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Original Research

Librarians as Stewards of Indigenous Knowledge: A Meta-Synthesis of Roles, Challenges, and Strategies

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Abstract

This study explores the role of librarians in managing indigenous knowledge through a comprehensive meta-synthesis review. Researchers searched the LISTA database and other relevant sources to identify studies on the subject and synthesized the findings to uncover key themes. Using the Delphi method, the team analyzed the selected literature and identified three core aspects of librarians' involvement: activities, characteristics, and skills. The analysis highlights librarians' essential roles in providing cultural awareness training, developing collections, preserving knowledge, understanding indigenous worldviews, and facilitating the dissemination of information. These findings offer practical guidance for librarians and policymakers seeking to design effective indigenous knowledge management strategies across diverse library settings. The review also addresses a critical research gap by examining the contributions of librarians in this evolving field.

Keywords: Indigenous Knowledge Management, Cultural Preservation, Librarian, Knowledge Dissemination, Library Science.

Introduction

Human societies worldwide have developed extensive knowledge and interpretations of their surroundings, often referred to as indigenous knowledge systems (Kargbo, 2013). Indigenous knowledge encompasses a rich body of knowledge, expertise, and practices, usually upheld and developed by people living in rural areas (McGregor, 2021; Mugwisi, 2017; Padmasiri, 2017). The term "indigenous knowledge" is described in various ways, including folklore, ecology, traditional knowledge, ethnoecology, and knowledge of the land (Kurebwa, 2020; Kargbo, 2013). Libraries and librarians identify, gather, safeguard, and share knowledge,

fulfilling an ethical and professional duty to manage it responsibly (Sarkhel, 2017). Indigenous knowledge, being a type of knowledge, needs to be managed to preserve it and pass it on to future generations for their benefit (Asamoah & Ngulube, 2023; Afful-Arthur, Kwafoa, Ampah-Johnston & Mensah, 2022; Kargbo, 2013; Chigwada & Ngulube, 2024).

Managing all types of information and knowledge is crucial in the era of the information and knowledge society (Asamoah & Ngulube, 2023). Librarians and professionals are adept at efficiently managing indigenous knowledge, which can positively influence people's learning and contribute to the education of future generations (Seifi & Soltanabadi, 2020). They are crucial in sharing indigenous knowledge with other regions, promoting sustainable development and reviving lost traditions. As custodians, collectors, organizers, distributors, and mediators of information, librarians can empower knowledge creators, local information sources, and users of these resources (Maisiri & Ngulube, 2023). Thus, they can aid indigenous researchers and authors in gathering and disseminating indigenous knowledge (Asamoah & Ngulube, 2023; Afful-Arthur et al., 2022; Chigwada & Ngulube, 2024; Mhlongo & Ngulube, 2020). Hence, with a substantial body of literature and research in this area, it is anticipated that libraries, including public libraries, universities, schools, and specialized libraries, will take steps to safeguard and contribute to the management of Indigenous knowledge. Therefore, the current study aims to explore the various roles librarians play in managing indigenous knowledge. Librarians actively preserve, organise, and share indigenous knowledge, support its creators, and build meaningful connections with local communities.

Literature Review

An analysis of the literature reveals that librarians, in their role as information custodians, have a significant and influential impact on the management of Indigenous knowledge (Chigwada & Ngulube, 2024; Afful-Aurthar et al., 2022; Asamoah & Ngulube, 2023; Maina, 2012; Nakata, Byrne, Nakata & Gardiner, 2005a, b; Kargbo, 2013; Lilley & Paringatai, 2014; Byrne, 2005). These studies encompass various aspects of librarianship, including classification and dissemination, preservation, and advocacy. Maina (2012) and Brown (2017) have explored the classification and creation of Indigenous knowledge content, while Maluleka and Ngulube (2018), along with Lwoga (2011) and Lwoga, Ngulube and Stilwell (2010), have examined its sharing and preservation. Others, such as Nhambura and Maluleka (2024) and Okorafor (2010), have investigated dissemination practices and access-related challenges. This work collectively underscores the importance of policies, legal frameworks, and capacity-building, particularly in the field of ICT, for enhancing Indigenous knowledge documentation, sharing, and preservation.

Choudhury and Kalita (2025) expanded on these perspectives by investigating the management of Indigenous Knowledge Resources (IKRs) across rural, semi-urban, and urban college libraries in Assam, India. They identified distinct regional practices, with rural libraries highlighting community engagement, urban ones focusing on digitization, and semi-urban libraries adopting hybrid approaches. Despite infrastructural limitations, rural libraries demonstrated a strong commitment to long-term IKR preservation, prompting a call for policy and funding support to sustain these efforts.

Complementing this, Dei and Danquah (2024) studied the role of "mirrors of knowledge" libraries, museums, and archives in Ghana, underlining the institutions' recognition of Indigenous knowledge. While acknowledging technological advancements, the study

highlighted ongoing challenges, including outdated tools, insufficient funding, and the absence of Indigenous knowledge-specific collection development policies. This gap in policy and infrastructure underscores the urgent need for strategic investment and institutional reform.

