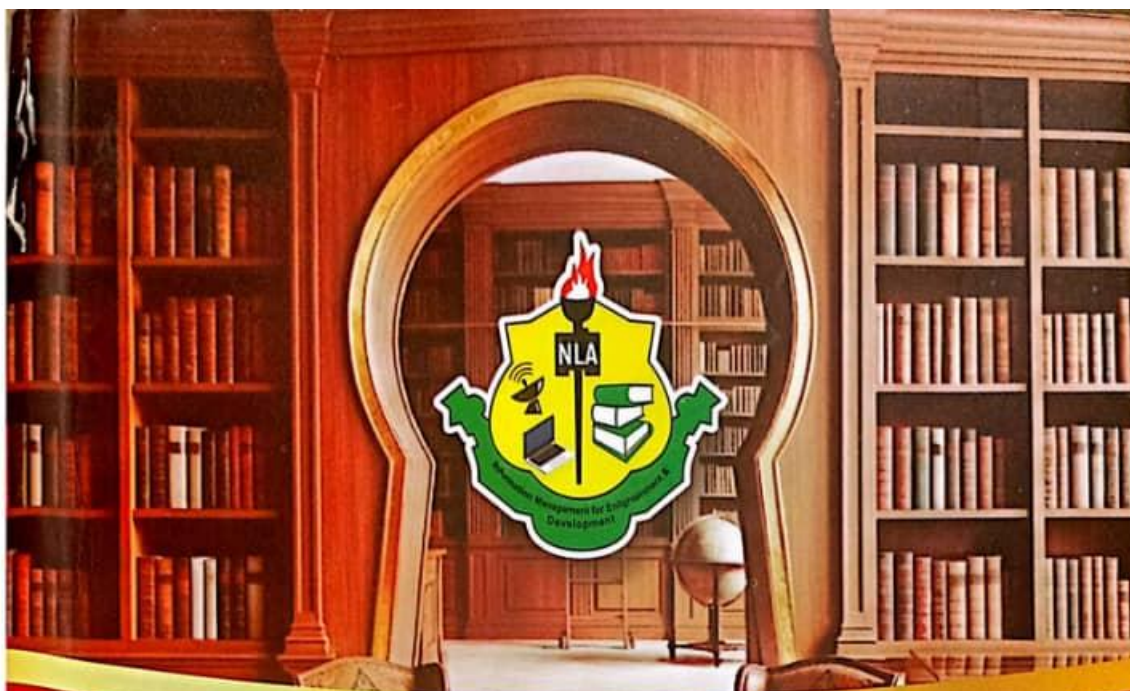




**PROCEEDINGS OF THE 64TH NIGERIAN LIBRARY
ASSOCIATION CONFERENCE ON OUR FUTURE,
OUR HOPE: THE STATE OF LIBRARIES AND
LIBRARIANSHIP IN NIGERIA.**

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Science
Bayero University Kano, Kano State
#2347068753355

EDITORS
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+2348038726760

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Federal University of Technology Minna
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State
+2347068155501

Dr. Whong Fidelia Mbowheing
Kashim Ibrahim Library
Ahmadu Bello University Zaria
+2348035927624

NIGERIAN LIBRARY ASSOCIATION,
National Library of Nigeria
Sanusi Dantata House
Central Building District
PMB 1, Garki Abuja

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Equipping Librarians for Innovative Library Services in the 21st Century: Implications for Academic Libraries in Nigeria

Musa, Hussaini; Emails: hussaini.musa@futminna.edu.ng; Phone: 08036201118
University Library Services,
Federal University of Technology, Minna, Nigeria

Abstract

The transformation of the global information environment has significantly redefined the roles of librarians in academic institutions, shifting emphasis from traditional custodial functions to technology-driven and user-centred service delivery. This paper examines the competencies required to equip librarians for innovative library service delivery in the 21st century, with particular reference to academic libraries in Nigeria. Using a descriptive and analytical approach, the study explores emerging roles such as digital facilitation, research support, and data management, alongside key competency areas including ICT skills, data literacy, and instructional capabilities. The paper identifies persistent challenges limiting librarians' capacity for innovation, including inadequate professional training, weak technological infrastructure, skills mismatch, and limited institutional support. It argues that these constraints hinder librarians' ability to effectively respond to evolving demands in higher education. To address these gaps, the study proposes targeted strategies such as continuous professional development, curriculum reform in library and information science education, improved ICT support systems, and strengthened collaboration among stakeholders. The paper concludes that equipping librarians with relevant digital and pedagogical competencies is essential for sustaining innovative library services and enhancing teaching, learning, and research in Nigerian academic institutions.

