

THE EMOTIONAL INTELLIGENCE GAP: CAN AI REPLACE HUMAN INTERACTION IN LIBRARY SERVICES?

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Abstract

As libraries rapidly adopt artificial intelligence (AI) to streamline operations and enhance user experiences, the debate over whether AI can replace human librarians, particularly in delivering emotionally intelligent service, has intensified. This paper employs secondary research to investigate the implications of AI integration into library services, focusing on the unique human capacities that define librarian-user interactions. While AI offers unparalleled efficiency through automation, personalised search tools, and predictive analytics, it lacks core emotional intelligence competencies such as empathy, moral reasoning, and nuanced communication. Drawing from literature and conceptual analysis, the paper identifies the "emotional intelligence gap" as a central challenge to fully automating library services. explores the irreplaceable value of modern libraries. Findings revealed that although AI significantly enhances operational speed and user convenience, it falls short in areas requiring emotional labour, ethical discretion, and culturally sensitive engagement. The inability of AI to exhibit human empathy limits its effectiveness in serving vulnerable populations, resolving interpersonal conflicts, and fostering inclusive library environments. The study recommends a hybrid model where AI is leveraged to handle repetitive and data-driven tasks, while human librarians focus on relational and ethical aspects of service. Libraries should prioritise training programs that enhance librarians' emotional intelligence alongside AI literacy to promote complementary collaboration. Ultimately, emotionally intelligent human librarians remain indispensable for maintaining ethical standards, trust-based interactions, and adaptive service in the AI-augmented library ecosystem.

Keywords: *Artificial Intelligence, Emotional Intelligence, Library Services.*

Introduction

Libraries worldwide increasingly integrate artificial intelligence (AI) to enhance services and improve user experiences. A range of AI-powered applications is being adopted in public and academic libraries.

For instance, AI chatbots provide round-the-clock reference services, responding to routine inquiries such as locating materials, accessing databases, or navigating digital platforms. Deakin University in Australia, for example, employs a chatbot named

“Emma” that uses natural language processing (NLP) to assist users in real time. Similarly, AI tools are used to automate cataloguing and metadata extraction processes. Tools such as OCLC’s WorldShare Management Services streamline the classification of resources by automatically generating standardised metadata. Additionally, AI is employed in personalised search and recommendation systems that tailor content suggestions based on user behaviour. Ex Libris’ “bX Recommender” is a notable example. Through platforms like OrangeBoy’s “Savannah,” predictive analytics enables libraries to anticipate user needs by analysing borrowing patterns and community data, thereby improving collection development and resource allocation. Other AI applications include plagiarism detection and academic writing support, with tools like Turnitin and Grammarly providing automated similarity and grammar checks for students and researchers.

Several well-known AI tools have been integrated into library environments to facilitate these services. IBM Watson is widely used to develop innovative reference systems that interpret and respond to natural language queries. Voice-enabled tools like Alexa for Business are being explored in smart libraries to provide hands-free search and assistance functions. More recently, generative AI models such as ChatGPT and GPT-4 have been utilised to answer complex research questions, generate summaries, and guide users through information searches. Tools like Ex Libris Primo VE offer personalised federated search experiences across multiple platforms. Clarivate Analytics uses AI for research impact predictions and citation pattern analysis, aiding institutional

research planning. Meanwhile, marketing-focused tools like Koios leverage AI to help libraries engage specific patron demographics. These developments underscore the increasing reliance on AI technologies to enhance traditional library operations.

Several academic libraries have begun incorporating AI and automation into their services in the Nigerian context. At Covenant University Library (Centre for Learning Resources) in Ota, Ogun State, AI and automated systems are central to daily operations. The library employs the KOHA Integrated Library Management System to remotely manage cataloguing, circulation, and user access. Additionally, the library has introduced a chatbot service on its website to assist users with routine questions about book availability, digital access, and library policies. However, despite these advancements, human librarians remain indispensable for user education, personalised research guidance, and emotional support, particularly for undergraduates navigating academic stress. Similarly, digital transformation efforts have included automated cataloguing and repository management systems at the University of Ilorin Library. These tools help manage the university’s institutional repository and streamline access to theses and scholarly publications. Nevertheless, librarians continue to play a key role in facilitating workshops on information literacy, providing mentorship during thesis writing, and offering personalised support roles that demand empathy, ethical reasoning, and nuanced communication that AI tools currently lack.

However, despite the efficiency and convenience offered by AI, traditional

library services provided by human librarians continue to offer irreplaceable value. One of the most significant advantages human librarians hold is their capacity for emotional intelligence and empathy. As Hernon et al. (2007) and Lucas (2020) emphasise, library users, especially those from vulnerable backgrounds, often need more than just information; they require understanding, assurance, and emotional support. Human librarians can detect nonverbal cues, recognise confusion or frustration, and respond with compassion, a trait that AI systems currently lack. Moreover, human librarians apply ethical judgment in ways that AI cannot. Whether deciding how to handle sensitive user data, navigate controversial material, or apply collection development policies, librarians rely on professional values and discretion rooted in context and moral reasoning. These skills are essential in ensuring the library remains inclusive, ethical, and trustworthy.