Similarly, Hangshing and Laloo (2021) explored preservation efforts in Northeast India, emphasizing the threat of technological displacement and cultural dilution. Their findings underscore the critical role of libraries and their personnel in safeguarding Indigenous knowledge amid global transformations and digital disruption. Lazarus, Unegbu and Opeke (2019) added to this discourse by examining the documentation of Indigenous knowledge in libraries in Lagos State, Nigeria. They critiqued the traditional focus on formal education and reading culture, advocating for the strengthening of librarians' professional competence and encouraging interdisciplinary collaboration to support documentation efforts.

Focusing on public libraries in Southwest Nigeria, Owolabi, Ovwasa, Ajayi and Odewale (2022) found that Indigenous knowledge is primarily used for educational purposes and preserved through video and audio recordings. ICT tools mediate access, although inadequate funding remains a central barrier. The authors highlighted the need for increased financial support and awareness initiatives to enhance preservation outcomes. Seifi (2025) adopted a meta-synthesis approach to develop a conceptual model of Indigenous knowledge preservation within Iranian public libraries. Studies published between 2005 and 2022 revealed five thematic categories: community engagement, organizational roles, and preservation challenges. The model offers practical guidance for policymakers and stakeholders on strengthening Indigenous knowledge management at the institutional level.

In a subsequent study, Seifi, Ghasmeipoor, and Ayati (2025) conducted a broader meta-synthesis of 32 studies spanning the period from 2004 to 2023. Using Sandelowski and Barroso's (2007) seven-step method, they extracted five key categories: professional mission, program development, human resources, target community, and facilities, demonstrating that libraries have the capacity to contribute to Indigenous knowledge management when supported by institutional cooperation. The study provides a structured framework for future policy design, training programs, and evaluation tools. Researchers can also interpret these findings in light of established knowledge management theories. For example, Nonaka and Takeuchi's (1995) SECI model frames librarians' community engagement and oral knowledge collection as part of the socialization and externalization processes, where tacit knowledge is shared and codified. Likewise, Davenport and Prusak's (1998) concept of knowledge brokers captures the librarian's role in bridging formal and Indigenous knowledge systems, ensuring the ethical and adequate flow of information. These theoretical perspectives clarify the value of librarianship in facilitating knowledge conversion, accessibility, and preservation in Indigenous contexts.

Despite the growing body of research, most studies have focused broadly on how libraries contribute to Indigenous knowledge systems, with limited attention to the specific roles of librarians as active agents in this process. Moreover, few studies have analyzed these roles within clearly defined regional, institutional, or methodological frameworks. This study aims to address this gap by systematically examining the roles of librarians in Indigenous knowledge management using the Delphi and meta-synthesis methods, thereby providing a more nuanced understanding of their contributions across various contexts.

Research Question

What are the roles of librarians in managing indigenous knowledge?

Materials and Methods

The researchers used a mixed-method approach and conducted the study in two stages. In the first stage, they identified components of librarians' roles through a meta-synthesis, following the seven steps outlined by Sandelowski and Barroso (2007). Meta-synthesis involves evaluating, synthesizing, and interpreting qualitative and quantitative research on a specific subject (Catalano, 2013; Duke & Ward, 2009; Ankem, 2008; Brettle, 2009).

Searching

A search in the databases Library Literature and Information Science, Library Information Science and Technology Abstracts (LISTA), included the terms “Indigenous knowledge AND management AND librarians”, and “Indigenous knowledge AND libraries OR information centers” resulted in the retrieval of studies, all of which are relevant to the present synthesis. The researchers also conducted an additional search by limiting the term "indigenous knowledge management" to abstracts. They reviewed the references of the retrieved studies to identify further relevant articles. To identify articles or papers not indexed in the above databases, a Google search using the terms “Indigenous knowledge management AND libraries” was conducted; however, this search did not reveal any additional papers. The data parameters were limited from 2004 to 2023, as detailed below.

To select suitable articles from the collection obtained in the previous stage, various parameters, including title, keyword, abstract, access to the article, and content, were used and evaluated based on the algorithm shown in Figure 1. The researchers selected 30 articles during this process. The search used a combination of keywords, including 'Indigenous knowledge,' 'traditional knowledge,' 'native knowledge,' 'national knowledge,' 'librarians,' and 'information professionals.' The researchers combined these keywords using the operators 'AND' and 'OR.' Synonymous descriptors were linked with 'OR,' while key descriptors from the research question were connected with 'AND.' If the descriptors appeared in an article's title, topic, or keywords, the researchers considered it relevant. They then decided by examining the abstract and the article's results.