Keywords: Librarians, innovation, library services, professional development, academic libraries, Nigeria.

1. INTRODUCTION

1.1 Background

Libraries have undergone a profound transformation over the past few decades, evolving from traditional, print-based repositories into dynamic, technology-driven digital knowledge hubs. Historically, libraries were primarily concerned with the acquisition, organisation and preservation of physical materials such as books and journals. However, the rapid advancement of information and communication technologies (ICTs) has redefined their core functions, enabling access to vast collections of digital resources, including e-books, online databases, institutional repositories and multimedia content (Asemi et al., 2021; Tenopir et al., 2023). This transition from traditional to digital libraries has not only expanded access to information but also reshaped how users interact with knowledge systems.

The emergence of the knowledge economy has significantly transformed the roles and responsibilities of librarians in academic libraries. As information professionals, librarians are increasingly expected to support research, teaching and informed decision-making in a knowledge-driven society. The rapid growth of digital information, often described as the "information explosion," requires librarians to develop advanced competencies in information organisation, retrieval, evaluation and digital service delivery. Consequently, equipping librarians with innovative skills and technological expertise has become essential for enhancing the quality, accessibility and relevance of library services in Nigerian academic libraries (Bawden & Robinson, 2022; World Bank, 2023).

Concurrently, user expectations have evolved significantly in response to technological advancements and changing information-seeking behaviors. Modern library users demand seamless, remote and real-time access to information resources across multiple platforms. They increasingly prefer personalized, user-centered services, including intelligent search systems, mobile access and interactive digital environments. The rise of artificial intelligence, data analytics and cloud computing has further influenced these expectations, pushing libraries to adopt innovative service models that enhance user experience (Cox et al., 2023; Joo & Choi, 2022). Consequently, libraries must continuously adapt their services, infrastructure and professional competencies to remain relevant in a rapidly changing information landscape.

In summary, the evolution of libraries, the rise of the knowledge economy and changing user expectations have increased the demand for innovative library services. While academic libraries are expected to provide technology-driven, user-centred services, many librarians in Nigeria still face challenges related to inadequate digital competencies, limited professional development opportunities and insufficient capacity for innovation. This gap between emerging service expectations and the preparedness of librarians highlights the need to examine how librarians can be effectively equipped to deliver innovative services in contemporary academic library environments.

1.2 Problem Statement

Despite the rapid evolution of libraries into digitally driven knowledge systems, major challenges persist in developing countries such as Nigeria. A key issue is the widening skills gap among librarians, as many lack the advanced technical and managerial competencies required for digital services, data-driven decision-making and emerging technologies such as artificial intelligence and digital curation. This mismatch limits their ability to manage digital resources effectively and deliver innovative services (Adeleke & Olorunsola, 2022; Cox et al., 2023).

In addition, inadequate technological infrastructure continues to limit librarians' capacity to provide innovative library services. Many academic libraries in Nigeria operate with unreliable internet connectivity, unstable power supply and insufficient access to modern ICT facilities due to inadequate funding. These constraints hinder librarians' effective use of emerging technologies, restrict the delivery of digital and user-centred services and reduce opportunities for professional skill development and innovation (Okiy, 2021; World Bank, 2023).

Furthermore, limited innovation capacity among librarians constrains their ability to respond effectively to the evolving information landscape. Factors such as inadequate training opportunities, insufficient funding for professional development, organizational rigidity and lack of strategic support hinder librarians' adoption of emerging technologies and innovative service models. Consequently, many librarians struggle to design and deliver user-centred services that meet the changing needs of academic library users (Iwhiwhu & Okorodudu, 2022; Asemi et al., 2021).

Overall, these interconnected challenges skills gaps in digital librarianship, inadequate technological infrastructure and limited professional innovation capacity among librarians significantly constrain librarians' ability to design and deliver effective, technology-driven library services in academic institutions in Nigeria. As a result, many librarians are not fully prepared to meet the demands of the evolving digital information environment, creating a gap between expected service delivery standards and actual professional practice. This underscores the need for targeted interventions to strengthen librarians' digital competencies and innovative capacity for improved service delivery in the 21st century.

1.3 Aim and Objectives

The main aim of this study is to examine the need for innovation in library systems in Nigeria within the context of a rapidly evolving digital and knowledge-driven environment.

