

# REDEFINING THE ROLES AND COMPETENCIES OF ACADEMIC LIBRARIANS IN ENHANCING ACCESS TO ELECTRONIC RESOURCES: A CASE STUDY OF NATIONAL OPEN UNIVERSITY OF NIGERIA (NOUN) LIBRARY

**Lucy Ndidiamaka Okonkwo (Phd)**

National Open University of Nigeria, Abuja

**Faith Tinuola Ige**

National Open University of Nigeria, Abuja

**Frances Ngozi Nkenchor**

National Open University of Nigeria, Abuja

## Abstract

This study examines the redefined roles and competencies of librarians in promoting global academic excellence, using the National Open University of Nigeria (NOUN) as a case study. The research addressed three objectives and corresponding questions through a descriptive survey of 60 professional academic librarians. The study employed merely rating scale. Data were collected using a structured questionnaire based on a three-point rating scale (Highly Competent, Moderately Competent, and Not Competent). The instrument, titled Evolving Roles and Competencies of Academic Librarians for Accessibility of Users, assessed respondents' competencies across various technological domains. Findings revealed both opportunities and challenges in adapting to technological changes, with notable skill gaps in digital fluency, data analytics, and instructional technology. Librarians showed low involvement in transitioning from manual cataloguing and classification to electronic systems (mean = 1.86) and from manual to virtual reference services (mean = 1.96). Critical deficiencies were also found in database administration, KOHA usage, and digitization practices. These gaps indicate a growing need for digital up skilling and strategic engagement with technology. The study recommends structured digital training, practical skill development in key areas, incentivized certification programs, and mentorship initiatives targeting digital tools, leadership, and collaboration. These interventions are essential for preparing librarians to meet the demands of technology-driven academic environments and support global academic excellence.

**Keywords:** Roles, Competencies, Librarians, Educational Technologies, Academic Excellence

## Introduction

Library and information services in academic institutions, particularly in academic libraries, have undergone significant technological transformation in recent decades. The

integration of emerging educational technologies has redefined the traditional roles of librarians, demanding new sets of digital competencies to remain relevant, effective, and impactful in the academic landscape. In the 21st century, academic excellence is increasingly dependent on the capacity of librarians to harness digital tools, manage electronic resources, and facilitate user access to knowledge in dynamic and innovative ways.

Globally, librarianship has shifted from being primarily custodial focused on print collections and manual cataloguing—to being technologically driven and service-oriented, emphasizing digital fluency, user-centered services, and adaptive pedagogies. In academic institutions, librarians are now expected to perform multifaceted roles such as digital curators, instructional technology facilitators, database administrators, and collaborators in scholarly communication. These evolving responsibilities underscore the centrality of competencies in information and communication technologies (ICTs), data analytics, digitization, and e-learning support systems. Consequently, the relevance and effectiveness of academic libraries in promoting global academic excellence hinge on the ability of librarians to acquire, refine, and apply these competencies in practical contexts.

In Nigeria, academic libraries face a dual challenge: the need to embrace technological innovations while overcoming persistent gaps in infrastructure, training, and professional development. The National Open University of Nigeria (NOUN), as the largest provider of open and distance learning in the country, offers a unique context for examining these issues. As a technology-driven institution, NOUN relies heavily on electronic resources, digital platforms, and virtual services to support its diverse and geographically dispersed student population. This reality places librarians at the core of ensuring equitable access to information resources, yet it also exposes deficiencies in digital readiness and technological engagement.

This study therefore examines the redefined roles and competencies of academic librarians in enhancing access to electronic resources within NOUN Library. Specifically, it assesses librarians' digital competencies across technological domains, explores areas of strength and deficiency, and identifies opportunities and challenges in adapting to a rapidly changing information environment. By focusing on roles, competencies, librarians, educational technologies, and academic excellence, the study not only highlights the urgent need for digital upskilling but also proposes strategic interventions such as structured training, mentorship initiatives, and incentivized certification programs that can empower librarians to effectively support technology-driven academic environments. Ultimately, this inquiry contributes to the broader discourse on how academic librarians can redefine their professional identity and strategically align their competencies with global trends to promote academic excellence.