In addition, human librarians excel in nuanced communication and critical inquiry, particularly in academic environments where research queries are often vague, interdisciplinary, or multilayered. They guide users in formulating questions, refining search strategies, and evaluating sources, tasks that require interpretive skills beyond AI's scope. Furthermore, librarians contribute to creating culturally competent spaces. They understand their communities' diverse

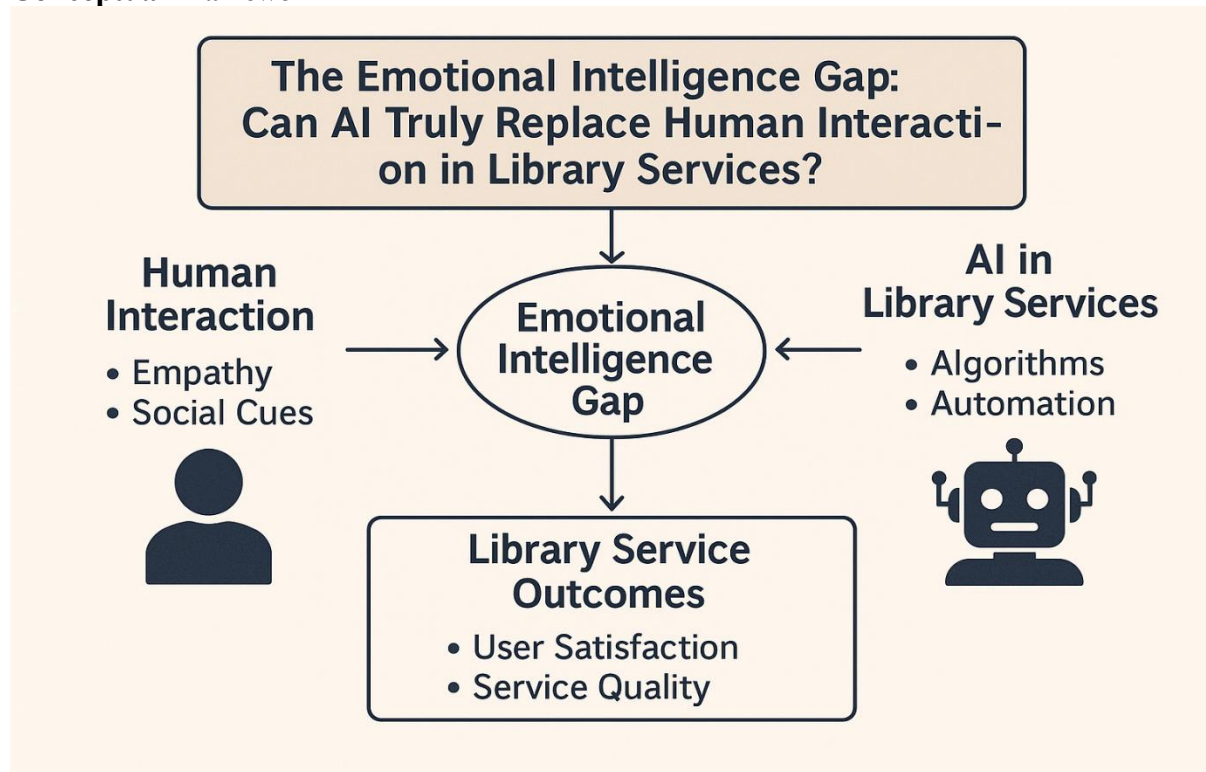
backgrounds, languages, and learning styles and adjust their interactions accordingly. This cultural sensitivity enhances user inclusion and trust, something AI systems, which are limited by their training data and lack of lived experience, struggle to replicate. Ultimately, while AI can effectively support repetitive and data-driven tasks, the emotionally intelligent, ethical, and relational qualities that human librarians bring to library services remain vital and irreplaceable in the digital age.

Aim and Objectives of the Study

This study aims to investigate the state of cybersecurity and data privacy in Nigeria's public and academic libraries, focusing on balancing open access to information with the protection of digital infrastructure and user data. Specifically, the research aims to examine existing cybersecurity frameworks and data protection policies within these libraries, identify prevalent threats and system vulnerabilities, and explore the level of awareness and preparedness among library staff and users regarding cybersecurity practices. Additionally, the study will assess the impact of security breaches on service delivery, user trust, and institutional credibility, while evaluating the role of librarians and ICT personnel in managing digital risks. Ultimately, the study will propose strategic recommendations and policy-driven solutions to enhance cybersecurity resilience and data governance in Nigerian library systems.

Literature Review

Conceptual Framework



Author's Original Construct, 2025

The central conflict in the research question whether AI can replace human connection in library services, especially regarding emotional intelligence, is graphically expressed in the conceptual framework diagram. The three main components of the diagram, human interaction, artificial intelligence capabilities, and the emotional intelligence gap, converge to illustrate how these factors impact library service outcomes, including user satisfaction and service quality. Human qualities such as empathy, emotional sensitivity, and the ability to read social cues are highlighted on the left as important advantages of conventional librarian-user interactions. In library environments, where patrons frequently require more than transactional support, these characteristics are crucial for developing meaningful, customised experiences.

The contributions of AI to library services, including speed, data processing power, and algorithm-driven automation, are shown on the right. While these qualities promote operational

efficiency and uniformity, they lack the natural affective dimension that human librarians bring. The area where AI cannot duplicate specific emotional competencies is known as the emotional intelligence gap, and it is centrally depicted. The possible diversity in service results is directly linked to this gap, highlighting that emotional intelligence is not only a soft talent but also a crucial determinant of how library patrons view the quality of services. Ultimately, the framework lays the groundwork for examining whether AI can replace or enhance human-centred service in contemporary library settings.