The specific objectives of the study are as follows:

1. To examine the need to equipped librarians for innovation in library services and operations.
2. To identify the major challenges hindering librarians innovation in Nigerian libraries.
3. To propose strategies for equipping librarians in enhancing innovation capacity in libraries.

1.4 Significance of the Study

This study is important for improving Library and Information Science practice, higher education and policy development in Nigeria. It highlights how libraries can adopt innovative, user-centered and technology-driven services to enhance performance (Cox et al., 2023). It also supports higher education by strengthening libraries' roles in research, learning and digital access, addressing gaps in skills and infrastructure (Tenopir et al., 2023). Additionally, the study provides guidance for policymakers to improve funding, infrastructure and professional development, aligning library growth with national development goals (World Bank, 2023).

2. LITERATURE REVIEW

2.1 Concept of Innovative Library Services

Innovation in Library and Information Science (LIS) refers to the introduction and application of new ideas, technologies, processes, or service models aimed at improving the efficiency, effectiveness and user experience of library services. It encompasses both incremental improvements to existing systems and transformative changes that redefine how libraries operate and deliver value to users. In the contemporary information environment, innovation is increasingly driven by rapid technological advancements and the need to remain relevant in a competitive, knowledge-based society (Bawden & Robinson, 2022; Asemi et al., 2021).

Within the LIS context, innovation extends beyond the adoption of new technologies to include the redesign of services to meet evolving user needs. This includes user-centered approaches, collaborative knowledge creation and the integration of digital tools that enhance information access and engagement. As libraries transition from traditional repositories to interactive learning environments, innovation has become a critical factor in sustaining their relevance and impact (Cox et al., 2023). A major dimension of innovative library services is the deployment of **technology-driven** solutions. These include digital libraries, institutional repositories, cloud-based systems, artificial intelligence (AI)-powered search tools and data analytics for personalised services. Technologies such as machine learning and natural language processing are increasingly being used to improve information retrieval, automate cataloguing processes and provide intelligent user support systems (Joo & Choi, 2022). Additionally, mobile technologies and remote access platforms enable users to interact with library resources anytime and anywhere, reflecting the shift toward ubiquitous information access.

Furthermore, innovative services in libraries often involve the creation of virtual learning spaces, makerspaces and digital scholarship centers that support interdisciplinary research and creativity. These developments highlight the evolving role of libraries as active facilitators of knowledge production rather than passive information providers. However, the successful implementation of such innovations depends on the availability of technological infrastructure, skilled personnel and institutional support (Adeleke & Olorunsola, 2022). In fact, innovative library services are characterised by the strategic integration of technology, user-centered design and adaptive service models. As the

information landscape continues to evolve, libraries must embrace innovation to effectively meet the expectations of their users and to maintain their role as essential components of the knowledge ecosystem.

2.2 Emerging Trends in Academic Libraries

Academic libraries are undergoing rapid transformation driven by technological advancements, evolving digital practices and changing user expectations. These developments are redefining librarians' roles, requiring them to move beyond traditional custodial functions to more dynamic, technology-driven and user-centred service delivery. Consequently, librarians must be adequately equipped with relevant competencies to remain effective in the 21st-century academic environment.

2.2.1 Digital Scholarship: Digital scholarship represents a major shift in how knowledge is created, analysed, disseminated through the use of digital tools such as text mining, data visualisation and digital humanities. This trend is redefining librarians' roles as active partners in research and scholarly communication rather than mere information providers.

To support digital scholarship effectively, librarians must be equipped with competencies in data literacy, research tools, metadata management and collaborative research support. However, many librarians in Nigerian academic libraries still lack adequate training and exposure in these areas, limiting their ability to fully participate in digital scholarship initiatives (Cox et al., 2023).

2.2.2 Research Data Management (RDM): Research Data Management (RDM) has become a critical service for academic libraries due to the rise of data-intensive research and open science practices. This development requires librarians to support researchers in organising, documenting, preserving and sharing research data throughout the research lifecycle.

To function effectively in this role, librarians must be equipped with skills in data curation, metadata standards, repositories, data ethics and research support services. Despite this growing demand, many librarians in Nigeria lack sufficient RDM training and competencies, which constrains their ability to support data-driven research effectively (Tenopir et al., 2023).

