

Librarian's Conscience Framework: Securing quality in AI-supported academic library work

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Abstract

AI-supported academic library work now shapes reference support, metadata creation, discovery pathways, chatbot interaction, generated summaries, and research assistance. This conceptual paper develops the Librarian's Conscience Framework to explain the human accountability route that secures quality before automated output enters service. The framework comprises five conscience actions: output verification, privacy judgement, fairness assessment, metadata responsibility, and accountable mediation. These actions convert AI outputs into reliable information, protected inquiry, fair access, accurate metadata, and defensible service decisions. Librarian conscience anchors institutional trust and quality human-AI learning environments.

Keywords: quality AI-supported academic library work; human-AI learning environment; librarian conscience; metadata responsibility

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1.0 Introduction

Librarian conscience turns artificial intelligence (AI)-generated output into a trusted academic library service. Generative AI, chatbots, discovery systems, metadata tools, cataloguing automation, and AI-assisted research support reshape how librarians organise, retrieve, explain, and mediate academic information (Boateng, 2025; Aguiñaga et al., 2025; Hamad & Shehata, 2025; Mahmud, 2024). These systems accelerate access and routine processing while shifting responsibility to librarians who determine whether automated outputs qualify for service. Generated answers, machine-suggested metadata, recommendation pathways, and user prompts require verification, contextual judgement, fairness assessment, and privacy protection. AI-supported library work creates an accountability problem inside professional practice.

Academic library studies document AI use in access services, reference work, metadata creation, cataloguing, GPT-supported user services, and librarians' engagement with AI-generated content (Boateng, 2025; Aguiñaga et al., 2025; Chen & Li, 2024; Yang et al., 2024; Hamad & Shehata, 2025). Ethical and policy studies identify inaccurate content generation, opaque system logic, privacy exposure, algorithmic bias, ethical literacy gaps, metadata quality concerns, and unclear institutional AI policies as persistent risks (Elsayed & Mohammed Abusharhah, 2025; McCusker & Michalak, 2025; Sousa, 2025; Adewojo, 2025). Metadata and cataloguing studies sharpen this concern by linking AI-assisted description, classification, and access with contextual accuracy, discoverability, and

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cataloguing ethics (Chen & Li, 2024; Mahmud, 2024; Dover & Grzegorski, 2025). This evidence positions AI as a service and an information management issue that requires human accountability in daily library work.

The unresolved issue concerns the route between AI-supported output and defensible library practice. Existing studies explain AI adoption, service innovation, ethical risk, AI literacy, policy gaps, and metadata automation (Boateng, 2025; Elsayed & Mohammed Abusharhah, 2025; McCusker & Michalak, 2025; Chen & Li, 2024; Dover & Grzegorski, 2025). The missing route is the professional accountability checkpoint through which librarians verify outputs, protect users, question bias, preserve metadata integrity, and decide whether automated information should be integrated into institutional routines. Responsible AI loses practical force when libraries keep it at the level of policy language or technical guidance; it requires accountable action inside reference encounters, discovery support, cataloguing decisions, metadata workflows, and research assistance.

The Librarian's Conscience Framework explains how librarians convert AI-supported outputs into accountable library work by applying professional judgement, ethical responsibility, and accountable mediation before automated information enters library services, metadata routines, research support, and institutional information processes. The framework centres on five connected actions: output verification, privacy judgement, fairness assessment, metadata responsibility, and accountable mediation. Each action marks a professional decision point between automated output and trusted service.

This accountability route advances academic librarianship and Information Management by positioning librarian judgement at the centre of quality AI-supported library work. AI expands what academic libraries process, recommend, describe, and deliver. Librarians determine whether those outputs become verified answers, ethical metadata, fair discovery pathways, protected user interactions, and trusted institutional information.

2.0 Literature Review

2.1 AI-supported academic library work

AI-supported academic library work refers to service and information routines in which artificial intelligence assists with access, reference interaction, metadata creation, cataloguing, discovery support, research assistance, and user-facing digital services (Boateng, 2025; Aguiñaga et al., 2025; Hamad & Shehata, 2025; Mahmud, 2024). Boateng (2025) positions generative AI as a major force in academic library services through faster responses, wider access support, and new service possibilities. Aguiñaga et al. (2025) extend the issue into reference services where librarians guide users, respond to queries, and mediate information. Hamad and Shehata (2025) connect GPT-based tools to enhanced information access and user services, and Mahmud (2024) situates AI within cataloguing and classification work. These studies establish AI-supported work as a service and an information management issue, as academic libraries use AI to shape access, description, retrieval, and user support. This literature situates AI within the professional route through which academic information is organised, explained, recommended, and delivered.