### **Statement of problem**

The rapid integration of emerging educational technologies, such as artificial intelligence, virtual learning environments, and mobile learning platforms, is transforming higher education globally. In Open and Distance Learning (ODL) institutions like the National Open University of Nigeria (NOUN), these technologies are central to delivering quality, flexible education. NOUN has made significant strides in adopting technology to support teaching, learning, and research. However, the evolving technological landscape raises concerns about the adequacy of librarians' professional roles and competencies in supporting these advancements. Traditionally, librarians have been custodians of information, focusing on the acquisition, organization, and dissemination of learning resources. In NOUN, where digital and distance learning is the operational model, librarians are expected to take on more dynamic roles, including digital content curation, instructional

collaboration, user training in digital literacy, and support for online learning platforms. However, many librarians at NOUN are not fully equipped due to insufficient training, institutional support, or policy frameworks to meet the demands of these emerging roles.

The problem is compounded by the lack of a clear institutional strategy to redefine librarians' roles and competencies in line with current technological needs. While NOUN continues to expand its digital infrastructure, the absence of a proactive approach to repositioning library professionals may hinder its mission for academic excellence. This misalignment affects the effective use of educational technologies and limits students' and faculty members' access to digital resources. There is also a noticeable gap in scholarly discourse about how librarians at NOUN can be empowered to contribute meaningfully to the university's goals. This study aims to examine how the roles and competencies of librarians at NOUN can be redefined to support emerging educational technologies, enhancing the university's capacity to deliver quality ODL services and promote academic excellence.

### **Research Questions**

The following research questions were formulated to guide the study:

1. What are the redefining roles and competencies of academic librarians for accessibility of users in National Open University of Nigeria (NOUN)?
2. What are the key competencies among academic librarians in digital libraries for accessibility of users in National Open University of Nigeria?
3. What are the strategic frameworks for academic librarians' competencies in National Open University of Nigeria?

### **Literature Review**

#### ***Redefining Librarianship in the Digital Age***

Technological advancements have significantly expanded the roles of librarians beyond traditional duties to include instructional support, digital curation, research data management, and learning analytics (Corrall, 2019). Traditionally, academic librarians curated, organized, and disseminated information (Lippincott, 2015). However, the rise of educational technologies has transformed librarianship, particularly in Open and Distance Learning (ODL) institutions like the National Open University of Nigeria (NOUN). Librarians are now expected to support digital literacy, data management, and instructional technologies (Aharony & Gazit, 2020; Corrall, 2019). This review highlights the evolving roles of librarians, key competency gaps, and strategies for enhancing their effectiveness in tech-driven learning environments.

### ***Emerging Technologies and Their Impact***

Emerging technologies are innovative tools that are not yet widely adopted but significantly impact information handling. Rotolo, Hicks, and Martin (2015) describe these technologies as novel, fast-growing, consistent, impactful, and uncertain. Examples include cloud computing, virtual reality, social networks, metadata, and mobile computing. Libraries now hire professionals specializing in these technologies (Radiniecki, 2013). According to AIU (2020), emerging technologies in library science include RFID, QR codes, robotics, library automation, and semantic technologies. These tools revolutionize how libraries collect, process, store, and disseminate information.

### ***Evolution of Academic Librarianship***

Academic librarianship has evolved from traditional gatekeeping to proactive technology facilitation (Adeleke & Emeahara, 2016). This shift is especially evident in ODL environments like NOUN, where digital platforms dominate teaching and research (Jegade, 2021). Tools such as artificial intelligence (AI), virtual reality (VR), and cloud computing are

redefining information access and use (Joo, Choi, & Baek, 2018). Recent research underscores the librarian's role in facilitating online learning, managing open educational resources (OER), and promoting digital literacy (Shuqin & Majid, 2022). Furthermore, librarians are increasingly involved in managing learning management systems (LMS) and digital repositories (Mune, Togia, & Tzoc, 2021).

### ***Emerging Roles in ODL Institutions***

In ODL settings, librarians serve diverse, geographically spread learners (Nebeolise, 2019). Adeyemi (2021) emphasizes the growing need for librarians to mentor students and faculty in navigating digital resources. Librarians are also becoming instructional designers, collaborating with educators to embed digital literacy into curricula (Vassilakaki & Moniarou-Papaconstantinou, 2017). Brown (2020) notes a shift to learner-centered approaches where librarians assume instructional roles. Their active participation in MOOCs, LMS platforms, and OER initiatives establishes them as key stakeholders in digital education (Koltay, 2021).

