria strongly perceive several obstacles when accessing digital reskilling tools and programs. High mean scores on items related to insufficient technical expertise (3.30), inadequate ICT infrastructure (3.05), technical failures (3.25), concerns over data privacy (3.10), and lack of customization in training (3.35) reflect substantial agreement on these being significant challenges. While the high cost of acquisition and resistance to change scored slightly lower, they still fall within the 'Agree' range, indicating broad recognition as obstacles. The grand mean of 3.13 represents a clear overall strong agreement that these obstacles collectively hinder librarians in utilizing digital reskilling tools in the digital age, highlighting the multifaceted nature of barriers faced by librarians.

Research Question 4: What are the strategies for optimally integrating digital tools to bolster reskilling among professional librarians in the digital age?

Table 4: Mean Responses on strategies for optimally integrating digital tools to bolster reskilling among professional librarians in the digital age

S/N	Items	Mean	SD	Decision
1	Management should allocate dedicated funding for digital reskilling initiatives	3.45	0.62	Strongly Agree
2	There should be continuous professional development programs integrating digital tools	3.20	0.70	Strongly Agree
3	Partnerships with technology providers should be established to enhance training quality	3.10	0.68	Strongly Agree
4	Library policies must formally mandate regular reskilling using institutional digital platforms	3.30	0.59	Strongly Agree
5	Incentives and recognition should be given to librarians who engage actively in digital skill upgrading	3.05	0.75	Agree
6	Access to up-to-date digital infrastructure and resources is essential for effective reskilling	3.40	0.65	Strongly Agree
7	Evaluation and feedback mechanisms should be institutionalized to continually improve reskilling efforts	3.15	0.67	Strongly Agree
	Grand Mean	3.23	0.66	Strongly Agree

The data in table 4 indicate a strong consensus among Nigerian professional librarians that several strategies are critical for optimally integrating digital tools to bolster reskilling among professional librarians in the digital age. Items such as dedicated funding allocation (mean = 3.45), continuous professional development integration (3.20), formal policy mandates (3.30), and ensuring access to digital infrastructure (3.40) received strong agreement. Even the item on incentives and recognition, while slightly lower, still reached agreement levels. The importance of partnerships with technology providers and instituting systematic evaluation mechanisms are also highly valued. The grand mean of 3.23 further reinforces the overall strong agreement that adopting these strategies will optimize digital reskilling initiatives among librarians. These results reflect a positive attitude and awareness among librarians towards structured approaches that support lifelong learning and technology adaptation.

Discussion of the Findings

Data from table 1 suggests that although foundational digital infrastructure and training modalities are present to some extent, more innovative and interactive reskilling technologies have not yet been widely adopted. The results concur with Adetunla and Chowdhury (2025), who found that Nigerian university libraries have made strides in adopting essential digital

learning platforms but still face challenges in integrating cutting-edge technology due to resource constraints. Basahuwa et al. (2020) observed that while basic digital skill training tools are available, the lack of interactive and AI-driven tools hinders comprehensive digital literacy development. Additionally, Oyovwe-Tinuoye et al. (2021) emphasized the need for wider adoption of innovative digital platforms like VR and chatbot technologies to modernize librarian training and engagement. Collectively, these studies affirm the need for strategic investments in advanced digital tools to bolster reskilling initiatives for Nigerian librarians.

Data from table 2 confirms an overall strong agreement among the respondents that the integrating digital tools is crucial for enhancing librarians' skills and service provision outcomes. These results are consistent with findings by Atchrimi and Ogunbodede (2024), who established that digital competencies among academic librarians in Nigeria were significantly enhanced through digital resource integration. Similarly, Adetunla and Chowdhury (2025) reported that librarians' service efficiency and ICT proficiency improved markedly where digital tools were embedded into formal training and operational protocols. Nwachukwu and Okeke (2023) also confirmed that institutional backing for digital tool use fosters increased motivation and innovation in information service delivery.

Data from table 3 represents a clear overall strong agreement that obstacles such as inadequate ICT infrastructure, technical failures, and concerns over data privacy among others collectively hinder librarians in utilizing digital reskilling tools in the digital age, highlighting the multifaceted nature of barriers faced by librarians. These results are consistent with the research of Agim, Adegbite, and Edeh (2025), who highlighted infrastructural limitations and lack of technical capacity as major impediments in Nigerian academic libraries' technology adoption. Similarly, Adetayo and Popoola (2018) reported that high costs and low user acceptance significantly hinder digital technology implementation in Nigerian libraries. Ezejiofor, Agim, and Ndanwu (2022) corroborate these findings by pointing out inadequate infrastructure, lack of skilled personnel, and data security concerns as critical challenges limiting digital technology use.

Data from table 4 reinforces the overall strong agreement that adopting strategies such as continuous professional development integration, formal policy mandates, and ensuring access to digital infrastructure among others will optimize digital reskilling initiatives among librarians. These results resonate with Kanu (2024), who emphasized that sustainable digital transformation in Nigerian libraries depends heavily on institutional commitment manifested

through funding, policy enforcement, and continuous training programs. Similarly, Atchrimi and Ogunbodede (2024) highlighted the vital role of infrastructure access and strategic partnerships in enabling effective digital capacity building among librarians. Additionally, Ajayi et al. (2024) underscored the importance of incentives and evaluation mechanisms in motivating librarians to engage fully in digital reskilling, reinforcing the multifaceted nature of successful strategies.

Conclusion

The study findings indicate that while basic digital infrastructure and initial reskilling training structures exist moderately, the integration of advanced, interactive digital reskilling technologies lags, potentially limiting librarians' professional advancement in Nigeria's digital age. Still, institutionalizing digital tools has gained substantial traction, significantly boosting librarians' skills and elevating information service standards. Yet, this advancement faces complex obstacles, including deficient ICT setups, recurrent technical glitches, data security issues, and non-tailored training, which together restrict smooth access and application of reskilling resources. Overcoming these requires deliberate measures like embedding ongoing professional growth, enacting formal policies, and funding resilient digital systems to cultivate enduring digital expertise among Nigerian librarians, keeping them responsive to shifting service needs.

Recommendations

1. Libraries and government bodies should commit resources to deploy innovative, interactive digital reskilling tools like virtual reality exercises, AI-based learning platforms, and mobile apps to deliver varied, immersive training for librarians.
2. Libraries must focus on rolling out intuitive digital tools suited to librarians' routines and roles, backed by ongoing evaluation and input to refine training impact and amplify service enhancements.
3. Execute a full-scale ICT infrastructure overhaul with reliable tech support, stringent data protection protocols, and customized training adapted to librarians' diverse abilities and duties to remove access hurdles.
4. Library leaders and policymakers should partner to craft and implement binding policies requiring regular digital skills training, securing sufficient budgets for

infrastructure, and offering incentives to promote a lifelong learning ethos and lasting digital proficiency.

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