Emotional Intelligence: Definitions and Components

According to Goleman (1998, 1999), emotional intelligence is the ability to recognise, understand, and manage one's emotions and those of others. It comprises a variety of interrelated skills that influence how people communicate, handle conflict with others, and make deliberate choices (Antonopoulou, 2024).

Self-awareness, self-regulation, motivation, empathy, and social skills are the five fundamental components into which these abilities are typically divided. While self-regulation promotes emotional control and adaptation in various contexts, self-awareness enables people to recognise how their emotions influence their thoughts and behaviour. This concept incorporates motivation, which, as noted by Wamsler and Restoy (2020), propels people to pursue their objectives, even in the face of persistent pressure. Social skills enable people to negotiate and maintain successful relationships, whereas empathy, possibly the most socially important component, involves comprehending the emotional states of others. Combined, these components improve interpersonal relationships and are essential for success in cooperative, customer-focused fields. Due to the human-centred nature of the services offered, emotional intelligence plays a critical role in library settings. Users confused, stressed, or overwhelmed by information often approach librarians, particularly in academic settings where demands are high (Mills & Lodge, 2006; Jan et al., 2017). According to Mills & Lodge (2006), a librarian's ability to respond with emotional insight can turn a transactional interaction into a supportive, trust-building experience. Bonal (2024) admits that while AI systems can mimic some emotional responses, such as recognising facial expressions or using preprogrammed responses, these systems lack the deeper context-awareness and moral reasoning inherent in human empathy. The intuitive, nuanced knowledge that human librarians offer to each unique interaction cannot be replaced by AI, even though it may help deliver timely information. According to Klare et al. (2014), this fundamental distinction underscores emotional intelligence as a defining human advantage, rendering it a critical feature that existing intelligent systems cannot reproduce.

The Role of Emotional Labour in Librarianship

According to Matteson et al. (2015), emotional labour is the deliberate control of one's feelings

and emotional expressions to fulfil a job's demands. This idea is not ancillary to librarianship; rather, it is essential to the daily cadence of public service, particularly in academic, public, and community libraries where frequent interactions between people are diverse. According to Shuler and Morgan (2013), librarians frequently handle these encounters by projecting composure, empathy, and patience, irrespective of the user's emotional instability or internal state. Throughout these interactions, librarians are expected to maintain composure when assisting patrons who are confused or concerned, provide reassurance to individuals under academic stress, and professionally handle confrontations or disruptive behaviours. These demands call for emotional control, empathy, resilience, and fundamental interpersonal skills; these traits can eventually become taxing if they are not recognised and encouraged (Rodger & Erickson, 2021).

This relational dimension helps patrons feel understood and respected, especially when overwhelmed or unsure. According to Simon (2020), emotional labour in librarianship is much more than just courteous customer service; it is fundamental to how libraries create inclusive, welcoming spaces that support informational and emotional needs. When done well, this labour builds trust and encourages users to return, not just for books but also for the safe, supportive atmosphere librarians help cultivate. While AI technologies can effectively handle routine enquiries, they cannot replicate the depth of emotional labour that characterises meaningful library service (Matteson & Miller, 2014). However, human librarians can read subtle emotional cues, intuit user needs beyond spoken words, and adjust their responses with sensitivity and flexibility, which highlights the importance of the human librarian not only as an information provider but also as an emotionally intelligent professional who enhances user experiences in ways that machines cannot.

AI Applications and Automation in Library Services

Artificial intelligence (AI) has revolutionised library operations through creative applications by increasing productivity and user engagement. AI-driven technologies, such as sophisticated search engines and automated cataloguing systems, are changing how libraries arrange and present material, as highlighted by Preethi (2024). While machine learning algorithms examine user behaviour to tailor content distribution, these technologies optimise procedures, freeing employees to concentrate on intricate tasks (Jyoti, 2024). For example, now commonly used chatbots respond remarkably quickly to routine questions, a change that Ibrahim and Okpala (2024) contend lessens operational stress while preserving customer happiness. According to Mala (2024), natural language processing (NLP) enhances search experiences by enabling users to engage with databases through conversational enquiries. These developments underscore AI's role in enhancing libraries' capacity to serve a diverse range of patrons, particularly in digital-first environments.

Beyond front-line services, AI's impact extends to back-end functions. According to recent studies, predictive analytics, for instance, enables libraries to anticipate customer demands and maximise inventory management (Adesina & Zubairu, 2024). Digital preservation and plagiarism detection tools further demonstrate AI's adaptability, which protects collections while maintaining academic integrity. However, this technological change has generated discussion. Although automation increases productivity, Cox and Mazumdar (2022) warn that relying too heavily on AI could depersonalise services, especially when empathy or mentoring are required. This worry is echoed by Gajbhiye (2024), who notes that deskilling may result if automated workflows replace human expertise. This tension is further supported by a 2013 study by Shuler and Morgan on emotional labour in academic libraries, which emphasises the importance of

human interaction to users experiencing discomfort.

