



THE ROLE OF SMART LIBRARY SERVICES IN TRANSFORMING HEALTH EDUCATION AT RIVERS STATE COLLEGE OF HEALTH SCIENCE AND MANAGEMENT TECHNOLOGY, ORO-OWO RUMUEME, PORT HARCOURT

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Abstract

Purpose – This study examines the role of smart libraries services in transforming health Education at Rivers State College of Health Science and Management Technology Oro-Owo Rumueme, Port Harcourt. The study recognizes the importance of functional smart libraries in supporting effective teaching, learning, and research in health education.

Design/methodology/approach – The study adopted a literature-scoping approach to examine existing literature on smart library services in Nigerian health training institutions. Three research objectives guided the review, focusing on the availability of smart library services, their influence on teaching, learning and research, and the barriers affecting their effective implementation.

Findings – The review revealed among other things that smart library services available in Nigerian health training institutions include electronic databases, virtual reference services, automated library management systems, mobile access platforms, and other technology-enabled information services.

Practical implications – The study suggests that the effective development of smart libraries in Nigerian health training institutions requires sustained investment in ICT infrastructure, continuous capacity development for library staff and users, and stronger institutional and policy support.

Originality/value – The study provides a literature-based synthesis of the availability, influence, and barriers of smart library services within Nigerian health training institutions.

Keywords – Smart Libraries, Services, Health Education, College of Health Science and Management Technology

Paper type – Position paper



Introduction

The library is the heartbeat of every academic institution if properly equipped. This is because of its important roles in ensuring the smooth organization and dissemination of the information resources to facilitate effective teaching, learning and research. But most libraries especially in developing countries including Nigeria still suffer lack of human and material resources to enable it perform its function effectively. In an era of digital transformation, where institutions and societies are gradually evolving into interconnected network societies in which distance and time are no longer barriers to the acquisition and dissemination of information, libraries need to integrate emerging technologies into their operations and transition towards smart libraries capable of providing smart information services that enhance users' satisfaction

According to Orji and Echezonamanyira (2021) smart library refers to an advanced information environment that integrates digital technologies, automation, artificial intelligence, and the Internet of Things (IoT) to enhance access, management, and dissemination of knowledge resources. Smart library services encompass activities such as automated cataloguing, virtual reference services, online databases, institutional repositories, and mobile library applications that make information delivery more interactive and personalized. These technologies promote collaboration, real-time learning, and continuous access to up-to-date information resources essential for academic and professional growth (Hamad, et al 2023). In the context of health education, smart libraries play a transformative role by providing digital access to medical journals, research databases, e-textbooks, and multimedia simulations that support evidence-based learning and clinical decision-making. Through the use of artificial intelligence and cloud-based systems, students in tertiary health institutions and health practitioners can access reliable and



current medical information, thereby improving the quality of teaching, learning, and healthcare research in institutions. The adoption of smart library services remains a critical component in advancing health education and preparing competent healthcare professionals for the future (Igwe & Sulyman 2022).

Despite the immense potential of smart libraries, many health institution libraries remain analogue and underdeveloped in terms of technological infrastructure and digital service delivery. Ghalavand and Nabiolahi (2024) holds that libraries that still operate largely on traditional systems, with inadequate ICT facilities, unstable electricity supply, and limited internet connectivity cannot benefit from the smart technological provisions. These deficiencies hinder efficient access to current health information resources and reduce the library's ability to support innovative teaching and research. Additionally, financial constraints, lack of technical expertise, and low digital literacy among staff and students further limit the implementation of smart technologies (Aithal, 2016). Consequently, the poor state of library facilities in many Nigerian health institutions undermines the vision of digital transformation in health education. Addressing these challenges through the adoption of smart library services would not only bridge the information gap but also promote evidence-based health training and practice across tertiary health institutions in Nigeria.

Literature Review

Gandung (2020) is study examined the role of library services in supporting telemedicine delivery in Gindiri District, Mangu LGA. The research determined the availability, utilisation, and perceived impact of library services in promoting telemedicine. A descriptive survey design was used and data were collected from 200 respondents, including health workers, library staff, and



rural dwellers. A structured questionnaire was used to gather data. Data were analysed using descriptive statistical methods such as frequencies and percentages. The results revealed that majority of the respondents were aware of basic library services but very few acknowledged the active integration of such services in telemedicine programs. Most respondents agreed that libraries play a vital role in facilitating access to reliable health information, organizing health education programs, and assisting community members in locating credible medical resources. The study concludes that libraries in rural Nigeria remain underutilized for telemedicine, but with strategic investment, policy inclusion, and staff training, they can serve as vital information and communication hubs bridging healthcare and digital access gaps.

Types of smart library services available

There are different types of smart library services available in literature on Nigerian health-institution libraries. According to Okunlaya, et al. (2022) these services involve automation, digital information resources, remote access, user-centered personalization, and sometimes adaptive or AI-enabled functions. Also, in similar study conducted by Abiola, et al. (2025) on medical undergraduates at Obafemi Awolowo University (College of Health Sciences) in Ile-Ife found out that electronic information resources such as e-journals, e-books, institutional repositories and other e-resources are available in our libraries to enable some smart services provided via the library. This finding is obvious and are true in most university libraries in Nigeria.

