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Research Article

Assessment of Research on Librarian Competency on the Use of Artificial Intelligence for Information Dissemination: Lessons Learnt from Nigerian Academic Libraries

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ABSTRACT

The rapid diffusion of Artificial Intelligence (AI) into scholarly communication and reference services has repositioned academic librarians as central actors in information dissemination, yet their readiness for this expanded role remains uncertain. This paper critically assesses the state of research on librarian competency in the use of artificial intelligence for information dissemination, with particular attention to lessons for Nigerian academic libraries. Adopting a conceptual and critical methodology, the study synthesises contemporary scholarship through thematic analysis, drawing on information literacy, critical information literacy, constructivist learning theory, epistemic cognition, and critical pedagogy. Three research questions guided the review: the state of research on librarian AI competency, the state of research on AI literacy, and the challenges confronting librarians' use of AI for information dissemination. The thematic synthesis shows that librarian AI competency research is dominated by descriptive, perception-based studies reporting moderate-to-low technical proficiency; that AI literacy scholarship remains conceptually fragmented and rarely integrated with established information literacy frameworks; and that infrastructural, financial, policy, and training deficits consistently constrain competency development in Nigerian academic libraries. Building on these findings, the paper proposes a hierarchical meta-literacy model that positions information literacy as the foundational epistemic condition for robust digital, media, and AI literacy, reframing AI competency not as an isolated technical skill set but as an extension of librarians' longstanding critical and pedagogical expertise. The paper concludes that Nigerian academic libraries require coordinated, competency-based professional development anchored in this hierarchical model rather than fragmented, tool-specific AI training. Implications for library education, professional development policy, and future empirical research are discussed.

Keywords: Academic Librarians, Artificial Intelligence, Global South, Information Dissemination, Information Literacy, Nigeria.

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INTRODUCTION

Artificial Intelligence (AI) has moved from the periphery to the centre of academic library practice, reshaping how information is discovered, curated, synthesised, and disseminated to students, faculty, and researchers (Cox, 2024; Ko and Chiu, 2024). Generative AI platforms, intelligent search assistants, and automated reference tools now mediate a substantial share of the information-seeking behaviour that academic librarians have traditionally facilitated, compelling a re-examination of the competencies required for effective professional practice (Almatrafi *et al*., 2024; Deshen and Noa, 2024). In Nigeria, this technological shift is unfolding within academic libraries that are simultaneously contending with longstanding infrastructural, financial, and professional development constraints, raising urgent questions about whether librarians possess, or can feasibly acquire, the competencies required to responsibly and effectively use AI for information dissemination (Ajani *et al*., 2022; Bali *et al*., 2024).

Librarian competency in this context extends beyond technical familiarity with specific AI tools. It encompasses the capacity to critically evaluate AI-generated outputs, to teach students and researchers to do the same, to integrate AI tools ethically and transparently into reference and instructional practice, and to adapt pedagogical approaches to environments in which information is increasingly co-produced by human and algorithmic agents (Almatrafi *et al*., 2024; Long and Magerko, 2020; Ng *et al*., 2021). A growing body of research has begun to document librarians' self-reported AI skills, attitudes, and training needs, both globally and within Nigeria specifically (Deshen and

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Noa, 2024; Lund *et al*., 2020; Yusuf *et al*., 2025). However, this literature has developed largely as a set of parallel, tool-focused investigations rather than as a coherent body of scholarship grounded in the theoretical traditions that have long underpinned librarians' instructional identity, namely information literacy, critical information literacy, and metaliteracy (Elmborg, 2006; Mackey and Jacobson, 2011).

This paper addresses that gap. Rather than reporting new primary data, it undertakes a conceptual and critical assessment of existing research on librarian AI competency, synthesising the literature thematically to identify what is known, what remains contested, and what is conspicuously absent, particularly with respect to Nigerian academic libraries. In doing so, the paper draws on constructivist learning theory, epistemic cognition, and critical pedagogy to propose a hierarchical meta-literacy model in which information literacy functions as the foundational condition for the development of digital, media, and AI literacy, rather than a discrete, separately taught competency (Freire, 1970; Hofer and Pintrich, 1997; Vygotsky, 1978).

Research Questions

This assessment was guided by three research questions:

RQ1: What does existing research reveal about librarian competency in the use of artificial intelligence for information dissemination?