### ***Competency Challenges and Skills Gaps***

As librarianship evolves, so too must the required competencies. Scholars identify digital fluency, instructional technology, and data analytics as crucial skills (Lau, 2021; Singh & Chatterjee, 2020). Digital fluency includes navigating and evaluating digital tools, while data analytics enables librarians to use data for decision-making (Tenopir et al., 2019). However, significant gaps remain, especially in developing countries. Ezema and Ugwu (2019) found that many Nigerian academic librarians lack advanced digital skills. Similarly, Okike (2021) highlights a lack of training in instructional technology, which limits librarians' support for technology-enhanced learning.

### ***Strategic Approaches to Improving Technological Proficiency***

To bridge these competency gaps, scholars recommend strategic frameworks focused on continuous professional development (CPD) and structured training (Hussain & Anwar, 2022). Partnerships among universities, library associations, and tech companies can offer hands-on training in digital tools (Lison & Song, 2020). Incorporating competency-based modules into library science curricula is also advocated (Baro & Keboh, 2021). Mentorship and peer-learning can further enhance skills in emerging technologies (Xie, 2022). A blended learning model—combining workshops, online courses, and practical sessions—can build librarians' capacity for supporting educational technologies (Abubakar & Issa, 2019).

### ***Technology Acceptance Model (TAM)***

The Technology Acceptance Model (TAM) was developed by Davis in 1986. According to Scherer et al. (2019), the model explains how people accept and use new technology. Davis believed that two main factors affect whether people will use a system: perceived usefulness and perceived ease of use. Perceived usefulness means how much a person believes that using a system will help improve their job performance. Perceived ease of use means how much a person believes that using the system will not be difficult. If librarians believe that new technologies will help them in their work, they will be more motivated to use them. Also, if they think the technologies are easy to use, they will be more willing to adopt them. TAM has been used in many studies to understand how people accept and use different technologies in many fields, including Library and Information Science. For example, Ammarukleart (2017) used TAM to study why faculty members in Thailand use institutional repositories. The study found that expectations about performance, social influence, and resistance to change all affect whether faculty members want to use these repositories. Scherer et al. (2019) also praised TAM as a useful model for explaining how teachers accept digital technologies in education. In Library and Information Science, many

services now use new technologies. For librarians to deliver services effectively, they must accept and use these technologies. If they do not, service delivery may suffer. This study uses the TAM model to explore how librarians accept and use emerging technologies in their work.

### **Research Methodology:**

The study adopted a descriptive survey research design. Lodico, Spaulding, and Voegtle (2016) noted that descriptive surveys typically use researcher-developed instruments and yield mostly quantitative responses. The study focused on the six geopolitical zones of Nigeria, covering 116 NOUN study centres. The population comprised all 60 professional academic librarians across these centres, representing 100% of the target group. Due to the small size of the population, no sampling was applied, aligning with Nworgu's (2011) recommendation to study the entire population in such cases. Data collection was done using a structured questionnaire, developed by the researchers based on the study's research questions. It included both structured and unstructured items to allow for both quantitative and expressive qualitative responses. The instrument was titled *Redefining the Roles and Competencies of Librarians in Supporting Emerging Educational Technologies (RRC-LSEET)*. Questionnaires were administered through online platforms and personal contact, with support from two trained research assistants selected from the study population for better familiarity with the environment. These assistants ensured the instrument reached only professional librarians and followed up for completion and retrieval. The Paper employed merely rating scale and data were analyzed using frequency, simple percentage, and mean. Items measuring applicability were analyzed by percentage, while those assessing effectiveness and opinions used mean scores. A score of 50% and above indicated acceptance; below, rejection. A mean score of 2.00 or higher indicated a

positive response. For research question 1, scores  $\geq 2.0$  indicated involvement; for questions 2 and 3, scores  $\geq 2.0$  reflected competence and estimation respectively.

**Results and Discussion:**

**Research Question 1: What are the redefining roles and competencies of academic librarians for accessibility of users in NOUN?**

**Table 1: Mean Score of the Evolving Roles and Competencies of Academic Librarians for Accessibility of Users in National Open University of Nigeria (NOUN)**

Roles	Highly Involved (F%)	Moderately Involved (F %)	Not involved (F%)	Mean Score	Involved Status
Manual acquisition documentation to digital acquisition resource management	20 33%	25 42%	15 25%	2.08 3rd	Involved
Manual reference services to virtual Reference Services	18 30%	22 37%	20 33%	1.96 5th	Not involved
Face- to Face classroom learning to E-learning Support	25 42%	20 33%	15 25%	2.16 2nd	Involved
Manual indexing and shelving of Intuitional Repository (IR) to digitalized IR Management	15 25%	30 50%	15 25%	2.00 4th	Involved
Manual cataloguing and classification practices to E-cataloguing and classification	12 20%	28 47%	20 33%	1.86 6th	Not involved
Library orientation to Information Literacy Training to online library orientation literacy training	28 47%	22 37%	10 17%	2.30 1st	Involved

