Digital Age and Academic Libraries in Nigeria: The Emerging Roles of Academic Librarians

BY

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Abstract

The digital revolution has transformed how information is created, disseminated, accessed, and used, thereby necessitating academic librarians to rethink their roles, skills required, and practices. This systematic review examines the evolving role of academic librarians in Nigeria in the digital age and how they need to adapt to meet the changing information needs of users, emerging technologies, and new information landscapes. Through a comprehensive analysis of existing literature, this review identifies and synthesizes the key roles, competencies, and challenges facing academic librarians in the digital era. This paper therefore, examined the impact of digital age on academic libraries and the emerging roles of academic librarians in meeting the changing needs of students, researchers, faculty members, and other user communities. Literature review approach was adopted for the data collection. The author's experience and views were also used to analyze documents, identify key themes, generate ideas, and draw the conclusion on the topic. The findings highlight the importance of developing technological expertise, cultivating digital literacy skills, engaging in data management and curation, fostering collaborations, and embracing a user-centric approach. The paper conclude that the role of academic librarians in the digital age is multifaceted and critical to the success of higher educational institutions in Nigeria. By providing a holistic understanding of the evolving landscape, this review recommended to academic librarians, library administrators, and other stakeholders about the strategies and best practices necessary to thrive in the digital age for meeting users changing information needs.

Keywords: Academic Libraries, Academic Librarians, Digital Age, Librarians Emerging Roles

Introduction

The significant roles of academic libraries and academic librarians cannot be over emphasized in the digital age. Academic librarians play a crucial role in the digital age, as they navigate the rapidly evolving landscape of information resources and emerging technologies. Emerging technologies are products of advances in technology that cut across all fields of human endevours. The emerging technologies in libraries include integrated library management systems (ILMS) such as Koha, Radio Frequency Identification (RFID), Blockchain technology, Internet of Things (IoT), Cloud Computing, and other forms of artificial intelligence. All these forms of technologies had resulted into emergence of new roles for academic librarians. These roles involves not only acquiring and organizing digital materials but also developing and implementing metadata standards, preserving digital content, ensuring data management, promoting digital scholarship, digital humanities, maker space, applications of artificial intelligence (AI), and providing seamless access to information resources through library online catalogs and databases. In an era where knowledge is increasingly accessible through different digital platforms, librarians have become essential guides and facilitators, ensuring that students, researchers, faculty members, and other scholars can effectively locate, evaluate, and utilize the vast array of available information resources (Vassilakaki & Moniarou-Papaconstantinou, 2015).

One of the primary responsibilities of academic librarians in the digital age is to curate and manage digital collections, ensuring that high-quality and relevant resources are available to the academic community (Kwanya et al., 2022). This implied that as the digital age evolves, it is necessary that academic librarians continue to update their skills, and in addition to traditional roles, they have to embrace the emerging ones. According to Mukhtar and Maidabino (2021), in the digital age, librarians have to continue performing their role of selecting, acquiring, organizing, and managing electronic information resources for utmost utilization by their client. This implied that both print and electronic resources need to be made accessible to library users in line with their ICT-based information seeking behaviours. Moreover, academic librarians play a vital role in information literacy instructions, equipping students and researchers with the necessary skills to navigate the digital information landscape effectively (Saunders, 2015). They teach critical thinking, research strategies, and evaluation techniques, enabling users to assess the credibility and relevance of digital resources, and to synthesize information from various sources ethically and accurately.

Furthermore, academic librarians serve as collaborators and partners in the research process, working closely with faculty members and researchers to support their scholarly endeavors (Corrall et al., 2013). They provide specialized research support in form of consultations for literature reviews, and data management services, leveraging their expertise in information retrieval and analysis to enhance the quality and impact of academic work.

Despite the increasing attention to address the emerging roles of academic librarians to enable them contribute to digital transformations of educational institutions, the academic libraries are still not developed. This paper therefore, aims to contribute in filling this gap by examining the impact of digital age on academic libraries and the emerging roles of academic librarians in meeting the changing needs of students, researchers, faculty members, and other user communities. Literature review approach was adopted for the data collection. Thus, a review of existing literature was made on the impact of digital age on Nigerian academic libraries which led to emerging roles of the academic librarians. The author's experience and views were also used to analyze documents, identify key themes, generate ideas, and draw the conclusion on the topic.