Critics also wonder if AI can replace the moral discernment that librarianship requires. For example, whereas data-driven decision-making tools and adaptive learning systems are praised for their accuracy, they lack the sophisticated knowledge that human experts contribute to complex moral conundrums (Cox & Mazumdar, 2022). This constraint is especially noticeable in situations that require emotional intelligence or cultural sensitivity; Mills and Lodge (2006) emphasise the significance of affective skills in librarian-user interactions. Finding a balance between automation and human-centred service will be crucial as libraries develop into "smart" places. As Goleman (1998) noted, outstanding leadership is characterised by emotional intelligence more than technical skill, which a principal library must maintain even in an AI-driven age.

Emotional Intelligence in Professional Library Practice

In contemporary library practice, emotional intelligence has become important, especially when librarians assume responsibilities beyond providing basic information services. Professionals working in academic, public, and special libraries often interact with diverse patrons, sometimes in stressful or emotionally charged situations (Hernon et al., 2007). Librarians with emotional intelligence can better handle these circumstances and offer technically sound and emotionally supportive assistance, as Jan et al. (2017) noted. Whether a librarian is helping a troubled patron, leading a group learning session, or assisting a student with complex research, this ability is essential. According to Lucas (2020), emotionally competent librarians can foster a friendly atmosphere that promotes interaction and information exchange, regulate interpersonal dynamics, and establish trust.

Additionally, incorporating emotional intelligence into library operations enhances overall service quality and the institution's reputation. Self-aware, sympathetic, and socially adept librarians are better equipped to

oversee teamwork, settle disputes, and adjust to their communities' changing demands, as Lucas (2020) suggested. In inclusive, user-centred library models, the ability to promote user pleasure and a sense of belonging is particularly crucial. As libraries increasingly deploy technology-driven resources, this capacity to emotionally connect with patrons is also essential. According to Bonal (2024), in such a setting, the human touch offered by emotionally intelligent employees becomes even more crucial for preserving individualised care and moral responsiveness.

Emotional intelligence's ability to close the gap between knowledge access and deep human connection is what makes it so valuable in librarianship. Despite its increasing powers, artificial intelligence cannot reproduce this, as Gola and Martin (2020) asserted. This disparity highlights the ongoing importance of emotional intelligence in librarianship, both for enhancing interpersonal relationships and fostering a culture that prioritizes human-centered services in a rapidly evolving technology environment.

User Experience and Satisfaction with AI In Libraries

Public and academic institutions' user experiences and satisfaction have been profoundly altered by incorporating Artificial Intelligence (AI) into library services. According to recent research, artificial intelligence (AI) enhances operational efficiency by automating tasks, including user interface development, cataloguing, and classification. This leads to more efficient services and faster information retrieval (Khan et al., 2025). Elsherif (2025) discovered that the efficiency AI adds to public library operations has increased user engagement. Rafiq (2025) reported a noteworthy 30% rise in customer satisfaction following implementing AI-powered services. Libraries have noted significant increases in user involvement with AI-powered technologies, including chatbots, recommendation engines, and predictive search interfaces. These developments enable personalisation, reduce cognitive burden, and

improve resource discoverability, particularly in large digital repositories (Khan et al., 2025).

However, trust, transparency, digital literacy, and ethical design all impact users' satisfaction with AI in libraries and the technology's capabilities. According to Gajbhiye (2024), user comfort and sustained engagement can be significantly impacted by views of AI's responsibility, and trust in AI systems is essential for their effective adoption. According to some, libraries risk offending patrons or widening the digital gap if they do not communicate how AI tools work and how user data is managed (Mallikarjuna, 2024). To promote greater equity and trust, libraries must prioritise user-centred design and ensure that AI training datasets are inclusive and free from bias. As libraries evolve into hybrid digital-physical spaces, it is crucial to continuously evaluate user experiences to ensure that AI supports, rather than undermines, the libraries' primary human-centred mission, as Amalia et al. (2024) suggested. This continuous evaluation contributes to preserving the delicate balance between technology and the human element that characterises successful library services.

Case Examples and Documented Outcomes from Existing Studies

Several case studies have highlighted the tangible benefits of implementing artificial intelligence (AI) in libraries, particularly enhancing user experience and satisfaction. For instance, Elmessary et al. (2024) applied AI in the Health Data Research UK Phenotype Library to streamline metadata tagging and phenotype classification. By integrating user feedback into the design of its AI-driven interface, the project improved access and perceived usefulness, especially among non-specialist users. Similarly, Rafiq (2025) explored the implementation of AI in an academic library system, where the automation of cataloguing and user query responses resulted in a 30% increase in satisfaction scores. This improvement was mainly due to reduced wait times and more accurate search results, underscoring the value of AI in enhancing

service delivery when paired with user-centred design.

Further evidence of AI's impact is provided by Moawad (2025) in a case study on Egyptian green libraries. Despite infrastructure challenges, introducing AI features such as digital assistants and real-time information updates garnered positive user feedback, highlighting the importance of aligning AI tools with user expectations. Similarly, Elmessary et al. (2024) reported on a next-generation phenotype library that utilised AI to optimise search capabilities and simplify navigation at the University of Birmingham. As a result, user satisfaction metrics improved due to a reduction in the complexity of data retrieval. These cases emphasise that when libraries focus on transparency, customisation, and continuous feedback, AI integration improves functionality and significantly enhances user satisfaction.