**Table 1** shows that Library orientation to Information Literacy Training to online library orientation literacy training (LOILT-LOOLT) with mean score of 2.30, Face- to Face classroom learning to E-learning Support (FCL-ELS) with 2.16, Manual acquisition documentation to digital acquisition resource management (MAD-DARM) with mean score of 2.08, and Manual indexing and shelving of Intuitional Repository (IR) to digitalized IR Management (MISIR-DIRM) with mean score of 2.00 have the highest involvement and high significant of librarians contributions while the evolving roles of librarians for Manual cataloguing and classification practices to E- cataloguing and classification practices (MCCP-ECCP) with 1.86 and Manual reference services to Virtual Reference Services (MRS-VRS) with mean score of 1.96 indicating lower or moderate librarian involvement in these roles based on respondents' views, suggesting a growing need for digital upgrading management and virtual interactions, revealing gaps in these areas that require further training.

In research question one (1) discussion, Expanded Librarian Roles in Digital Education indicated that Librarians are now actively involved in Information Literacy Training (ILT), Research Data Management (RDM) and E-Learning Support (ELS). There is less engagement in Virtual Reference (VR) and Institutional Repositories Management (IRM). The researcher suggests a need for capacity-building in managing digital assets.

**Research Question 2: What are the key competencies among academic librarians in digital libraries for accessibility of users in NOUN?**

**Table 2: Mean score and key competencies and skills gaps among librarians in digital fluency, data analytics, and instructional technology.**

Competency Area	Highly Competent (F%)	Moderately Competent (F%)	Not Competent (F%)	Mean Score	Competency Status
Communication	20	25	15	2.08	2nd Competent

Skills	33%	42%	25%			
Information Retrieval Abilities	22	20	18	2.07	3rd	Competent
Design Skills	37%	33%	30%			
	15	22	23	1.82	7th	Not
	25%	37%	38%			Competent
Database Administration Skills	12	18	30	1.70	10th	Not
	20%	30%	50%			Competent
Multitasking Skills	25	20	15	2.17	1st	Competent
	42%	33%	25%			
Digital Resource Management	18	22	20	1.97	5th	Not
	30%	37%	33%			Competent
Use of Digital Library Software(KOHA) e.g E-Catalouging and Classification	10	25	25	1.75	9th	Not
	17%	42%	42%			Competent
Document Scanning and Digitization	14	20	26	1.80	8th	Not
	23%	33%	43%			Competent
Resource Sharing	16	22	22	1.90	6th	Not
	27%	37%	37%			Competent
User Assistance In Information search	19	24	17	2.03	4th	Competent
	32%	40%	28%			

**Table 2** from the analysis , using the mean score revealed that, multitasking skills (MTS) ranks the top most with 2.17 followed by Communication skills (CS) 2.08, Information retrieval Abilities (IRA) with 2.07 ranked 3<sup>rd</sup>. Database Administration skills (DAS) with 1.70 is the least adjudged role of the librarians and so on. Therefore, from the analysis, the places that ranked from 1<sup>st</sup> to 3<sup>rd</sup> are where the NOUN library has the high competent librarians. The gap actually in skills are found in DAS that ranked 10<sup>th</sup> and use of Library (UDLS) rated 1.75 and Document Scanning and Digitization (DSD) has 1.80. Therefore, the area necessary to fill/upgrade the skills of the librarians are from those lower competent. Therefore, table 2 revealed that communication Skills, Multitasking, and Information Retrieval show relatively strong competencies, but further improvement is needed. In the case of Database Administration, Digital Library Software (KOHA), and Document Scanning and Digitalization

(DSD) have the highest skill gaps, with over 25 librarians needing training. Design Skills and Resource Sharing require additional up skilling improving digital education facilitation.

In research question two (2) discussion, Competency Gaps in Digital and Technical Skills shows that Database Administration, Digital Library Software, and Document Scanning have the largest skill gaps. More so, Design Skills and Resource Sharing require additional training for effective digital content management.