The digital age otherwise known as information age can be describe as a situation whereby digital technologies had greatly transformed the ways individuals, governments, organizations and societies use computers, smartphones, ICTs, and related devices to handle various tasks beyond human capabilities. According to Castells (2000), digital age is characterized by widespread applications of digital technologies, proliferations of digital information, and increasing networking of people and digital devices. In other words, the ways of living, working, and communicating at individual, organization and the society has changed significantly due to impact of digital age. Academic librarians therefore, have to take advantage of the digital age and become advocates for open access and digital scholarly communication, promoting the dissemination of knowledge and research findings through institutional repositories, open educational resources, and other digital platforms (Katsirikou & Sefertzi, 2000). They are acknowledged to play a pivotal role in educating the academic community about intellectual property rights, copyright issues, and the responsible use of digital content.

Despite the rapid changes brought about by technology, academic librarians remain essential partners in the pursuit of knowledge, providing valuable guidance, resources, and support to the academic community (Vassilakaki & Moniarou-Papaconstantinou, 2015). Their role has evolved

to encompass new skills and responsibilities, but their commitment to facilitating access to information and promoting scholarly excellence remains unwavering. This review therefore, aims to inform academic librarians, library administrators, and other stakeholders about the strategies and best practices necessary to thrive in the digital age for meeting users changing information needs. Hence, this paper is a framework for effective roles of librarians in Nigerian academic libraries. It is believed that the frame work will serve as guide for librarians and other stakeholders in repositioning their libraries to meet the needs and expectations of library customers in the digital age.

Emerging Roles of Academic Librarians in the Digital Age

In the digital age, academic librarians are increasingly taking on new roles and responsibilities to meet the evolving needs of their institutions and users. The emerging roles of librarians are response to the transformations in their parent institutions (Ekoja, 2020). This means that as tertiary educational institutions are witnessing changes in curriculum contents, pedagogical approaches, and mode of lessons delivery, so also the roles of librarians have to change. After all, in the digital age, libraries are essentially agent of providing access and dissemination of information. Therefore, some of the emerging roles identified in the literature are:

i. Digital Literacy Educators

One of the primary roles of academic librarians in the digital age is serving as digital literacy educators. Librarians are tasked with teaching students, faculty, and staff essential digital skills, such as information literacy, digital literacy, media literacy, and critical thinking. They conduct workshops, training sessions, and one-on-one consultations to help users navigate digital resources, evaluate information credibility, and develop digital competencies necessary for academic success and lifelong learning (Smith & Sutherland, 2019).

ii. Technological Experts

Academic librarians are increasingly serving as technological experts within their institutions, providing support for the implementation and use of technology in teaching, learning, and research. They assist faculty and students in leveraging technology tools and platforms for online teaching, virtual collaboration, data analysis, and digital scholarship. Librarians also play a key role in evaluating and recommending new technologies, software, and digital resources to enhance

academic workflows and productivity (Green & Weingart, 2018). In other words, librarians have to play a primary role of providing supports to their customers in various ways such as personalization and customization services for enhancing access to information resources and services.

iii. Data Management and Curation Specialists

With the proliferation of data-driven research and the emphasis on open science initiatives, academic librarians are assuming roles as data management and curation specialists. They support researchers in managing, organizing, and preserving research data throughout the data lifecycle. Librarians provide guidance on data management best practices, data documentation, metadata standards, and data sharing policies. They also collaborate with faculty and researchers to develop data management plans and ensure compliance with funding agency requirements (Johnston & Carlson, 2018).

iv. Scholarly Communication Facilitators

As stewards of scholarly communication, academic librarians play a critical role in facilitating the dissemination and access to research outputs. They support authors in understanding copyright, licensing, and publishing outlets and available options, including open access publishing models. Librarians manage institutional repositories, support journal hosting services, and provide guidance on scholarly publishing practices, including citation metrics, altmetrics, and author identifiers (Pegler & Preece, 2020).

v. Embedded Librarians and Collaborators

Embedded librarianship has emerged as a model for librarians to integrate into academic departments, research centers, or interdisciplinary teams. Embedded librarians collaborate closely with faculty and researchers to provide customized library services, information resources, and research support tailored to specific disciplines or projects. They participate in curriculum development, research consultations, and collaborative projects, contributing expertise in information discovery, literature reviews, and knowledge synthesis (Farrell & Badke, 2015).