Comparing Human vs. AI-Driven Interactions in Libraries

The comparison between human and AI-driven interactions in libraries reveals a range of outcomes, particularly in terms of user satisfaction, efficiency, and perceived service quality. Human librarians have long been valued for their empathetic, personalised assistance and nuanced understanding of user intent, especially in complex or exploratory research tasks. Markovitch et al. (2024) emphasise the importance of this human touch in academic libraries, where information needs can be multifaceted and iterative. In these settings, users often feel more confident and emotionally supported when engaging with human staff (McKie & Narayan, 2019). However, AI-driven interfaces, such as chatbots and recommendation systems, excel in speed, availability, and consistency, offering significant advantages over human interactions in routine tasks.

In university settings, for example, AI chatbots have shown higher efficiency and response accuracy in information retrieval. However, user satisfaction tends to be slightly lower than human services due to a perceived lack of empathy and adaptability (Panda &

Chakravarty, 2022). Despite this, AI systems excel in transactional tasks such as book renewals, catalogue queries, and real-time FAQ responses, resulting in measurable improvements in operational satisfaction (Narendra et al., 2025). Kahn et al. (2020) argue that hybrid systems, which combine AI tools to triage or augment human assistance, provide the highest satisfaction levels by blending AI's speed with human librarians' sensitivity.

Overall, AI-driven interactions tend to outperform in tasks that are routine, scalable, or require 24/7 service provision. Nevertheless, as Huang and Rust (2020) point out, human interactions remain essential in contexts that require critical thinking, adaptability, and emotional intelligence. Looking ahead, the future of library services may lie in AI-human collaboration models that combine the precision and availability of AI with the relational depth and emotional intelligence inherent in traditional librarianship (Huang & Rust, 2020; Kahn et al., 2020). Such a model promises to harness the strengths of both approaches, ultimately enhancing the user experience.

Strengths and Limitations of AI in Replicating Emotional Intelligence

AI's ability to replicate emotional intelligence (EI) has made significant strides, but it comes with strengths and limitations.

Strengths:

1. **Pattern Recognition and Data Processing:** AI systems are particularly adept at recognising patterns and processing large volumes of data swiftly, which allows them to analyse various emotional cues, such as facial expressions, tone of voice, and text. This capability forms the basis for creating responses that simulate emotional intelligence (EI). For example, sentiment analysis tools used in AI can assess the emotional tone of customer feedback, enabling businesses to address concerns empathetically (Agrawal & Pandey, 2024). This process enhances customer interactions and ensures that responses are aligned

with the emotional context, demonstrating AI's potential in bridging the gap between technology and human-like empathy.

2. **Consistency and Objectivity:** AI can deliver consistent responses without the fatigue or biases that often affect humans, making it particularly valuable in high-stress environments such as healthcare or customer service. Kerasidou (2020) notes that in these settings, where maintaining a calm and empathetic demeanour is crucial, AI systems can provide standardised empathetic interactions. This ensures that every user receives the same care and attention, regardless of external factors. Such consistency helps reduce human error and enhances overall service quality, reinforcing the importance of AI in maintaining high standards in emotionally charged situations.
3. **Scalability:** AI can simulate emotional intelligence across vast datasets or multiple user interactions simultaneously, a capability that human workers cannot match. This becomes especially valuable in environments such as virtual assistants, chatbots, or large-scale customer service systems, where emotional cues from numerous individuals need to be processed and addressed swiftly. As Velagaleti et al. (2024) explain, this efficiency allows AI to handle complex emotional nuances in real-time, ensuring that users receive prompt, context-aware responses. In such scenarios, the ability of AI to manage and respond to emotional cues on a large scale enhances the overall user experience, offering a level of responsiveness that would be challenging for human workers to replicate.

Limitations:

1. **Lack of Genuine Emotion:** While AI can mimic emotional intelligence, it

does not experience emotions. It can simulate empathy and compassion by recognising patterns, yet it lacks the depth of understanding that comes from human emotional experience. Oritsegbemi (2023) notes that while AI can convey sympathy in situations such as customer service, it does not genuinely feel for the individual, resulting in responses that, although appropriate, may seem robotic or detached, especially in more nuanced contexts. This limitation highlights the challenge of replicating genuine emotional connections, as AI's emotional simulation lacks the subtleties humans bring to such interactions.

2. **Contextual Understanding:** Emotional intelligence requires a deep understanding of complex social contexts, such as sarcasm, cultural differences, and unspoken social cues, which AI systems often struggle with. Singh et al. (2024) note that while AI can process a range of emotional cues, it lacks the nuanced understanding humans bring to interactions. For example, a human may recognise a subtle shift in emotional tone or context during a conversation that an AI could miss, resulting in responses that, although accurate, can seem inappropriate or inadequate. This limitation highlights the importance of enhancing AI's ability to navigate these subtleties, improving its emotional responsiveness and effectiveness in complex interactions.
3. **Ethical and Privacy Concerns:** The collection and analysis of emotional data raises significant privacy concerns, particularly regarding its use and storage. Latif et al. (2022) emphasise that AI systems capable of analysing emotional cues must be carefully managed to avoid misuse or manipulation. This is especially critical

in sensitive areas such as mental health or marketing, where the potential for exploitation is high. Proper oversight and ethical guidelines are necessary to ensure that emotional data is handled responsibly, protecting individuals' privacy while maintaining the integrity of AI applications in these fields.

While AI has shown promise in replicating certain aspects of emotional intelligence, its limitations stem from the lack of proper emotional understanding, difficulty in navigating complex social contexts, and ethical concerns surrounding the use of emotional data.