Ethical and policy studies extend this issue by identifying risks associated with AI-supported services. Elsayed and Mohammed Abusharhah (2025) link AI adoption with ethical literacy among academic librarians; McCusker and Michalak (2025) identify policy gaps and library involvement in institutional AI governance; Sousa (2025) addresses ethical and practical implications of AI in academic library research; and Adewojo (2025) foregrounds academic librarians' ethical challenges in AI-based bibliometric tools. These studies identify inaccurately generated content, opaque system logic, privacy exposure, algorithmic bias, ethical literacy gaps, metadata quality concerns, and unclear policy as persistent risks. Their analytical implications address the quality-of-life and environment-behaviour concerns of this paper, as the academic library functions as a human-AI learning environment in which information quality, privacy protection, fairness, and service responsibility shape users' academic participation. Risk-based discussion identifies the problem more clearly than the professional route that secures an accountable AI-supported library service.

2.2 Librarian accountability and the missing professional route

Metadata and cataloguing literature provide the strongest library-specific anchor for librarian accountability. Chen and Li (2024) discuss AI for cataloguing and metadata creation from the perspective of cataloguing and metadata professionals, foregrounding human expertise in machine-supported description. Mahmud (2024) explains AI automation in cataloguing and classification, and Dover and Grzegorski (2025) assess artificial intelligence in light of the Cataloguing Code of Ethics. These studies establish that metadata carries more than a descriptive function; it shapes discoverability, intellectual access, representation, and institutional information quality. AI-assisted metadata that enters catalogues without professional review risks distorted descriptions, low contextual accuracy, and uneven resource visibility. Metadata responsibility anchors librarian accountability in a core professional function rather than a general ethical concern.

Across these strands, the literature identifies AI use, ethical risk, policy gaps, AI literacy, and metadata automation. Yang et al. (2024) bring librarian decision-making closer to the centre of AI-supported practice by analysing factors that affect subject librarians' use of AI-generated content. Studies on AI-enabled library work also address ethical stewardship, privacy, transparency, fairness, professional responsibility, human oversight, and ethical challenges in AI-based tools (Elsayed & Mohammed Abusharhah, 2025; Sousa, 2025; Adewojo, 2025). These studies establish the ethical and professional foundations for AI-supported librarianship. The professional construct that links these responsibilities to daily service decisions remains underdeveloped.

This paper defines librarian conscience as the professional judgement, ethical responsibility, and accountable mediation through which librarians assess AI-supported outputs before they enter library services, metadata routines, research support, and institutional information processes. This definition positions librarian conscience as the accountability route between automated output and trusted service. It also clarifies why AI literacy, ethical AI, and policy guidance require professional enactment in daily library work. The Librarian's

Conscience Framework extends the literature by shifting the discussion from AI as a service enhancement to librarianship as accountable information mediation in human-AI environments.

3.0 Methodology

3.1 Conceptual framework development

The paper applies literature-based conceptual model development to construct the Librarian's Conscience Framework. Conceptual articles require clear design logic, explicit justification of the conceptual approach, and a defined route for developing a theoretical contribution (Jaakkola, 2020). The framework approach directly addresses the gap in the paper by explaining the professional route between AI-supported output and accountable academic library service. The method also draws on construct-level conceptual contribution, in which defining, differentiating, integrating, and explaining concepts strengthen theoretical development (MacInnis, 2011).

3.2 Source identification and evidence mapping

Source identification used Scopus as the main database for its indexed coverage of peer-reviewed literature across library and information science, information systems, education, and technology-related fields. This coverage aligns with the paper's interdisciplinary focus on AI-supported academic library work, ethical responsibility, metadata practice, policy guidance, and quality-oriented information service. The search focused on AI-supported academic library work, librarian judgement and oversight, AI ethics in libraries, metadata and cataloguing, institutional AI policy, and user-facing AI services. Source selection prioritised publications aligned with the paper's conceptual focus, namely academic libraries as the service context, AI-supported systems as the enabling mechanism, and quality AI-supported library work as the outcome.