2.2.3 Virtual Reference Services: Virtual reference services have expanded significantly, enabling librarians to provide real-time assistance through digital platforms such as live chat, email, video conferencing and AI-enabled tools. This shift has extended librarians' service delivery beyond physical library spaces to remote and hybrid environments.

To deliver effective virtual reference services, librarians must be equipped with digital communication skills, user engagement strategies and proficiency in information retrieval technologies. However, limited digital skills and inadequate training among librarians in Nigerian academic libraries often reduce the effectiveness of these services (Lee & Choi, 2022).

2.2.4 Information Literacy Instruction: Information literacy instruction remains a core function of academic libraries but has evolved to address challenges such as information overload and misinformation. Librarians are now expected to design and deliver structured programmes that develop users' critical thinking and information evaluation skills.

To achieve this, librarians must be equipped with instructional design skills, digital pedagogy competencies and the ability to integrate information literacy into academic curricula. However, many librarians in Nigeria lack adequate pedagogical preparation, which limits the effectiveness of information literacy instruction in academic institutions (Bawden & Robinson, 2022).

2.2.5 Social Media Engagement: Social media has become an important platform for academic librarians to promote services, communicate with users and enhance library visibility. Platforms such as X (Twitter), Facebook, Instagram and LinkedIn are now widely used for outreach and engagement.

To leverage social media effectively, librarians must be equipped with digital communication, content creation, social media engagement and digital branding skills. However, limited expertise in social media management among librarians in Nigeria reduces its effectiveness as a strategic library service tool (Asemi et al., 2021).

Overall, these emerging trends highlight a fundamental shift in academic librarianship, where librarians are expected to possess advanced digital, instructional and research support competencies. However, persistent skills gaps among librarians in Nigerian academic libraries create a mismatch between expected service delivery standards and actual professional capacity. This underscores the need for targeted capacity-building interventions to equip librarians for innovative library service delivery in the 21st century.

2.3 Competency Framework for Librarians

The transformation of academic libraries into digitally driven and user-centered knowledge hubs has significantly redefined the competencies required of librarians. Contemporary library professionals are expected to possess a diverse set of skills that extend beyond traditional cataloguing and reference services. A comprehensive competency framework typically encompasses digital, pedagogical and managerial/leadership skills, all of which are essential for effective service delivery and institutional relevance in the modern information landscape.

2.3.1 Digital Skills Digital competencies are foundational to modern librarianship, given the increasing reliance on technology in information creation, organisation and dissemination. Librarians are expected to demonstrate proficiency in the use of digital library systems, institutional repositories, data management tools and online databases. Additionally, skills in areas such as metadata standards, digital preservation and information retrieval systems are critical. Emerging technologies including artificial intelligence, data analytics and cloud computing further require librarians to continuously update their technical expertise to remain effective in supporting digital scholarship and research activities (Cox et al., 2023; Joo & Choi, 2022).

Beyond technical proficiency, digital literacy also involves the ability to critically evaluate digital resources, ensure information security and support users in navigating complex digital environments. As such, ongoing professional development and training are essential to bridge existing skills gaps, particularly in developing contexts where access to advanced ICT infrastructure may be limited (Adeleke & Olorunsola, 2022).

2.3.2 Pedagogical Skills As academic libraries increasingly take on instructional roles, pedagogical competencies have become a vital component of librarianship. Librarians are now actively involved in teaching information literacy, guiding users in research methodologies and supporting academic writing and critical thinking. Effective instruction requires an understanding of learning theories, curriculum design and assessment strategies. Modern approaches to information literacy emphasise learner-centered and collaborative teaching methods, including embedded librarianship, flipped classrooms and online learning modules. Librarians must also be adept at using digital teaching tools such as learning management systems and multimedia resources to deliver engaging and accessible instruction. These pedagogical skills enable librarians to contribute meaningfully to student learning outcomes and academic success (Bawden & Robinson, 2022).

2.3.3 Managerial and Leadership Skills Managerial and leadership competencies are essential for navigating the complexities of modern library environments. Librarians are increasingly required to lead innovation initiatives, manage digital transformation projects and oversee multidisciplinary teams. Key skills in this domain include strategic planning, project management, change management and effective communication.

Leadership in libraries also involves fostering a culture of innovation, advocating for institutional support and building partnerships within and beyond the academic community. In resource-constrained environments such as Nigeria, strong leadership is particularly important for optimising available resources, securing funding and driving sustainable development. Librarians who possess these competencies are better positioned to influence policy decisions and guide their institutions through ongoing technological and organisational changes (Iwhiwhu & Okorodudu, 2022; Cox et al., 2023).