vi. User Experience Designers

Academic librarians increasingly pay attention to user experience (UX) by designing services that focus on meeting users' needs in terms of quality resources, spaces, and user friendly digital interfaces. Hence, libraries apply principles of UX design to create, user-friendly library websites, search interfaces, and online learning platforms. Librarians also conduct usability factors assessment, user surveys, and feedback analysis to identify the changing user needs and preferences. All these are geared towards improvement of library systems and resources provision. (Chow & Sajonas, 2020).

Through these emerging roles, academic librarians are actively adapting to the digital age, leveraging their expertise and resources to support teaching, learning, research, and scholarly communication in higher education institutions. However, for academic librarians to perform these roles, it is imperative to build their capacity for acquisition of special competencies and skills in areas such as digital literacy, scholarly communications, open access, digital repositories, open educational resources, online research tools, and so on.

Competencies and Skills Required

In the digital age, academic librarians require a diverse set of competencies and skills to effectively fulfill their emerging roles and responsibilities. According to Danquah (2024), comprehensively there are over 125 new skills-sets required from 21st century librarians, to enable them meet the service demands and expectations of academic library users in the present digital age. Technology is at the centre of all the skills required. Therefore, the key competencies and skills required for academic librarians in the digital age include the following:

i. Technological Competencies

Academic librarians need to possess strong technological competencies to navigate and leverage digital tools, platforms, and systems effectively. In other words, they should be proficient in using library management systems, online databases, digital repositories, and information retrieval tools. Additionally, librarians need to stay updated on emerging technologies, trends, and best practices in library automation, digital preservation, and information technology infrastructure However, at the emergence of digital environment in Nigerian libraries, academic librarians are mainly concerned about information skills, interpersonal skills, leadership and management skills, which

are considered as critical requirement for performing their roles (Ezema, Ugwuanyi & Ugwu, 2014). However, Danquah (2024), asserts that the major roles of librarians in the digital age require skills such as digital literacy skills, digital humanity courses, information and data management skills, research and scholarly communication skills, client communication skills, adaptability to emerging AIs, collaborative skills, lifelong learning, etc. Hence, the required competencies will enable academic librarians to weaken the existing digital divide between developed and developing countries including Nigeria. In other words, acquisition of technological competencies will poster equitable access to wide array of educational resources in Nigerian educational institutions.

ii. Information Literacy and Digital Literacy Skills

Information literacy and digital literacy skills are fundamental for academic librarians to empower users in effectively accessing, evaluating, and using information resources in various formats. Librarians should be adept at designing and delivering information literacy instruction, teaching users how to critically evaluate information sources, navigate digital environments, and ethically use information for academic and research purposes (American Library Association, 2016).

iii. Data Management and Curation Skills

Given the increasing importance of research data management, academic librarians need to possess data management and curation skills. They should be knowledgeable about data management best practices, metadata standards, data documentation, and data preservation strategies. Librarians should also be proficient in using data management tools and software for organizing, describing, and sharing research data (Carlson & Johnston, 2015).

iv. Scholarly Communication and Open Access Knowledge

Librarians play a vital role in supporting scholarly communication and promoting open access to research outputs. The essence of Open Access knowledge is to facilitate accessibility to scholarly literature for legitimate scholarly uses. As such the ultimate goal is to make Open Access the default for new research. In Nigeria, the integration of Open Access literature in academic libraries is crucial for enhancing research and learning, but its adoption is still low. However, Anyira, Udem and Njoeteni (2020) stress the need for academic librarians to have adequate knowledge scholarly publishing, issues of copyright laws, licensing agreements, and open access initiatives. Librarians

should be able to provide guidance to authors on copyright compliance, open access publishing options, and repository deposit requirements.