The analysis mapped the selected literature according to the argument function: service context, ethical risk, metadata responsibility, policy gap, librarian judgement, or quality outcome. This evidence-mapping approach supports the organisation of literature by themes, domains, and gaps (Miake-Lye et al., 2016). The mapping clarified how AI-supported outputs move from automated generation toward accountable library service. The analysis consolidated repeated decision points across the evidence base into five actions: output verification, privacy judgement, fairness assessment, metadata responsibility, and accountable mediation.

The method strengthens the conceptual contribution by linking each action to documented concerns in academic library literature. Output verification responds to unreliable generated content; privacy judgement responds to user data exposure; fairness assessment responds to bias and unequal visibility; metadata responsibility responds to description and discoverability risks; and accountable mediation responds to professional decision-making in AI-supported service. This method produced the Librarian's Conscience Framework, which explains how librarians convert automated output into accountable service decisions before such output enters library services, metadata routines, research support, and institutional information processes.

4.0 Findings

4.1 Librarian's Conscience Framework

The literature synthesis establishes the Librarian's Conscience Framework as a professional accountability route for quality AI-supported academic library work. The framework addresses academic library routines in which automated answers, machine-suggested metadata, chatbot responses, discovery pathways, generated summaries, and AI-supported research assistance enter service practice. In this framework, conscience refers to professional judgement in action: the accountable capacity by which librarians verify information, protect user privacy, assess fairness, preserve metadata integrity, and mediate automated outputs before their use in service.

The synthesis consolidates five recurrent accountability concerns across AI-supported academic library work: reliability of automated output, protection of user inquiry, fairness of access, integrity of metadata, and professional accountability for service decisions. These concerns are translated into five conscience actions: output verification, privacy judgement, fairness assessment, metadata responsibility, and accountable mediation. This translation is the core finding of the section, as it clarifies the professional route by which AI-supported outputs are assessed before entering trusted academic library services.

Quality in AI-supported academic library work depends on converting automated output into accountable service. Technical capability expands service capacity; conscience secures service quality. Automated systems generate answers, suggestions, pathways, summaries, and classifications, and these outputs require professional assessment before they qualify as trustworthy library work. The framework positions librarian conscience as the professional accountability checkpoint that determines whether an AI-supported output enters service as a verified answer, a fair discovery route, an ethically sound metadata record, a protected user interaction, or a defensible service decision.

Figure 1 presents the framework through three linked layers. The AI Production Layer captures the generation of AI-supported outputs within academic library work. The Human Accountability Layer positions the librarian's conscience and its five professional actions as the mediating route between automation and service. The Quality and Trust Layer identify the service outcomes produced when AI-supported outputs pass through professional judgement before reaching users, catalogues, discovery systems, and institutional information processes.

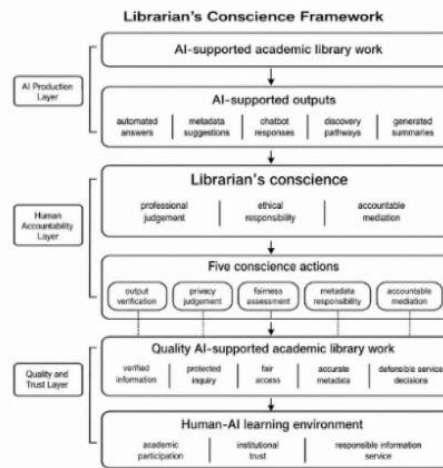


Fig. 1: Librarian's Conscience Framework for Quality AI-Supported Academic Library Work

4.2 Conscience actions and quality outcomes

The framework comprises five conscience actions. Output verification examines the reliability, accuracy, source fit, and contextual suitability of AI-generated answers, summaries, recommendations, and service responses. Privacy judgement protects user prompts, search behaviour, personal information, and information-seeking privacy across AI-enabled services. Fairness assessment scrutinises bias, unequal visibility, exclusion, and distorted representation in search results, recommendation pathways, and AI-supported discovery. Metadata responsibility safeguards the accuracy of descriptions, contextual meaning, classification quality, discoverability, and intellectual access. Accountable mediation authorises professional decisions to accept, correct, limit, explain, or reject AI-supported outputs before their use in service. Table 1 links these actions to entrusted responsibilities, secured quality outcomes, and affected areas of AI-supported library work.