2.4 Challenges Facing Librarians in the Adoption of Innovation in Academic Libraries

Despite the increasing demand for innovative library services, librarians in academic libraries in Nigeria continue to face several interrelated challenges that limit their capacity to effectively adopt and implement innovation. These challenges are largely structural and professional, affecting librarians' ability to respond to the demands of the 21st-century digital information environment.

2.4.1 Infrastructural Constraints Affecting Librarians' Practice: Inadequate technological infrastructure significantly limits librarians' ability to deliver innovative, technology-driven services. Effective performance in modern librarianship depends on access to reliable internet connectivity, functional ICT facilities, stable power supply and up-to-date digital tools. However, many librarians in Nigerian academic institutions operate under conditions of frequent power outages, poor internet access and obsolete technological systems. These constraints hinder librarians' use of emerging technologies such as institutional repositories, cloud-based platforms and artificial intelligence tools, thereby restricting their capacity to innovate in service delivery (World Bank, 2023; Okiy, 2021).

2.4.2 Funding Limitations and Professional Development Opportunities for Librarians: Limited funding continues to restrict librarians' ability to engage in innovation-related activities. Adequate financial support is required for librarians' continuous professional development, acquisition of digital competencies, participation in training programmes and exposure to emerging technologies. However, many librarians in Nigerian academic institutions experience limited access to such opportunities due to insufficient institutional funding. This reduces their capacity to update their skills and adopt innovative practices, thereby slowing down service transformation in academic libraries (Adeleke & Olorunsola, 2022; Iwhiwhu & Okorodudu, 2022).

2.4.3 Skills Gaps and Resistance to Innovation among Librarians: A major barrier to innovation in academic libraries is the persistent skills gap among librarians. The rapid evolution of digital librarianship requires competencies in data management, digital curation, information systems and emerging technologies such as artificial intelligence and automation. However, many librarians lack continuous professional development opportunities, resulting in a mismatch between required and existing competencies.

In addition, resistance to change among some librarians further limits innovation adoption. Factors such as low motivation, limited exposure to global best practices and organisational inertia reduce willingness to embrace new service models and technologies. These challenges collectively weaken librarians' ability to implement and sustain innovative library services in academic environments (Cox et al., 2023; Joo & Choi, 2022).

2.5 Theoretical Framework

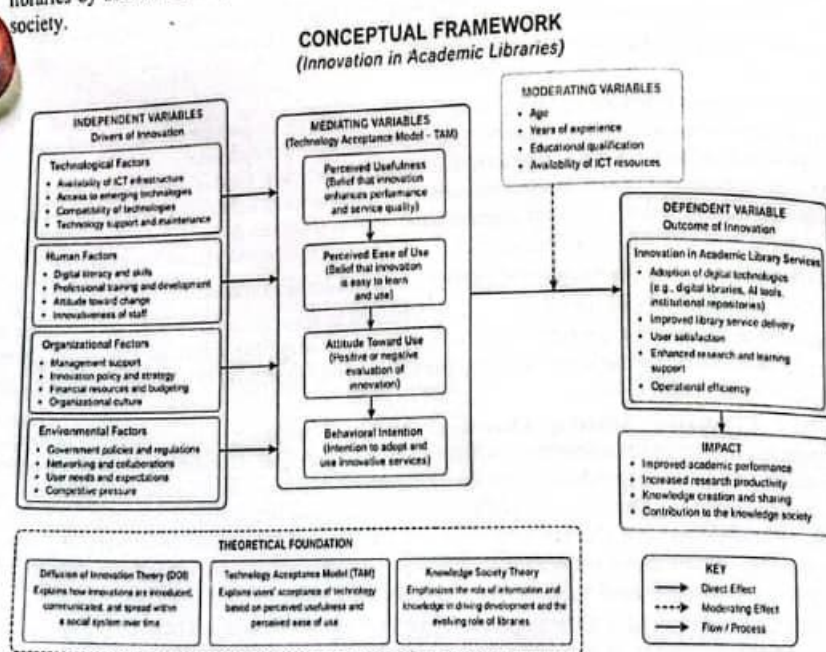
This study was grounded in three key theories that explain how innovation is introduced, accepted and sustained in academic libraries: Diffusion of Innovation (DOI) Theory, Technology Acceptance Model (TAM) and Knowledge Society Theory.