**Research Question 3:** What are the strategic frameworks for academic librarians' competencies in NOUN?

**Table 3: Strategic Frameworks for academic librarians' competencies**

Up skilling Strategy	Recommended Participants (F%)	Estimated Effectiveness (F %)	Estimated Non-Effectiveness (F%)	Mean Score	Effectiveness Ranking
Workshops on Effective Communication	7 12%	6 10%	1 1.7%	0.56	5 <sup>th</sup>
Advanced Information Retrieval Training	9 15%	7 12%	2 3.3%	0.61	3 <sup>rd</sup>
Graphic Design and UI/UX Training	8 13%	5 8.3%	3 5%	0.60	4 <sup>th</sup>
Database Administration Certification	7 12%	4 6.7%	3 5%	0.53	6 <sup>th</sup>
Time Management and Multitasking Seminars	8 13%	7 12%	1 1.7%	0.65	2 <sup>nd</sup>
Digital Library Software(KOHA) Training	9 15%	7 12%	2 3.3%	0.71	1 <sup>st</sup>
Document Scanning and Digital Archiving Workshops	5 8.3%	4 6.7%	1 1.7%	0.40	7 <sup>th</sup>
Resource Sharing and Collaboration	4 6.7%	3 5%	1 1.7%	0.31	8 <sup>th</sup>

Training

User-Centred Information Search Strategies	3 5%	2 3.3%	1 1.7%	0.23	9th
Total	60	45	15		

**Table 3** presents a data-driven analysis of upskilling strategies essential for librarians in today’s technology-driven, user-centered academic landscape. KOHA training, with a mean score of 0.71, ranked highest, emphasizing the importance of digital library system proficiency—cataloguing, circulation, acquisitions, serials, OPAC, and automation—for modern service delivery. Time Management and Multitasking (0.65) and Advanced Information Retrieval (0.61) follow closely. Despite their importance, user-centered search strategies ranked lowest, revealing a significant gap in training for personalized services, which may impact user satisfaction. The rankings highlight a shift from traditional custodianship to roles requiring digital expertise, user experience design, and data management. Emphasis on digital tools, personal productivity, and retrieval skills shows that librarians must thrive in digital environments while managing time effectively. However, low ratings in collaboration, digital preservation, and user-focused strategies indicate critical skill gaps. Upskilling should address immediate technical needs while promoting long-term goals of sustainability, innovation, and personalized service.

In research question three (3) discussion, Strategic Up skilling Approaches Shows that Certifications and hands-on training in Database Administration, Digital Library Software, and AI Technologies are crucial. Workshops on Effective Communication, Multitasking, and Resource Sharing will enhance service delivery.

**Recommendation:**

Based on the findings of the study, the researchers recommended that:

**1. Strengthen Librarian Involvement in Underserved Roles:**

The study suggests that librarians need more training to handle modern technology in libraries. Management should help librarians learn how to manage digital collections, answer users' questions online (like through WhatsApp or live chat), and be more visible in virtual classrooms.

**2. Address Competency and Skill Gaps through Targeted Capacity Building:**

**Findings from Research Question 2 exposed critical skill gaps in areas like Database Administration, KOHA, and Digitization.** The study found that many librarians lack skills in using important library software like KOHA, managing databases, and handling digital materials. So, training programs should be organized to teach these skills, including how to scan and preserve documents.

**3. Implement a Strategic Upskilling Framework for Sustainable Impact:**

The study recommends a long-term training plan for librarians, starting with basic digital tools and progressing to advanced services and leadership skills. Senior staff should be trained to teach others, and certification should be encouraged to improve efficiency. A strategic upskilling framework, along with complementary initiatives like personal development programs and train-the-trainer modules, will ensure librarians are well-prepared for technology-driven roles and continuous professional growth.

**Conclusion**

The analysis highlights the need for a significant shift in the roles and competencies of academic librarians at NOUN, driven by emerging educational technologies. Librarians are now more engaged in Information Literacy Training, E-learning support, and Digital

Resource Management, reflecting their evolving relevance in digital learning environments. However, notable gaps exist in technical areas such as Database Administration, KOHA software, and Digitization, requiring targeted training. While soft skills like communication and multitasking are adequate, improvements in virtual reference services, collaborative resource sharing, and user-centered services are essential. The strategic roadmap in Table 3 outlines priority areas for up skilling, with KOHA, time management, and advanced information retrieval at the forefront. Despite progress, lower performance in technical competencies suggests the need for sustained interventions and mentoring. To ensure librarians excel in a digital-first academic landscape, NOUN must adopt a balanced strategy that enhances both technical and service-oriented skills, promoting innovation, adaptability, and global competitiveness.

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