Table 1. Librarian's Conscience Actions and Quality Outcomes in AI-Supported Academic Library Work

Conscience action	Entrusted professional responsibility	Quality outcome secured	AI-supported library work affected
Output verification	Check the accuracy, reliability, source fit, and contextual suitability of AI-supported information.	Verified and contextually reliable information	Reference service, research support, user queries, generated summaries
Privacy judgement	Protect user prompts, inquiries, personal information, search behaviour, and information-seeking privacy.	Protected inquiry, user data, prompts, and search behaviour	Chatbots, AI-assisted reference, discovery systems, user-facing digital services
Fairness assessment	Scrutinise bias, exclusion, unequal visibility, and distorted representation in AI-supported access.	Fair access, balanced visibility, and responsible representation	Search results, recommendation pathways, information access, and resource visibility
Metadata responsibility	Maintain description accuracy, contextual meaning, classification quality, discoverability, and intellectual access.	Accurate metadata, contextual description, discoverability, and intellectual access	Cataloguing, classification, metadata creation, and institutional repositories
Accountable mediation	Decide whether AI-supported outputs require acceptance, correction, limitation, explanation, or rejection before service use.	Defensible service decisions grounded in professional judgement	Service decisions, user guidance, metadata workflows, research assistance

(Source: Author's synthesis based on reviewed literature)

The framework places conscience at the pre-service point where AI-supported outputs move toward users, catalogues, discovery systems, and institutional information processes. This sequence is decisive for academic library quality. Unverified answers, biased recommendations, exposed user data, and weak metadata carry institutional consequences once they enter library operations. Librarian conscience functions as the human accountability layer at the point where automated output is converted into service action.

The conscience-quality relation operates as an action-outcome chain. Output verification secures reliable information. Privacy judgement secures protected inquiry. Fairness assessment secures fair access and responsible representation. Metadata responsibility secures an accurate description and discoverability. Accountable mediation secures defensible service decisions. These actions define quality AI-supported academic library work as a verified, privacy-aware, fair, contextually accurate, and professionally accountable information service.

The framework extends the paper's concern with academic libraries as human-AI learning environments. Library users rely on trusted information, protected inquiry, fair access, and responsible service interaction to participate in academic life. By converting AI-supported output into accountable service, the Librarian's Conscience Framework links professional responsibility with academic participation, institutional trust, and responsible information service.

5.0 Discussion

5.1 From AI adoption to professional accountability

The findings reposition AI-supported academic library work from technology adoption into professional accountability. Library AI studies document the expanding use of AI in reference support, metadata work, discovery systems, chatbot services, research assistance, and user-facing digital services (Boateng, 2025; Hamad & Shehata, 2025; Yang et al., 2024). These developments widen service capacity and information access, and they also raise risks involving inaccurate output, privacy exposure, algorithmic bias, weak metadata control, and unclear responsibility for automated service decisions (Aguíñaga et al., 2025; Chen & Li, 2024; Dover & Grzegorski, 2025; Hassan & Becker, 2025). The Librarian's Conscience Framework addresses this gap by specifying the professional route through which AI-supported outputs are assessed before entering trusted library service.

The framework strengthens existing discussions on AI readiness, digital skills, ethical awareness, and responsible use in academic libraries (Elsayed & Mohammed Abusharhah, 2025; Mahmud, 2024; McCusker & Michalak, 2025). Preparedness matters when it translates ethical awareness into defensible service action. This paper identifies that mechanism as librarian conscience. Conscience refers to professional judgement in action, exercised through output verification, privacy judgement, fairness assessment, metadata responsibility, and accountable mediation. These actions give librarians a basis for testing accuracy, protecting inquiry, scrutinising bias, maintaining metadata integrity, and deciding whether an AI-supported output deserves trust, correction, restriction, explanation, or rejection.

This argument sharpens the meaning of quality in AI-supported academic library work. Quality exceeds speed, system sophistication, and technical capacity. Automated systems generate answers, suggestions, pathways, summaries, and classifications; librarian conscience determines whether these outputs carry reliability, fairness, privacy protection, metadata integrity, and service defensibility. Quality operates as an accountable professional outcome produced through judgement, beyond the technical capacity of an AI system.