RQ2: What does existing research reveal about artificial intelligence literacy as a construct relevant to academic librarianship?

RQ3: What challenges does existing research identify as constraining librarians' competency in using artificial intelligence for information dissemination, particularly within Nigerian academic libraries?

Significance of the Study

This paper contributes to library and information science scholarship in three ways. First, it consolidates a rapidly expanding and thematically scattered literature on librarian AI competency into a structured, critically assessed synthesis. Second, it explicitly theorises the relationship between information literacy and emerging AI literacy constructs, an integration that is frequently assumed but rarely articulated in the empirical literature (Almatrafi *et al*., 2024; Cox, 2024). Third, it grounds this theoretical synthesis in the specific institutional realities of Nigerian academic libraries, drawing lessons that can inform professional development policy, library and information science curricula, and future empirical research in the Nigerian and broader West African context (Ali and Richardson, 2025; Ayinde *et al*., 2026).

THEORETICAL AND CONCEPTUAL FRAMEWORK

This study synthesises five interrelated theoretical traditions to build its analytical framework and to ground the hierarchical meta-literacy model proposed in Section 5: information literacy and metaliteracy, critical information literacy, constructivist learning theory, epistemic cognition, and critical pedagogy (Table 1).

Information Literacy and Metaliteracy

Information literacy has long been conceptualised as the integrated capacity to locate, evaluate, and ethically use information, most influentially articulated in the Association of College and Research Libraries' threshold-concept-based framework, which treats authority as constructed and contextual, and information creation as a process (Mackey and Jacobson, 2011). Mackey and Jacobson (2011) extended this foundation by proposing metaliteracy, an overarching framework that unifies information literacy with digital, media, and other emerging literacies, positioning the learner as an active, self-reflective producer of information rather than a passive consumer. Metaliteracy is theoretically significant for this paper because it already anticipates the incorporation of new technological literacies into the information literacy tradition, providing a direct conceptual bridge to AI literacy (Almatrafi *et al*., 2024; Cox, 2024).

Critical Information Literacy

Critical information literacy, most influentially articulated by Elmborg (2006), challenges librarians to move beyond the technical transfer of search skills toward cultivating students' critical consciousness about how information, and by extension algorithmic systems, are constructed, valued, and contested. Elmborg (2006), drawing explicitly on Freire's (1970) critical pedagogy, argued that librarians should help learners interrogate the social, political, and economic structures that shape information production rather than treating libraries as neutral information conduits. Applied to AI, critical information literacy demands that librarians and the students they teach interrogate the training data, biases, and epistemic assumptions embedded within AI systems, rather than treating AI outputs as objective or authoritative by default.

Constructivist Learning Theory

Constructivist learning theory, rooted in Vygotsky's (1978) account of learning as a socially mediated process occurring within a learner's zone of proximal development, frames competency development, whether in information literacy or AI literacy, as an active, scaffolded, and socially situated process rather than the passive transmission of discrete technical skills. Within this framework, librarian AI competency is understood as developing progressively through guided practice, peer collaboration, and reflective engagement with AI tools, rather than through one-off

technical training sessions. This has direct implications for how professional development in AI competency should be designed within Nigerian academic libraries, an issue explored further in Section 6.

Epistemic Cognition

Epistemic cognition, as conceptualised by Hofer and Pintrich (1997), concerns individuals' beliefs about the nature of knowledge and knowing, including how certain knowledge is, where it originates, and how it is justified. This construct is directly relevant to AI literacy because effective critical evaluation of AI-generated content requires sophisticated epistemic beliefs, namely, the recognition that AI outputs are probabilistic, contestable, and shaped by training data rather than authoritative in the way a peer-reviewed source might be considered to be. Librarians' own epistemic cognition regarding AI, and their capacity to model sophisticated epistemic reasoning for students, therefore, constitutes an under-examined but foundational dimension of AI competency (Almatrafi *et al.*, 2024; Pinski and Benlian, 2024).

Critical Pedagogy

Critical pedagogy, developed by Freire (1970), conceptualises education as a practice of freedom in which learners and educators engage in dialogic, problem-posing inquiry rather than a "banking" model in which knowledge is deposited into passive recipients. Applied to librarian AI instruction, critical pedagogy suggests that librarians should position themselves as co-inquirers alongside students in navigating AI-mediated information environments, rather than as authoritative technical instructors delivering fixed AI-use protocols. This orientation is consistent with the critical information literacy tradition (Elmborg, 2006) and underscores that AI competency, for librarians, is as much a pedagogical and epistemic disposition as a technical skill set.