v. Collaboration and Communication Skills

Collaboration and communication skills are essential for academic librarians to effectively engage with faculty, students, researchers, and other stakeholders. Collaboration and communication skills are very necessary components of digital transformation in libraries (Fdehan & Ojo, 2021). This implied that, collaboration in Nigerian academic libraries is key to successful integration of required skills and expertise for smooth operations of libraries in the digital age. Specifically, the academic librarians need to collaborate and maintains effective communication with ICT staff of their institutions because by doing so they will enhanced their competencies for handling the emerging roles. Librarians should be skilled in building collaborative relationships, facilitating interdisciplinary partnerships, and communicating library services and resources effectively. They should be able to articulate the value of library services and advocate for the role of libraries in supporting teaching, learning, and research (Walter, 2017). In this regard,

vi. User Experience (UX) Design and Usability Skills

Academic librarians need to possess user experience (UX) design and usability skills to create intuitive, user-friendly library interfaces and digital platforms. They should be familiar with UX design principles, usability testing methodologies, and accessibility standards. Librarians should be able to conduct usability assessments, gather user feedback, and iteratively improve the design and functionality of library websites, search interfaces, and digital repositories (Gibbons, 2015). By acquiring and honing these competencies and skills, academic librarians can effectively navigate the challenges and opportunities presented by the digital age, empowering users, advancing research, and contributing to the success of their institutions.

Challenges and Barriers for Academic Librarians Roles in the Digital Age

Academic librarians face several challenges and barriers in adapting to the evolving digital landscape and fulfilling their emerging roles. This section highlights key challenges and barriers encountered by academic librarians in the digital age:

i. Rapid Technological Changes

One of the primary challenges for academic librarians is keeping pace with rapid technological changes and innovations. The digital environment is constantly evolving, with new technologies, tools, and platforms emerging regularly. Librarians must continuously update their skills and knowledge to effectively leverage new technologies and adapt library services to meet user needs. In this regard, applications of modern technologies such as RFID, online reference systems and other tools for offering web based services are very important. However, staying abreast of technological advancements can be difficult, particularly for academic librarians in Nigeria that are faced with limited expert personnel and resources. Hence, Kahlon and Malik (2018), stress that academic libraries and librarians should keep up-to-date with digital technology that will help them ensure availability, discoverability and accessibility to information resources their users need.

ii. Limited Resources and Funding

Academic libraries often face constraints in terms of resources and funding, which can hinder their ability to invest in technology, professional development, and infrastructure. Limited budgets may restrict librarians' access to cutting-edge technologies, software licenses, and training opportunities. As a result, librarians may struggle to implement innovative solutions, upgrade existing systems, and address emerging needs effectively (Powell & Casey, 2017).

iii. Resistance to Change and Organizational Culture

Resistance to change and entrenched organizational cultures can pose significant barriers to the adoption of new technologies and practices in academic libraries. Thus, emerging roles of academic librarians are likely to bring resistance. However, one of the major requirements in managing change in academic libraries is proper understanding of the organizational culture (Oliver, 2020). Librarians may encounter resistance from colleagues, administrators, and other stakeholders who are resistant to change or skeptical about the value of technology-driven initiatives. Overcoming resistance to change requires effective communication, stakeholder engagement, and organizational leadership to foster a culture of innovation and experimentation (Dempsey & Malpas, 2018).

iv. Skill and Knowledge Gaps

Many academic librarians face skill and knowledge gaps related to technology, data management, scholarly communication, and other emerging areas. While librarians possess expertise in traditional library functions, they may lack the technical skills and competencies required to navigate the digital landscape effectively. Bridging skill and knowledge gaps often requires targeted training, professional development opportunities, and collaborative learning initiatives to empower librarians with the necessary expertise (McGlamery & Swanson, 2019). However, training librarians alone may give the expected results. Hence, the need to engage other stakeholders is very necessary, especially when providing librarians with training that involved new or advanced technologies. In this regard, the role of in-house ICT staff is invaluable for bridging skill and knowledge gaps (Fadehan & Ojo, 2021)

v. User Expectations and Changing Information Behaviour

Academic librarians must grapple with evolving user expectations and changing information behaviors in the digital age. Students, faculty, and researchers increasingly demand seamless access to information resources, personalized services, and intuitive digital interfaces. Librarians must anticipate and respond to shifting user needs, preferences, and behaviors, while also balancing traditional library services with digital innovations. Meeting diverse user expectations requires ongoing assessment, user feedback mechanisms, and user-centered design approaches (Markey, 2017). Addressing these challenges and barriers requires collaborative efforts, strategic planning, and investment in resources and professional development initiatives. By recognizing and mitigating these challenges, academic librarians can better position themselves to navigate the complexities of the digital age and continue to support teaching, learning, and research in their institutions effectively.