The Evolving Role of Librarians in AI-Enhanced Environments

The role of librarians in AI-enhanced environments is undergoing rapid transformation, as they shift from traditional information managers to dynamic facilitators of digital literacy and ethical information use. Panda (2024) and Ridley & Pawlick-Potts (2021) explain that librarians are increasingly integrating AI-powered tools, such as search engines, recommendation systems, and chatbots, to enhance access to vast datasets and facilitate users' efficient discovery of relevant content. Beyond facilitating information discovery, librarians are also responsible for curating the data used to train AI systems, ensuring its accuracy and relevance (Mohd Mala, 2024).

Moreover, librarians play a critical role in guiding users through the ethical implications of AI, fostering data literacy, and advocating for equitable access to information. As Ridley & Pawlick-Potts (2021) suggest, librarians act as trusted intermediaries, helping users navigate the complexities of AI-driven systems. In addition to enhancing information access, they are utilising AI to automate administrative tasks, such as cataloguing and resource management, which allows them to focus on more value-added services, like research support and community outreach. AI tools also help predict user behaviour, assess resource demand, and streamline operations, enhancing the overall user experience.

Despite these promising advancements, challenges persist, including the need for ongoing professional development and addressing concerns about AI biases (Mallikarjuna, 2024; Jan Mohd Mala, 2024). Nevertheless, librarians embrace these changes as an opportunity to evolve, ensuring that AI is used responsibly and effectively, while maintaining the human element at the heart of library services.

Insights For Library Management and Workforce Development

In the era of AI, insights into library management and workforce development stress the importance of strategic adaptation, continuous learning, and maintaining a user-centred approach. Rahmani (2023) suggests that library management should prioritise integrating AI tools to enhance operational efficiency, including automating cataloguing, optimising resource allocation, and analysing user data to inform decision-making. However, such integration must be guided by policies that ensure the ethical use of AI, safeguard data privacy, and promote inclusivity. Furthermore, management must invest in the infrastructure necessary for digital transformation, including robust IT systems and partnerships with technology providers, while staying true to the library's mission of serving diverse user communities.

For workforce development, continuous training in digital literacy, data analytics, and emerging AI technologies is critical for librarians to stay effective in their roles. Oyighan Diseiye et al. (2023) argue that upskilling programs should blend traditional library science with technological fluency, critical thinking, and ethical reasoning. By encouraging staff participation in workshops, certifications, and collaborative innovation projects, libraries can foster a culture of lifelong learning (Njideka Rita Chiekezie et al., 2024). In addition, redefining job roles to include digital curators, data stewards, and AI ethics advisors will help future-proof the workforce and position libraries as key players in creating equitable and

intelligent information ecosystems (A. Cox & Suvoodeep Mazumdar, 2022).

Finding & Discussions

Recommendations for Balancing AI Use with Human-Centred Service

Adopting a hybrid service model that leverages AI's efficiency while preserving human librarians' empathetic and relational strengths is essential to balance AI use with human-centred service in libraries. Libraries should utilise AI tools, such as chatbots, recommendation systems, and automated cataloguing, for routine, repetitive, or data-intensive tasks, freeing librarians to focus on personalised services like user guidance, community engagement, and information literacy support. This approach ensures that AI enhances rather than replaces the human connection central to effective library service.

Secondly, library policies should promote the ethical deployment of AI by embedding transparency, accountability, and fairness into all AI-related processes. This includes informing users when interacting with AI systems, regularly auditing algorithms for bias, and ensuring data privacy and user consent. Finally, ongoing staff development is key: librarians must be trained not only in the use of AI tools but also in ethical reasoning, digital empathy, and adaptive communication. By combining technological innovation with a strong commitment to user well-being and inclusivity, libraries can offer innovative and deeply human-centred services.

Policy Considerations for Ethical and Inclusive AI Integration

Policy considerations for AI's ethical and inclusive integration in libraries should begin with establishing clear ethical frameworks that prioritise transparency, accountability, and fairness. Libraries must ensure that AI systems used for cataloguing, user recommendations, or data analytics are designed and implemented to respect user privacy and autonomy. This includes conducting regular audits of AI algorithms to detect and correct biases, providing users with opt-out options, and

communicating when AI is used in user interactions. Policies should also align with international ethical standards and local legal requirements regarding data protection and digital rights.

Equally important is developing inclusive practices that ensure AI technologies serve all segments of the library community in an equitable manner. Policies should mandate the inclusion of design principles that accommodate diverse languages, accessibility needs, and cultural contexts in AI tools. This may involve consulting marginalised groups during AI development and deployment to avoid reinforcing existing disparities. Furthermore, libraries should adopt policies that support ongoing education and training for staff, enabling them to understand, manage, and advocate for the responsible use of AI. By embedding ethical and inclusive principles into institutional policy, libraries can ensure that AI integration enhances, rather than undermines, equitable access to information and services.

Reflections on the Future of Librarianship in an AI-Driven Age

The future of librarianship in an AI-driven age is poised to be both transformative and profoundly human-centred. As AI continues to reshape how information is accessed, organised, and delivered, librarians will increasingly move beyond traditional roles to become strategic navigators of digital ecosystems. They will curate trustworthy knowledge, facilitate digital literacy, and promote ethical information practices. Rather than replacing librarians, AI will empower them to focus more on user engagement, interdisciplinary collaboration, and co-create learning experiences that emphasise critical thinking and inclusivity.