METHODOLOGY

This study adopts a conceptual and critical methodology rather than a primary empirical design, consistent with approaches used to synthesise and theorise fragmented bodies of literature in library and information science (Almatrafi *et al.*, 2024; Cox, 2024). The methodology comprises two integrated components: a critical literature synthesis and a thematic analysis of the retrieved scholarship, followed by theoretical synthesis to construct the hierarchical meta-literacy model proposed in Section 5.

Literature Search and Selection

Peer-reviewed journal articles, systematic reviews, and conference proceedings published between 2019 and 2026 were identified through Scopus, Web of Science, ScienceDirect, SpringerLink, SAGE Journals, Taylor and Francis Online, and Emerald Insight, using combinations of the terms "librarian competency," "artificial intelligence literacy," "AI literacy," "academic libraries," "information dissemination," and "Nigeria." Priority was given to studies published in journals indexed in the Web of Science or Scopus Q1 category, supplemented by seminal theoretical works (e.g., Freire, 1970; Vygotsky, 1978) whose foundational status in the literacy and pedagogy literature justified their inclusion irrespective of indexing category. Sources were included if they substantively addressed librarian AI competency, AI literacy conceptualisation, or barriers to AI adoption in academic libraries; purely promotional, non-peer-reviewed, or opinion-based sources were excluded.

Thematic Analysis Procedure

The retrieved literature was analysed using the six-phase thematic analysis procedure developed by Braun and Clarke (2006): familiarisation with the corpus of literature; generation of initial descriptive codes corresponding to competency dimensions, literacy constructs, and barriers reported across studies; the collation of codes into candidate themes organised around the study's three research questions; review and refinement of themes against the full literature corpus; the naming and definition of final themes; and the production of the thematic synthesis presented in Section 4. This procedure was applied reflexively across the literature corpus rather than to interview or survey transcripts, consistent with its established use in conceptual and critical literature-based inquiry within library and information science and cognate education fields (Table 2).

Analytical Framework

Coded themes were subsequently interpreted through the five theoretical lenses outlined in Section 2. This dual-stage process, thematic coding followed by theoretical interpretation, allowed the study to move beyond a purely descriptive summary of existing findings toward a critical assessment of the assumptions, gaps, and theoretical silences within the librarian AI competency literature, culminating in the proposed hierarchical meta-literacy model.

THEMATIC FINDINGS

RQ1: Research on Librarian Competency in the Use of AI for Information Dissemination

Three dominant themes emerged from the literature addressing librarian AI competency. The first, moderate-to-low self-reported technical proficiency, recurs consistently across both global and Nigerian studies. Deshen and Noa (2024) found that librarians frequently report limited familiarity with the technical foundations of AI systems, even as they express willingness to engage with AI tools in principle. Within Nigeria, comparable patterns have been documented across federal university libraries, with librarians reporting low-to-moderate competency in machine learning and natural language processing concepts relative to their well-established proficiency in conventional

database instruction (Yusuf *et al*., 2025). Similar findings from South Asian contexts, where library professionals report cautious optimism about AI but limited hands-on proficiency, suggest that this competency gap is not unique to Nigeria but is compounded there by additional infrastructural constraints (Lund *et al*., 2020).

The second theme is the disjuncture between awareness and applied competency. Ajani *et al*. (2022) found that Nigerian librarians generally express awareness of AI's relevance to library operations and readiness in principle to integrate it, yet this awareness does not consistently translate into applied instructional or reference competency. Bali *et al*. (2024) similarly note that emerging AI adoption trends within Nigerian education are outpacing the professional training infrastructure required to convert general awareness into applied skill. The third theme concerns knowledge-management and organisational mediation of competency: Yusuf *et al*. (2025) found that librarians' AI competency is significantly shaped by institutional knowledge-management practices, including how effectively knowledge is acquired, organised, and shared within the library, suggesting that competency should be understood as partly organisational rather than purely individual.