The framework also addresses the status of judgement in AI-supported service. AI systems perform judgement-like operations through ranking, classification, recommendation, summarisation, metadata suggestion, and response generation. These operations shape what users retrieve, which records gain visibility, which summaries appear authoritative, and which service routes seem relevant. Automated decision-making literature treats such processes as socio-technical arrangements requiring reviewability, meaningful human oversight, and accountability (Cobbe et al., 2021; UNESCO, 2022). In academic library service, computational selection carries consequences for service without professional conscience. Librarian judgement differs from AI-generated selection by bringing ethical responsibility, contextual reading, institutional accountability, and service defensibility into decisions shaped by patterns, probabilities, and programmed objectives.

5.2 Human-AI quality governance and learning environments

This distinction clarifies the accountability point in the AI-supported service chain. Library AI studies identify bias, opacity, accountability, user trust, and role transformation as central concerns in digitally mediated service environments (Aguíñaga et al., 2025; Dover & Grzegorski, 2025; Hassan & Becker, 2025). The framework places accountability at the transition between AI-supported output and library service action. Once unverified answers, exposed user data, biased retrieval pathways, or inaccurate metadata enter library operations, service risk becomes institutional risk. Librarian conscience serves as the human accountability layer that protects the quality of academic libraries at the point where automated output becomes service action.

The paper contributes to Information Management by treating AI-supported academic library work as an information accountability process. Automated outputs enter library work as information objects requiring verification, contextualisation, ethical review, and professional mediation. This position connects AI-supported library practice with information quality, privacy, access, description, governance, and accountable use (Chen & Li, 2024; Hamad & Shehata, 2025; Yang et al., 2024). Librarian conscience provides the operational route through which machine-generated output becomes a reliable, protected, fair, accurate, and defensible information service.

The framework's future relevance increases as academic libraries adopt generative search, automated metadata pipelines, embedded research assistants, conversational discovery tools, and AI-supported scholarly support. As these systems enter library infrastructure, the key accountability question shifts from AI adoption to service governance. Academic libraries will need a professional accountability checkpoint to determine when automated output warrants trust, correction, restriction, explanation, or rejection. The framework places librarianship at the centre of human-AI quality governance and links librarian conscience with academic participation, institutional trust, and responsible information service. The central theoretical claim remains clear: quality AI-supported academic library work depends on librarian conscience as the human accountability link between automated output and trusted academic service.

6.0 Conclusion and Recommendations

AI-supported academic library work includes reference support, metadata creation, discovery pathways, chatbot interaction, generated summaries, and research assistance. The main issue concerns the professional route that turns automated output into a trusted

academic library service. This paper addresses that issue through the Librarian's Conscience Framework, which positions librarian conscience as the human accountability link between AI-supported output and service action. The framework establishes five conscience actions: output verification, privacy judgement, fairness assessment, metadata responsibility, and accountable mediation. These actions secure reliable information, protected inquiry, fair access, accurate metadata, and defensible service decisions. The paper contributes to academic librarianship by clarifying the professional responsibility required in AI-supported service work. It also contributes to Information Management by framing AI-supported library service as an information accountability process involving quality, privacy, access, description, governance, and responsible use. Academic libraries should develop professional accountability checkpoints for AI-supported outputs across reference, metadata, discovery, chatbot, and research support services. These checkpoints should specify decision criteria for accepting, correcting, limiting, explaining, or rejecting automated outputs. Future work should test the framework through empirical studies with academic librarians, library users, and AI-supported service workflows. Quality AI-supported academic library work depends on a visible, usable, and defensible librarian conscience at every human-AI service touchpoint.

Paper Contribution to Related Field of Study

This paper advances academic librarianship, Information Management, and quality-of-life studies by conceptualising librarian conscience as the human accountability link in AI-supported library work. The Librarian's Conscience Framework explains how output verification, privacy judgement, fairness assessment, metadata responsibility, and accountable mediation convert automated outputs into quality library service. Its main contribution lies in reframing AI-supported academic libraries as human-AI learning environments in which professional judgement secures reliable information, protected inquiry, fair access, institutional trust, and academic participation.

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