In the digital age, academic librarians must focus on adding value to the educational institution they served. Gunapala, Montague, Reynolds and Vo-Tran (2020), identified major forces that are influencing changing information behaviour of libraries users. These forces are declining in government funding of libraries, rapid advancement in technologies that is impacting on access to online educational resources, diversity and increase in the students' enrolments had resulted into changes in teaching and learning, and extensive changes in methods of teaching, learning and

research. These forces require the academic librarians to embrace their new roles and ensure diversification and inclusiveness in meeting the information needs of their library users.

Implications for Academic Libraries

i. Strategic Planning and Resource Allocation

Today, the academic libraries are increasingly becoming complex to operate due to advances in technology and pressure of demands for new and or improved services by users. According to Corral (2000), strategic planning is very crucial in managing academic libraries because it enable them align their resources and services towards achieving the goals and objectives of the parent institution. This make strategic planning an indispensable tool that can be used to give the library an overall direction. A well-developed strategic plan will enhanced academic libraries operations in better directions and commitments towards meeting present and future needs of users. In other words, an academic library will be guided by its own vision and mission, goals and objectives, and so on. This means, in the digital age, academic libraries must assess their internal and external environment, and engage in strategic planning to adapt to evolving user needs and technological advancements (Association of College and Research Libraries, 2018). This entails allocating resources and funding effectively to support the development of new services and infrastructure. As Oliver and Whalen (2014) suggest, libraries need to analyze e-book trends and invest in digital resources that align with user preferences and educational objectives.

ii. Professional Development and Training

Continuous professional development is essential for librarians to acquire the skills needed to fulfill emerging roles. Libraries should invest in training programs focusing on digital literacy, data management, scholarly communication, and user experience design. McGlamery and Swanson (2019) emphasize the role of academic libraries in providing education on data management practices to meet the growing demands of researchers. Findings from a study by Adamu, udoudoh,Babalola and Yusuf (2021) reveals that regular training of academic librarians in Nigeria can enhance their job performance and increase productivity. However, this type of training has not been regular.

iii. Collaboration and Partnerships

Collaboration with various stakeholders within the academic community is crucial for addressing challenges and advancing library initiatives. Partnerships with faculty, researchers, IT departments, and administrators enable libraries to leverage expertise and resources effectively. Markey (2017) highlights the importance of collaborative outreach efforts to engage with users via social media and other digital platforms. Similarly, Pandya and Pathak (2019), noted collaboration and partnerships as one of the essential strategies to be employed in academic libraries and enable them to remain relevant to the needs of users in the digital age. This implied that by involving all stakeholders, the academic libraries can be repositioned to become more relevant in meeting the needs of their users.

iv. User-Centered Services and Innovation

Libraries must prioritize user-centered design principles to enhance the user experience and meet evolving user expectations. This involves gathering feedback, conducting usability testing, and iteratively improving library systems and interfaces. Gibbons (2015) emphasizes the role of academic librarians as UX designers in creating intuitive, user-friendly digital platforms and services. In this regard, Ogbonnaya (2021) maintains that four elements are very crucial in ensuring innovative user-centred library services in the digital age. These elements are: diagnosing of user information needs, prescribing of relevant information sources, library service implementation, and evaluation of the library service to determine users' levels of satisfactions.

v. Advocacy for Institutional Support

Advocating for institutional support and investment is essential for ensuring the sustainability of library resources and initiatives. Libraries should communicate the value of their services and the importance of adapting to the digital age to institutional stakeholders and decision-makers. Powell and Casey (2017) discuss the strategic planning process for instructional programming, emphasizing the need for libraries to advocate for adequate funding and support. For Nigerian academic libraries to deliver effective services in the digital age, Christy and Yusuf (2021) maintains that, institutional support for digital literacy skills in indispensable. Therefore, academic libraries must build and maintain relationships with stakeholders from the internal and external

environments. Thus, engaging with communities and marketing of library resources and services are of paramount important.