However, this future also demands a reimagining of professional identity and skillsets. Librarians must embrace lifelong learning, staying agile in adapting to technological change while maintaining their core values of service, access, and intellectual freedom. The profession will likely see the emergence of new roles such as data ethics advisors, AI trainers, and digital inclusion

advocates that underscore librarians' unique position at the intersection of technology, education, and social equity. In this evolving landscape, librarianship will remain indispensable not for its resistance to AI but for its commitment to using AI responsibly to enhance the human experience of learning, discovery, and connection.

Conclusion

Integrating AI into library environments marks a pivotal moment in the evolution of librarianship. While AI offers powerful tools to enhance information access, operational efficiency, and user engagement, it also presents ethical, professional, and social challenges that require thoughtful management and consideration. Librarians are uniquely positioned to bridge the gap between advanced technologies and human-centred service, ensuring that AI is implemented to uphold equity, privacy, and critical literacy. By embracing innovation while remaining grounded in the profession's core values, librarians can transform libraries into inclusive, intelligent, and ethically guided spaces for learning and community empowerment.

Recommendations

Develop and Enforce Comprehensive Cybersecurity Policies

Libraries should adopt institution-specific cybersecurity and data privacy policies aligned with national regulations, such as the Nigerian Data Protection Act (NDPA). These policies must outline clear protocols for access control, data handling, risk assessment, and incident response.

Implement Regular Cybersecurity Training for Library Staff and Users: Continuous professional development programs should be introduced to improve digital security awareness among librarians, ICT staff, and library users. Training should cover phishing detection, password hygiene, data protection practices, and ethical technology use.

Invest in Robust ICT Infrastructure and Security Tools: Libraries must upgrade their

digital infrastructure with advanced firewalls, intrusion detection systems, data encryption tools, and secure authentication mechanisms. This includes deploying AI-based monitoring systems to detect and respond to threats in real time.

Establish a National Framework for Library Cybersecurity Standards: A coordinated effort among library associations, regulatory bodies, and educational institutions is needed to develop a national cybersecurity framework tailored to library environments. This will ensure consistency, accountability, and resource sharing across public and academic libraries.

References

- Adesina, A. S., & Zubairu, A. N. (2024). Contemporary library and artificial intelligence technology. *Alexandria: The Journal of National and International Library and Information Issues*.
- Agrawal, R., & Pandey, N. (2024). Developing rapport between humans and machines: Emotionally intelligent AI assistants. *International Journal for Research in Applied Science and Engineering Technology*, 12(3). <https://www.ijraset.com>
- Amalia, P. N., Kurniawati, I. R., & Fahmi, F. (2024). The impact of AI on library information service quality. *BIBLIOTIKA: Jurnal Kajian Perpustakaan dan Informasi*.
- Antonopoulou, H. (2024). The value of emotional intelligence lies in its key components: Self-awareness, self-regulation, motivation, and empathy. *Technium Education and Humanities*.
- Bonal, R. B. (2024). Sentient libraries: Empowering user expeditions with emotional artificial intelligence. *Library Hi Tech News*.
- Chiekezie, N. R., Obiki-Osafiele, A. N., & Agu, E. E. (2024). Preparing the workforce for AI technologies through training and professional development for future readiness. *World Journal of Engineering and Technology Research*.
- Cox, A., & Mazumdar, S. (2022). Defining artificial intelligence for librarians. *Journal of Librarianship and Information Science*, 56(2), 330–340.