RQ2: Research on Artificial Intelligence Literacy

The literature on AI literacy as a construct reveals a field that is conceptually rich but only loosely connected to the established information literacy tradition in library science. Long and Magerko (2020) and Ng *et al*. (2021) offer the most widely cited conceptualisations, framing AI literacy as a set of competencies encompassing understanding what AI is, how it works, and how it should be critically evaluated and ethically used; both, notably, developed their frameworks largely independently of the ACRL information literacy tradition. Within library science specifically, Almatrafi *et al*. (2024) and Cox (2024) have begun to draw explicit connections between AI literacy and existing information literacy frameworks, arguing that algorithmic and generative AI literacy should be understood as natural extensions of, rather than replacements for, information evaluation competencies long taught by academic librarians.

A second theme is the persistence of definitional fragmentation. Mikeladze *et al*. (2024) observed that AI literacy competency frameworks proliferate across education, computer science, and library science literatures with limited cross-disciplinary convergence, while Pinski and Benlian (2024) note that measurement of AI literacy as a human competency remains methodologically underdeveloped compared with more mature information literacy assessment traditions. A third theme concerns technology acceptance: drawing on the Technology Acceptance Model, several studies frame librarians' AI literacy development as shaped jointly by perceived usefulness and perceived ease of use, both of which are constrained where librarians lack foundational technical training (Oladokun and Umar, 2025). Nguyen *et al*. (2023) further emphasise that AI literacy scholarship has only recently begun to incorporate explicit ethical reasoning components, an omission with direct relevance to librarians' historic role as stewards of information ethics. Case-study evidence further suggests that where librarians do develop applied AI literacy, it tends to emerge through informal, practice-based experimentation with generative AI tools such as ChatGPT and Bard, rather than through formal curricular pathways, reinforcing the definitional and pedagogical fragmentation noted above (Torres, 2024).

RQ3: Challenges Confronting Librarians' Competency for AI-Enabled Information Dissemination

Three clusters of challenges recur across the reviewed literature, particularly within Nigerian and broader African academic library contexts. The first cluster is infrastructural and financial: inadequate digital infrastructure, unstable internet connectivity, and insufficient funding are consistently identified as foundational constraints on both AI adoption and competency development (Ayinde *et al*., 2026; Buitrago-Ciro *et al*., 2025). Ngulube and Vincent Mosha (2025) similarly find

Table 1: Theoretical Frameworks Underpinning the Hierarchical Meta-Literacy Model

Framework	Key Source(s)	Core Proposition
Meta-Literacy	Mackey and Jacobson (2011)	Information literacy as an overarching, self-referential framework unifying digital, media, and emerging literacies
Critical Information Literacy	Elmborg (2006)	Cultivating critical consciousness about how information and algorithmic systems are constructed and valued
Constructivist Learning Theory	Vygotsky (1978)	Competency develops through socially mediated, scaffolded engagement within a learner's zone of proximal development
Epistemic Cognition	Hofer and Pintrich (1997)	Beliefs about the nature, certainty, and justification of knowledge, applied to evaluating AI-generated content
Critical Pedagogy	Freire (1970)	Education as dialogic, problem-posing inquiry rather than one-directional technical transfer

Note. Table constructed by the author from the theoretical synthesis in Section 2.

Table 2: Thematic Synthesis of the Reviewed Literature by Research Question

Research Question	Theme	Representative Source(s)
RQ1: Librarian AI Competency	Moderate-to-low technical proficiency	Deshen and Noa (2024); Yusuf *et al.* (2025); Lund *et al.* (2020)
	Disjuncture between awareness and applied competency	Ajani *et al.* (2022); Bali *et al.* (2024)
	Organisational/knowledge-management mediation of competency	Yusuf *et al.* (2025)
RQ2: AI Literacy	Conceptual convergence with information literacy	Almatrafi *et al.* (2024); Cox (2024); Long and Magerko (2020); Ng *et al.* (2021)
	Definitional fragmentation across disciplines	Mikeladze *et al.* (2024); Pinski and Benlian (2024)
	Underdeveloped ethical-reasoning component	Nguyen *et al.* (2023)
Rq3: Challenges	Infrastructural and financial constraints	Ayinde *et al.* (2026); Buitrago-Ciro *et al.* (2025); Ngulube and Vincent Mosha (2025)
	Professional development and curricular gaps	Miltenoff (2024); Montesi *et al.* (2025); Ali and Richardson (2025)
	Organisational, policy, and ethical/attitudinal barriers	Molaudzi and Marutha (2025); Shahzad *et al.* (2025); Yang *et al.* (2024)

Note. Table constructed by the author from the thematic analysis described in Section 3.2.

that technological, competency-related, and organisational barriers are interconnected rather than independent, such that infrastructural deficits compound the difficulty of translating training investment into applied competency.