The Diffusion of Innovation Theory explains how new technologies and practices spread within organisations, highlighting stages of adoption and categories of adopters. It shows that factors such as perceived benefits, compatibility and complexity influence how innovations like digital libraries and AI tools are adopted, while challenges such as poor infrastructure and resistance to change slow adoption in developing contexts (Rogers, 2003; Iwhiwhu & Okorodu, 2022).

The Technology Acceptance Model focuses on users' willingness to adopt technology based on perceived usefulness and ease of use. In academic libraries, it explains how librarians and users accept digital tools, noting that limited digital skills and inadequate training can hinder effective utilization (Davis, 1989; Joo & Choi, 2022).

Knowledge Society Theory emphasizes the role of knowledge and information in development, positioning libraries as active contributors to knowledge creation and dissemination. It highlights the need for libraries to adopt digital technologies and innovative services, while stressing the importance of infrastructure, skilled personnel and supportive policies (UNESCO, 2021; World Bank, 2023).

Together, these theories provide a comprehensive framework in figure 1 for understanding innovation in academic libraries by addressing adoption processes, user acceptance and the broader role of libraries in a knowledge-driven society.



The conceptual framework figure 1 explains that innovation in academic libraries results from the interaction of technological, human, organizational and environmental factors. These independent variables determine the capacity for innovation through elements such as ICT infrastructure, staff competencies, institutional support and external pressures.

User perceptions drawn from the Technology Acceptance Model serve as mediating variables, where perceived usefulness and ease of use influence attitudes and intention to adopt new technologies. Moderating factors such as age, experience and access to ICT further shape these relationships.

The outcome (dependent variable) is innovation in library services, reflected in improved service delivery, technology adoption, user satisfaction and operational efficiency. Ultimately, this leads to broader impacts such as enhanced research productivity and contribution to a knowledge-based society.

3. METHODOLOGY

This study adopts a descriptive and analytical research design based on a literature review, relying on existing scholarly works rather than primary data. The descriptive aspect outlines key concepts and trends in academic library innovation, while the analytical component evaluates literature to identify patterns, gaps and relationships. A narrative review approach is used, drawing from credible sources such as Scopus, Web of Science and Google Scholar to ensure rigour and relevance.

The study uses secondary data from peer-reviewed journal articles, books, policy documents, institutional reports (e.g., UNESCO and World Bank) and conference proceedings. These sources provide both theoretical foundations and current insights into digital transformation, innovation and challenges in academic libraries.

For analysis, the study employs thematic and comparative methods. Thematic analysis organizes findings into key areas such as services, technologies, competencies and challenges, while comparative analysis examines differences across regions, especially between developed and developing contexts like Nigeria. Together, these approaches ensure a comprehensive and evidence-based understanding of innovation in academic libraries.

The study applies clear inclusion and exclusion criteria to ensure quality and relevance. Included sources consist of peer-reviewed articles, scholarly books and credible institutional reports (e.g., UNESCO, World Bank), mainly published between 2010 and 2025, with a focus on recent studies addressing library innovation, digital transformation and related themes. Excluded materials include non-peer-reviewed works, irrelevant studies, outdated sources, duplicates and those lacking academic rigor.

Some limitations are acknowledged. The study relies only on secondary data, limiting empirical validation and includes only English-language sources, which may reduce global coverage. It is also subject to publication bias and the challenge of rapidly evolving technologies that may outdate findings over time.

To ensure transparency, a PRISMA-style process was used for literature selection. This involved identifying relevant studies, removing duplicates, screening titles and abstracts, assessing full-text eligibility and finally selecting high-quality studies for analysis. This systematic approach strengthens the credibility and reliability of the review.

RESULTS / ANALYSIS (THEMATIC ANALYSIS)

Emerging Roles of Librarians

The analysis shows that librarians' roles have significantly evolved due to digital transformation and changing user needs. Three key roles emerged: digital facilitators, research support specialists and data managers.

Digital facilitators: Librarians now support users in navigating digital platforms, online databases and virtual learning systems. They enable access to digital resources and bridge the digital divide. This role requires strong ICT competence and user support skills (Cox et al., 2023; Joo & Choi, 2022).

Research support specialists: Librarians increasingly assist researchers with literature searches, systematic reviews, citation management and scholarly publishing. This positions them as active partners in research rather than passive information providers (Tenopir et al., 2023).