A study of Nigerian private university libraries by Hamad, et. al., (2023) found LMS such as KOHA, NewGenLib being deployed to promote remote access and e-learning support to medical students. It is pertinent to state that many Nigerian health-institution libraries may still be in transition however, the availability of smart library services such as digital, e-resources,



repositories, automated systems, virtual reference and mobile access exist in some libraries. Popoola (2020) indicated that smart library positively influences health education through the provision of empirical studies specific to health institutions though very few in Nigeria. He added that smart library provide access to up-to-date e-resources such as journals, databases which enhances instructors' ability to design evidence-based curricula and support students' learning.

How smart library services promote teaching, learning, and research in health institution

Gandung (2026) examined the role of library services in supporting telemedicine delivery. The research determined the availability, utilisation, and perceived impact of library services in promoting telemedicine. The results revealed that majority of the respondents were aware of basic library services but very few acknowledged the active integration of such services in telemedicine programs. Most respondents agreed that libraries play a vital role in facilitating access to reliable health information, organizing health education programs, and assisting community members in locating credible medical resources. The study concludes that if libraries can strategically invest in policy inclusion, and staff training, they can serve as vital information and communication hubs bridging healthcare and digital access gaps. A smart library will not promote this but will effectively bring it to fruition.

Also, Igwe and Sulyman (2022) holds that smart library services assist researchers by improving access to current literature, speeding up literature searches, enabling repositories and data sharing. The automated systems and digital resource access reduce barriers (time, location) to conducting systematic reviews or other scholarly activities. In the same view Okunlaya, et. Al., (2022) are of the opinion that information literacy for learners is important component of the library. When library services are integrated into teaching, students develop stronger information literacy skills,



which is critical in the health professions where evidence-based practice is key. Although, the study of Hamad, et. al. (2023) assert that the library helps in continuity in periods of disruption. He pointed out that during the COVID-19 pandemic libraries used digital/remote services to support teaching and learning when physical contact classroom learning was disrupted. Smart library services in Nigerian health education settings can enhance the quality and expand the scope of information resources to reach more users and support deeper student learning, as well as strengthening research capacity.

Factors affecting the implementation and sustainability of smart library services in Nigerian health institutions

So many barriers hinder the success implementation of smart library in health institutions, as stated by these include infrastructure and technology deficits. Many libraries struggle with unreliable electricity, low bandwidth, inadequate ICT hardware and software. Tella, Amuda, and Ajani, (2022) found that constant power outage and poor ICT infrastructure are major barriers to e-library services. It is disheartening that technological infrastructure has not received the required attention in Nigerian universities. Inadequate funding for subscriptions, hardware/software maintenance, staffing etc. (Abdullahi & Lawan, 2025). Another prominent barrier is human resources and skills gap. Librarians and staff often lack training in ICT/digital services, and information literacy among users may be low. Ubalaeze, (2025) opined that virtual reference service implementations pointed to digital illiteracy and lack of competent staff among hindrances. Some libraries lack strong institutional policies, strategic planning for digital library development, or are seen as peripheral units. Also, resource acquisition and licensing issues is an



eminent barrier. Acquiring current, high-impact e-resources especially in health and medicine is expensive; limited collaboration consortia exacerbate this.

Auld, et. al., (2020) noted high cost of academic publications especially in health sciences as a barrier. Maintaining digital systems, updating software/hardware, user training, and adapting to evolving technologies are ongoing challenges. Also Wang and Li (2024) reiterated that poor maintenance culture and absence of strategic planning. These challenges show that while the potential of smart library services is high, realization in Nigerian health-institution libraries is constrained by systemic and structural factors.

Conclusion

The review of literature indicates that smart library services have significant potential to transform health education in Nigerian health institutions. These services, which include digital and electronic resources, automated management systems, virtual reference services, and mobile access platforms, provide students, educators, and researchers with timely, relevant, and evidence-based information essential for teaching, learning, and research. Studies show that where smart library services are adequately implemented, they improve access to medical and health information, support research productivity, enhance learning outcomes, and foster evidence-based clinical practice.

However, the literature also highlights that many Nigerian health institution libraries remain underdeveloped, with limited ICT infrastructure, unreliable power supply, inadequate funding, low digital literacy, and weak institutional support. These challenges hinder the full utilization of smart library services and limit their impact on health education. Therefore, while the potential benefits



are substantial, realizing these benefits requires strategic interventions to overcome the systemic and structural barriers identified in the literature

Recommendations

Based on the findings from the literature, the following recommendations are proposed:

1. **Investment in ICT Infrastructure:** Nigerian health institutions should prioritize upgrading library ICT infrastructure, including reliable internet connectivity, modern computer systems, and automated management software, to support smart library services effectively.
2. **Capacity Building and Training:** Librarians and library staff should receive continuous professional development and training in digital technologies, artificial intelligence applications, and user support to enhance service delivery.
3. **Improved Funding and Resource Allocation:** Governments and institutional management should increase funding for library services, focusing on subscriptions to e-resources, software acquisition, system maintenance, and infrastructure improvement.
4. **Policy and Strategic Planning:** Health institutions should develop clear policies and strategic plans to integrate smart library services into teaching, learning, and research activities, ensuring sustainability and continuous improvement.



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