The second cluster concerns professional development and curricular gaps. Miltenoff (2024) argues that many academic librarians remain insufficiently prepared for an expanded AI-related pedagogical role because of limited continuing professional development opportunities, while Montesi *et al.* (2025) note that library and information science curricula have generally not kept pace with the competencies required for AI-enabled practice, leaving practising librarians reliant on informal, self-directed upskilling. Within Nigeria specifically, this gap is compounded by the absence of standardised national AI literacy curricula or competency frameworks for library and information science training (Ali and Richardson, 2025).

The third cluster relates to organisational and policy barriers, including weak institutional AI governance, limited leadership commitment, and the absence of clear ethical and operational guidelines for AI use in library services (Molaudzi and Marutha, 2025; Shahzad *et al.*, 2025). Yang *et al.* (2024) additionally identify librarians' own concerns about the ethical implications and potential biases of AI-generated content as a distinct, attitudinal barrier that is analytically separate from, though often compounded by, infrastructural and training deficits. Collectively, these three clusters suggest that librarian AI competency in Nigeria cannot be addressed through technical training alone; it requires simultaneous attention to infrastructure, curricula, and institutional governance.

DISCUSSION

The thematic synthesis in Section 4 reveals a literature that documents librarian AI competency gaps and AI literacy constructs largely in parallel, with only limited theoretical integration. This section synthesises these findings through the theoretical lenses established in Section 2 to propose a hierarchical meta-literacy model in which information literacy constitutes the foundational epistemic condition for the development of digital, media, and AI literacy, rather than a separate and competing competency domain.

The rationale for this hierarchy follows directly from the reviewed theory. Meta-literacy already conceptualises information literacy as an overarching framework capable of absorbing emerging literacies (Mackey and Jacobson, 2011); critical information literacy supplies the critical-evaluative orientation, namely, interrogating how information and algorithmic outputs are constructed, that AI literacy frameworks such as Long and Magerko's (2020) presuppose but do not always make explicit; epistemic cognition explains why some librarians and learners evaluate AI outputs uncritically, namely, underdeveloped beliefs about the constructed, contestable nature of algorithmically generated knowledge (Hofer and Pintrich, 1997); constructivist learning theory specifies how competency at each level is built through scaffolded, socially mediated practice rather than one-off technical instruction (Vygotsky, 1978); and critical pedagogy

Table 3: Proposed Hierarchical Meta-Literacy Model

Level	Literacy Domain	Core Competencies	Key Source(s)
Level 4	AI Literacy	Understanding, critically evaluating, and ethically deploying AI systems and AI-generated outputs	Long and Magerko (2020); Ng *et al.* (2021)
Level 3	Digital and Media Literacy	Critical engagement with digital platforms, multimedia content, and networked information environments	Mackey and Jacobson (2011)
Level 2	Critical-Epistemic Literacy	Interrogating how information and algorithmic outputs are constructed; sophisticated beliefs about the contingent nature of knowledge	Elmborg (2006); Hofer and Pintrich (1997)
Level 1	Foundational Information Literacy	Locating, evaluating, and ethically using information; assessing authority and credibility of sources	Mackey and Jacobson (2011)

Note. Read from bottom (Level 1) to top (Level 4); each level presupposes the competencies developed at the level beneath it.

supplies the dialogic, co-inquiry orientation through which librarians should approach AI instruction, rather than positioning themselves as neutral technical intermediaries (Freire, 1970).

The proposed model comprises four ascending levels. At its base sits foundational information literacy: the capacity to locate, evaluate, and ethically use information, including well-established competencies in source evaluation and authority assessment (Mackey and Jacobson, 2011). The second level, critical-epistemic literacy, layers critical information literacy and epistemic cognition onto this foundation, developing the capacity to interrogate how information and algorithmic systems are constructed and to hold sophisticated beliefs about the contingent, probabilistic nature of AI-generated knowledge (Elmborg, 2006; Hofer and Pintrich, 1997). The third level, digital and media literacy, extends this critical-epistemic capacity to digital platforms, multimedia content, and networked information environments. The fourth and most specialised level, AI literacy, applies the cumulative competencies of the preceding three levels specifically to understanding, evaluating, and ethically deploying AI systems and their outputs (Long and Magerko, 2020; Ng *et al.*, 2021).