vi. Adaptation to Changing Roles and Responsibilities

Libraries must be flexible and adaptable in responding to changing roles and responsibilities in the digital age. According to Imam and Ilori (2023,), academic librarians in the 21st century are expected to play a multifaceted role, including research support services, information literacy instructions, and managing digital information resources. This may involve redefining job descriptions, restructuring library teams, and fostering a culture of continuous learning and innovation. Similarly, Walter (2017) discusses the evolving role of academic librarians as experts in information literacy instruction, embedded librarianship, and scholarly communication. Hence, as the technology continue to advance, educational institutions will always be transformation process, so also the roles of academic librarians will continue to expand accordingly.

vii. Ethical Considerations and Data Management

Libraries must prioritize ethical considerations in their use of technology and data management practices. ACRL Research Planning and Review Committee (2020), emphasized on the importance of librarians' roles in offering guidance to users on ethical use and compliance with data management policies. This includes ensuring privacy protection, data security, and responsible data stewardship in all library activities involving user data and research outputs. Björk and Solomon (2014) highlight the importance of libraries in promoting open access to research outputs while adhering to ethical publishing practices.

viii. Promotion of Information Literacy and Digital Literacy

Academic libraries play a crucial role in promoting information literacy and digital literacy skills among students, faculty, and researchers. This involves providing instruction, resources, and support for information literacy education, critical thinking, and digital citizenship. The American Library Association (2016) emphasizes the importance of information literacy instruction in higher education to empower users in navigating the digital information landscape.

Conclusion

The role of academic librarians in the digital age is multifaceted and critical to the success of higher education institutions. As the information landscape evolves, librarians are tasked with adapting to new technologies, emerging roles, and changing user expectations. This systematic review has provided insights into the evolving roles of academic librarians in the digital age, as well as the competencies, challenges, and implications for academic libraries and librarian education. Academic librarians are indispensable partners in advancing teaching, learning, and research in higher education institutions. By embracing their evolving roles, acquiring necessary competencies, addressing challenges, and advocating for institutional support, librarians can continue to play a vital role in supporting the academic mission and fostering information literacy in the digital age. Through ongoing research, collaboration, and professional development, academic librarians in Nigeria can continue to adapt and thrive in the ever-changing landscape of higher education, ensuring that libraries remain vibrant hubs of knowledge and innovation for generations to come.

Recommendations

Based on the systematic review conducted on the role of academic librarians in the digital age, the following recommendations are made:

i. Academic institutions and library associations should prioritize funding for professional development opportunities tailored to the evolving needs of librarians in the digital age. This includes workshops, conferences, webinars, and certification programs focused on digital literacy, data management, scholarly communication, user experience design, and other relevant skills.

ii. Libraries should foster collaborative partnerships with other departments within their institutions, as well as with external organizations and consortia. By collaborating with faculty, researchers, IT professionals, and instructional designers, librarians can leverage expertise and resources to enhance library services, support research initiatives, and promote information literacy.

iii. Academic libraries should adopt a user-centered design approach to develop and improve library services, spaces, and digital platforms. This involves actively soliciting feedback from

users, conducting usability testing, and iteratively refining library interfaces and resources based on user needs and preferences.

iv. Librarians should advocate for open access initiatives and support the dissemination of scholarly research through institutional repositories, open educational resources, and other open access platforms. By promoting open access publishing models and educating stakeholders about the benefits of open scholarship, librarians can facilitate greater access to knowledge and promote scholarly communication.

v. Academic librarians must remain adaptable and proactive in responding to changing roles and responsibilities in the digital age. This may involve acquiring new skills, redefining job descriptions, and collaborating with colleagues across departments to meet evolving user needs and institutional priorities.

vi. Libraries should prioritize ethical considerations in their use of technology, data management practices, and scholarly communication initiatives. This includes ensuring data privacy and security, adhering to copyright and licensing agreements, and promoting responsible use of digital content in accordance with ethical guidelines and best practices.

vii. Academic libraries should continue to promote information literacy and digital literacy skills among students, faculty, and researchers. This can be achieved through targeted instruction, online tutorials, research guides, and other educational resources designed to enhance users' ability to locate, evaluate, and use information effectively in the digital age. Libraries and librarians should also focus on organizing short courses such as digital humanity for the benefit of non-science oriented researchers.

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