Data managers: Librarians also manage research data through collection, organisation, preservation and sharing. This role demands advanced skills in data curation, metadata and research data management systems, which are still developing in many contexts.

Overall, these roles reflect a shift toward technology-driven and research-oriented librarianship, requiring continuous capacity development.

Required Competencies for Librarians in the Digital Age

The findings indicate that evolving roles require librarians to develop new competencies in three main areas: ICT skills, data literacy and teaching skills.

ICT skills: Librarians must be proficient in digital systems, databases, metadata management and emerging technologies. However, ICT skill gaps remain a major challenge in many developing contexts, including Nigeria (Adeleke & Olorunsola, 2022).

Data literacy: Librarians are expected to support research data management, including data curation, ethics and preservation. This competency is essential in modern research environments (Tenopir et al., 2023).

Teaching skills: Librarians now deliver information literacy instruction and support curriculum integration. This requires pedagogical and instructional design skills (Bawden & Robinson, 2022).

These competencies collectively define modern librarianship and are critical for effective service delivery in digital academic environments.

Gaps Identified in the Literature

Two major gaps emerge from the literature: skills mismatch and institutional weaknesses.

Skills mismatch: There is a clear gap between librarians' existing skills and the competencies required for modern digital services such as AI tools, data management and digital scholarship support (Cox et al., 2023).

Institutional weaknesses: Poor funding, weak policy support and limited strategic investment hinder innovation in academic libraries. These conditions restrict infrastructure development and staff capacity building (World Bank, 2017). Overall, the literature shows that limited human capacity and weak institutional support jointly constrain innovation in academic libraries.



DISCUSSION

Theoretical Interpretation

Diffusion of Innovation Theory: The study findings show slow adoption of innovation due to infrastructure-related limited funding and weak skills. These barriers increase the perceived complexity of new technologies, hindering diffusion in academic libraries (Rogers, 2003).

Technology Acceptance Model (TAM): Even where technologies exist, low perceived ease of use and lack of training driven by skills gaps and limited training reduce adoption among librarians (Davis, 1989).

Together, both theories explain that innovation depends on both institutional readiness and individual acceptance. **Global Comparison (Developed vs Developing Contexts)**

In developed countries, academic libraries operate advanced digital systems, including AI tools, strong infrastructure and well-funded digital scholarship services. Innovation is systematic and well-supported.

In contrast, libraries in developing countries like Nigeria face infrastructural deficits, funding limitations and shortages. Innovation is slower and often fragmented.

However, global initiatives in open access and capacity building are gradually narrowing this gap (World Bank, 2017). **Nigerian Context: Structural and Policy Barriers**

In Nigeria, innovation in academic libraries is constrained by poor ICT infrastructure, unstable power supply and inadequate funding. These structural issues limit digital service delivery and innovation sustainability.

Policy-related challenges, including weak implementation of library development policies and low institutional prioritisation, further hinder progress. As a result, there is a gap between policy intentions and actual practice.

Despite these challenges, emerging digital initiatives and international support provide opportunities for improvement, but sustained investment in infrastructure and librarian capacity is essential.

STRATEGIES FOR ENHANCING INNOVATIVE SERVICE DELIVERY AMONG LIBRARIANS

This section presents key strategies for strengthening librarians' capacity for innovative service delivery in academic libraries. The strategies are derived from the literature and address identified skills and institutional gaps affecting librarians in the digital knowledge economy.

Continuous Professional Development for Librarians

Continuous professional development is essential for equipping librarians with the digital and research competencies required in modern academic libraries. Regular training programmes, workshops and certifications in areas such as digital librarianship, data management, artificial intelligence and information systems are critical. Participation in conferences and professional networks further enhances librarians' exposure to global best practices and emerging technologies.

Reform of Library and Information Science (LIS) Education

LIS curricula should be updated to equip future librarians with relevant 21st-century competencies. This includes training in digital libraries, data science, research data management, digital scholarship and information analytics. Practical, technology-based learning is necessary to bridge the gap between academic preparation and professional demands in innovative library environments.