This hierarchy carries a significant implication for professional development: because each level depends on the one beneath it, AI literacy training that bypasses foundational information literacy and critical-epistemic development is likely to produce librarians who are technically conversant with specific AI tools but unable to critically evaluate their outputs or model such evaluation for students, a pattern consistent with the disjuncture between AI awareness and applied competency documented in Section 4.1 (Table 3) (Ajani *et al.*, 2022; Bali *et al.*, 2024).

Lessons Learnt for Nigerian Academic Libraries

Applied to the Nigerian context, the hierarchical meta-literacy model, together with the thematic findings in Section 4, yields several lessons. First, because Nigerian librarians already demonstrate reasonably strong foundational information literacy competency, particularly in conventional database instruction (Yusuf *et al.*, 2025), professional development investment may be more efficiently directed at building the intermediate critical-epistemic and digital literacy levels rather than attempting to teach AI literacy as an isolated technical add-on. Second, the organisational mediation of competency documented by Yusuf *et al.* (2025) suggests that knowledge-management practices, mechanisms for sharing AI-related learning across library staff, are as important as individual training interventions. Third, the infrastructural and policy barriers identified in Section 4.3 mean that even a well-designed hierarchical training curriculum will yield limited returns without parallel institutional investment in connectivity, computing infrastructure, and governance frameworks (Ayinde *et al.*, 2026; Molaudzi and Marutha, 2025).

CONCLUSION

This paper has critically assessed the state of research on librarian competency in the use of artificial intelligence for information dissemination, with specific attention to Nigerian academic libraries. The thematic synthesis shows that existing scholarship documents moderate-to-low technical AI proficiency among librarians, a persistent gap between AI awareness and applied instructional competency, and a cluster of infrastructural, curricular, and organisational barriers that are especially pronounced within the Nigerian higher education context. At the same time, the AI literacy literature, while conceptually productive, remains only loosely integrated with the established information literacy tradition that has long defined librarians' instructional identity. By synthesising constructivist learning theory, epistemic cognition, critical pedagogy, and critical information literacy alongside the metaliteracy framework, this paper has proposed a hierarchical meta-literacy model that reframes AI literacy as the most specialised expression of a competency hierarchy grounded in foundational information literacy, rather than a separate technical domain. This reframing carries direct implications for how Nigerian academic libraries, and library and information science education more broadly, should design AI-related professional development: not as

isolated tool training, but as a scaffolded extension of librarians' existing critical and pedagogical expertise.

RECOMMENDATIONS

Arising from this critical assessment, the following recommendations are made:

Library and information science training institutions in Nigeria should redesign AI-related curricula around the hierarchical meta-literacy model, ensuring that critical-epistemic and digital literacy competencies are explicitly taught as prerequisites for AI literacy rather than treating AI skills as a standalone module.

University library management should institutionalise structured, scaffolded professional development in AI competency, consistent with constructivist learning principles, rather than relying on one-off workshops or informal self-directed learning.

Library management boards should strengthen internal knowledge-management practices, including communities of practice and peer mentoring, to enable AI-related learning to circulate across library staff rather than remaining concentrated among individually trained librarians.

The National Universities Commission and the Librarians' Registration Council of Nigeria should collaborate to develop a national AI literacy competency framework for academic librarians, explicitly anchored in the information literacy tradition.

University administrators and government agencies should prioritise investment in digital infrastructure and connectivity as a precondition for translating AI competency training into applied practice.

Professional associations such as the Nigerian Library Association should embed critical pedagogy and critical information literacy principles within continuing professional development programmes, ensuring that AI training cultivates critical-evaluative capacity rather than narrow technical familiarity.

Future empirical researchers should test the proposed hierarchical meta-literacy model using primary data from Nigerian academic librarians, examining whether foundational information literacy and critical-epistemic competency empirically predict AI literacy and applied AI competency.

ABBREVIATIONS

AI: Artificial Intelligence; **LIS:** Library and Information Science; **RQ:** Research Question; **ACRL:** Association of College and Research Libraries; **Q1:** Quartile 1; **5IR:** Fifth Industrial Revolution.

CONFLICT OF INTEREST

The author declares that there is no conflict of interest.

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