- <https://doi.org/10.1177/09610006221142029>
- Diseiye, O., Ukubeyinje, S. E., Oladokun, B. D., & Kakwagh, V. V. (2023). Emerging technologies: Leveraging digital literacy for self-sufficiency among library professionals. *Metaverse Basic and Applied Research*.
- Elsherif, H. M., & Elmeawad, S. (2025). Perceptions of librarians towards the integration of AI in libraries: A qualitative phenomenological study. *The Scientific Journal of Libraries, Documents, and Information*, 7(1), 1–15.
- Gajbhiye, K. C. (2024). Impact of artificial intelligence (AI) in library services. *International Journal for Multidisciplinary Research*.
- Gola, C. H., & Martin, L. (2020). Creating an emotional intelligence community of practice: A case study for academic libraries. *Journal of Library Administration*, 60(6), 752–761.
- Goleman, D. (1998). What makes a leader? *Harvard Business Review*, 76(6), 93–102.
- Goleman, D. J. (1999). What makes a leader? *Clinical Laboratory Management Review*, 13(3), 123–131.
- Hernon, P., Giesecke, J., & Alire, C. A. (2007). Academic librarians as emotionally intelligent leaders.
- Huang, M.-H., & Rust, R. T. (2021). Engaged to a robot? The role of AI in service. *Journal of Service Research*, 24(1), 30–41.
<https://doi.org/10.1177/1094670520902266>
- Ibrahim, H., & Okpala, A. (2024). Exploring the integration of artificial intelligence in Nigeria library services. *International Journal of Knowledge Dissemination*.
- Jan, S. U., Anwar, M. A., & Warraich, N. F. (2017). Emotional intelligence and academic anxieties: A literature review. *New Review of Academic Librarianship*, 23(1), 17–26.
- Jyoti, K. P. (2024). Reshaping the library landscape: Exploring the integration of artificial intelligence in libraries. *IP Indian Journal of Library Science and Information Technology*, 9(1), 29–36.
- Kahn, L. H., Savas, O., Morrison, A., Shaffer, K. A., & Zapata, L. (2020). Modelling hybrid human-artificial intelligence cooperation: A call center customer service case study. 2020 *IEEE International Conference on Big Data (Big Data)*, 3072–3075.
- Kailash Gajbhiye, C. (2024). Impact of artificial intelligence (AI) in library services. *International Journal For Multidisciplinary Research*.
- Kerasidou, A. (2020). Artificial intelligence and the ongoing need for empathy, compassion and trust in healthcare. *Bulletin of the World Health Organisation*, 98(4), 245–250.
- Khan, A. U., Jan, S. U., Khan, M. N., Khan, M., & Chohan, S. R. (2025). Smart services utilisation in academic libraries: An assessment of student behaviour based on the expectation confirmation model. *Serials Review*. Advance online publication.
<https://doi.org/10.1080/00987913.2025.2490301>
- Klare, D., Behney, M., & Kenney, B. F. (2014). Emotional intelligence in a stupid world. *Library Hi Tech News*, 31(10), 21–24.
- Latif, S., Ali, H. S., Usama, M., Rana, R. K., Schuller, B. W., & Qadir, J. (2022). AI-based emotion recognition: Promise, peril, and prescriptions for prosocial path. *arXiv*.
<https://arxiv.org/abs/2211.07290>
- Lucas, D. (2020). Emotional intelligence for librarians. *Library Leadership & Management*.
- Mala, J. M. (2024). From Dewey to deep learning: Exploring the intellectual renaissance of libraries through artificial intelligence. *Journal of Information and Knowledge*.
- Mallikarjuna, C. (2024). An analysis of integrating artificial intelligence in academic libraries. *SSRN Electronic Journal*.
<https://doi.org/10.2139/ssrn.4761885>
- Markovitch, D. G., Stough, R. A., & Huang, D. (2024). Consumer reactions to chatbot versus human service: An investigation in the role of outcome valence and perceived empathy. *Journal of Retailing and Consumer Services*.
- Matteson, M. L., Chittock, S., & Mease, D. (2015). In their own words: Stories of emotional labor from the library workforce. *The Library Quarterly*, 85(2), 85–105.

- Mckie, I., & Narayan, B. (2019). Enhancing the academic library experience with chatbots: An exploration of research and implications for practice. *Journal of the Australian Library and Information Association*, 68(3), 268–277.
- Mills, J. R., & Lodge, D. (2006). Affect, emotional intelligence and librarian-user interaction. *Library Review*, 55(9), 587–597.
- Moawad, R. (2025). Green libraries: A plan study in Egypt. *Arab International Journal for Information Technology & Data*, 5(2), 113–134. <https://doi.org/10.21608/aijtid.2025.348823.1116>
- Narendra, A. P., Dewi, C., Gunawan, L. S., & Ardi, A. S. (2025). Artificial intelligence implementation in library information systems: Current trends and future studies. *Vietnam Journal of Computer Science*.
- Panda, S. (2024). Navigating knowledge: The role and evolution of the prompt librarian. *Brazilian Journal of Development*.
- Panda, S., & Chakravarty, P. (2022). Adapting intelligent information services in libraries: A case of smart AI chatbots. *Library Hi Tech News*.
- Preethi, M. A. (2024). Transforming libraries: The impact of artificial intelligence. *International Journal of Scientific Research in Engineering and Management*.
- Pothier, W., & Condon, P. (2023). Cultivating a data literate workforce: Considerations for librarians. *portal: Libraries and the Academy*, 23(4), 629–636.
- Rodger, J. M., & Erickson, N. (2021). The emotional labour of public library work. *Partnership: The Canadian Journal of Library and Information Practice and Research*, 16(1), 1–27.
- Shuler, S., & Morgan, N. (2013). Emotional labor in the academic library: When being friendly feels like work. *The Reference Librarian*, 54(2), 118–133.
- Simon, K. (2020). Emotional labor, stressors, and librarians who work with the public. *School of Information Student Research Journal*, 10(1). <https://doi.org/10.31979/2575-2499.100106>
- Thayer, D. S., Mumtaz, S., Elmessary, M. A., Scanlon, I., Zinnurov, A., Coldea, A.-I., Scanlon, J., Chapman, M., Curcin, V., John, A., DelPozo-Banos, M., Davies, H., Karwath, A., Gkoutos, G. V., Fitzpatrick, N. K., Quint, J. K., Varma, S., Milner, C., Oliveira, C., ... Jefferson, E. (2024). Creating a next-generation phenotype library: The health data research UK Phenotype Library. *JAMIA Open*, 7(2), Article ooae049. <https://doi.org/10.1093/jamiaopen/ooae049>
- Velagaleti, S. B., Choukaier, D., Nuthakki, D. R., Lamba, V., Sharma, V., & Rahul, S. (2024). Empathetic algorithms: The role of AI in understanding and enhancing human emotional intelligence. *Journal of Electrical Systems*.
- Wamsler, C., & Restoy, F. (2020). Emotional intelligence and the sustainable development goals: Supporting peaceful, just, and inclusive societies. In *Encyclopedia of the UN Sustainable Development Goals*. Springer.