Strengthening ICT Competence through Institutional Support

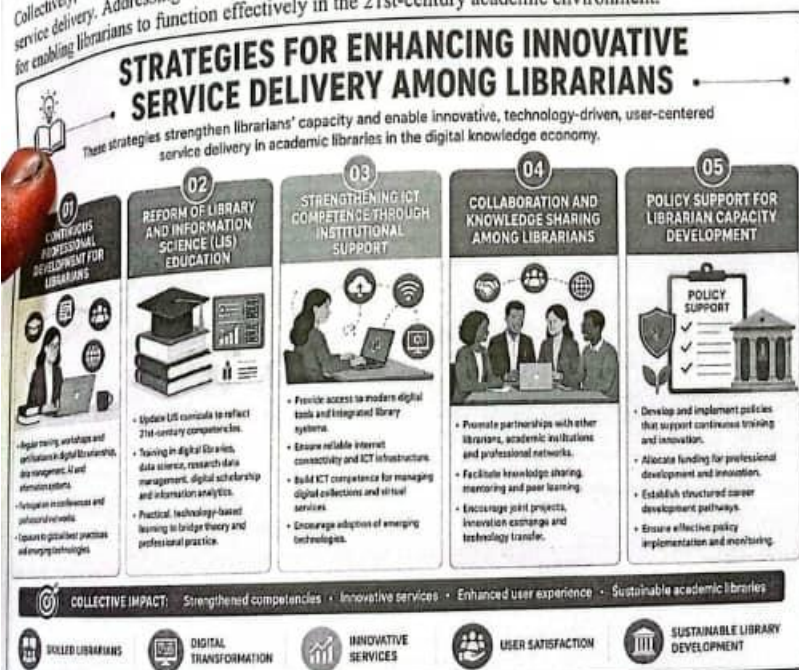
Librarians require sustained institutional support to effectively apply ICT in service delivery. This includes access to modern digital tools, integrated library systems and stable internet services. Strengthening ICT competence enables librarians to manage digital collections, support virtual services and adopt emerging technologies effectively.

Collaboration and Knowledge Sharing among Librarians

Professional collaboration enhances librarians' innovation capacity through shared learning and exposure to new practices. Partnerships with other librarians, academic institutions and professional networks provide opportunities for skill development, mentoring and technology transfer. Such collaborations strengthen librarians' ability to adopt innovative service models.

Policy Support for Librarian Capacity Development

Strong institutional and national policies are required to support continuous capacity building for librarians. Policies should prioritise training, innovation funding and structured professional development pathways. Effective implementation ensures that librarians are adequately prepared to respond to evolving service demands. Collectively, these strategies emphasise strengthening librarians' competencies as the foundation for innovative library service delivery. Addressing skills gaps, improving training systems and enhancing institutional support are essential for enabling librarians to function effectively in the 21st-century academic environment.



CONCLUSION

This study set out to examine the need for innovation in academic libraries, identify key challenges and propose strategies for improving innovative service delivery, particularly within the Nigerian context. The review of literature demonstrates a clear shift in the role of academic libraries from traditional information custodians to dynamic,

technology-driven knowledge service providers. This transformation is driven by rapid technological advancement, the growth of the knowledge economy and increasing user expectations for fast, seamless and digital access to information. A core argument emerging from the study is that innovation in academic libraries is no longer optional but essential for relevance and sustainability. However, despite this necessity, libraries especially in developing countries continue to face persistent challenges such as inadequate infrastructure, limited funding, skills gaps and weak institutional and policy support. These constraints significantly slow down the adoption and effective implementation of innovative library services. The study also emphasises the urgency of addressing these challenges, as delays in innovation deepen the digital divide between developed and developing library systems. In an era defined by data-intensive research, artificial intelligence and digital scholarship, academic libraries that fail to innovate risk marginalisation within the broader knowledge production ecosystem.

Importantly, the findings reaffirm the continued relevance and strategic importance of librarians in the digital age. Far from becoming obsolete, librarians are increasingly central to research support, data management, digital literacy training and knowledge facilitation. Their evolving roles position them as key actors in enabling access to information, supporting academic success and advancing institutional research output.

In conclusion, sustainable innovation in academic libraries requires coordinated efforts in professional development, infrastructure investment, curriculum reform, collaboration and strong policy frameworks. Strengthening these areas will ensure that libraries remain vital, responsive and impactful institutions within the global knowledge economy.

Recommendations

Based on the findings of this study, it is recommended that academic institutions strengthen continuous professional development programmes for librarians, particularly in emerging areas such as digital librarianship, data management and artificial intelligence applications. Library and Information Science curricula should be updated to reflect current digital realities. Furthermore, institutions should improve ICT infrastructure and promote collaborative learning opportunities among librarians. Finally, strong policy support is required to ensure sustained capacity development and innovation in library service delivery.

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