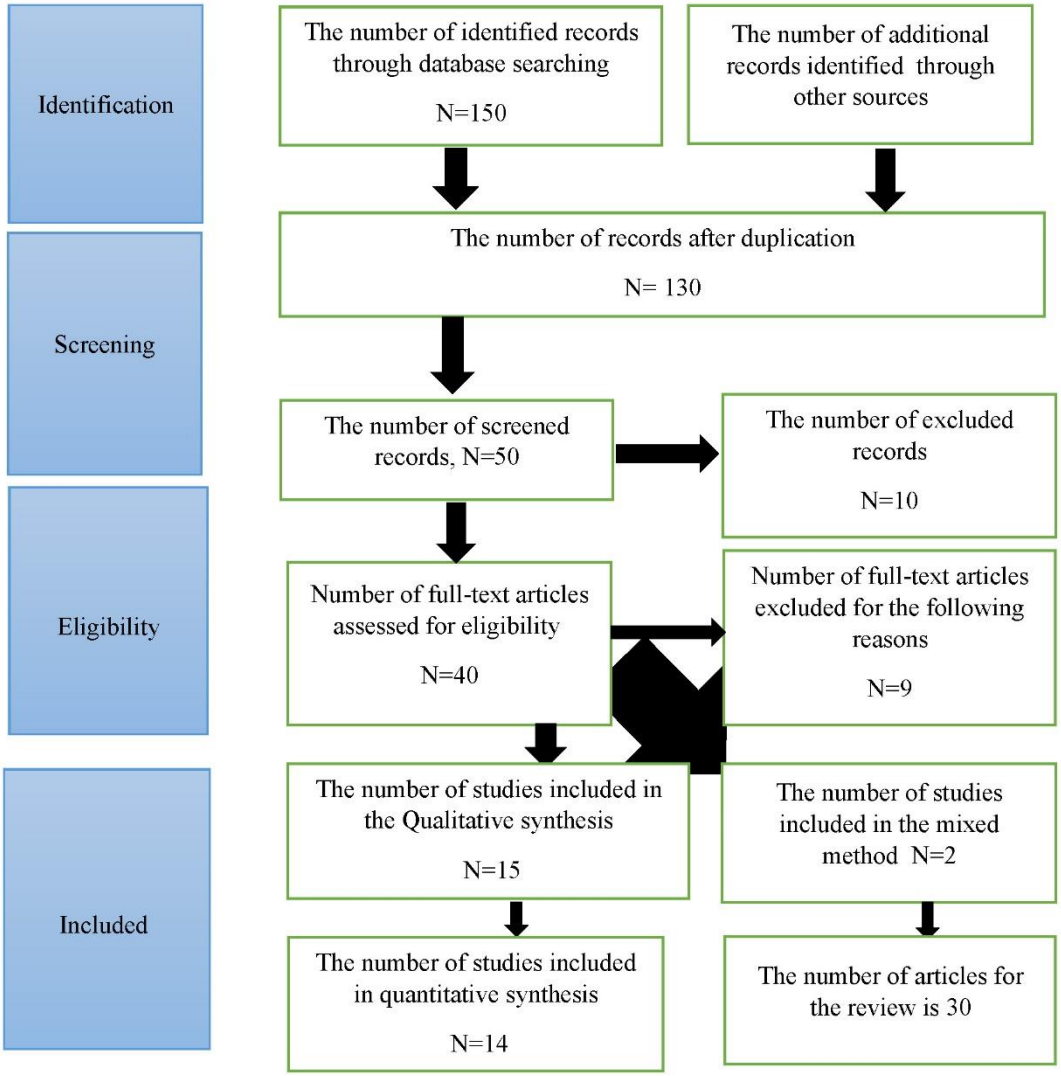

Figure 1. Algorithm for selecting articles based on the Prisma diagram (Liberati et al, 2009)

Criteria for inclusion

This study examined research on Indigenous knowledge management, specifically focusing on works that included the terms "librarians," "rural libraries," or "libraries" as descriptors, keywords, or within abstracts. The selection criteria specified that the study would include only English-language journal articles, excluding non-English sources and book chapters. This language criterion was applied to ensure consistency and accessibility in data analysis, but it also introduces a limitation in capturing potentially relevant non-English research.

Analysis and synthesis of the findings

In this step, the researchers conducted thematic coding to develop a new and integrated interpretation of librarians' roles (Sandelowski & Barroso, 2007). They organized the identified codes into three categories: Librarians' Activities, Characteristics, and Skills. All concepts, along with their code, are shown in Table 1.

The Delphi method was employed in the second step to assess the validity of the extracted codes and concepts, involving two rounds of expert consultations. In this step, the researchers selected experts for the Delphi panel using non-probabilistic sampling and purposive

techniques. A total of 10 national and international candidates were identified based on their research areas and their involvement in more than two related studies. The researchers then asked these candidates to recommend other suitable researchers for participation in the study. As a result, six additional qualified candidates were nominated and agreed to join the Delphi panel (see Figure 2). During this process, the panel of experts agreed on 90 percent of the codes, with only 10 percent remaining unresolved. Ultimately, based on the panel members' feedback, the codes that received mean scores of 4.5 or higher were selected in the second round, as shown in Figures 3, 4, and 5.

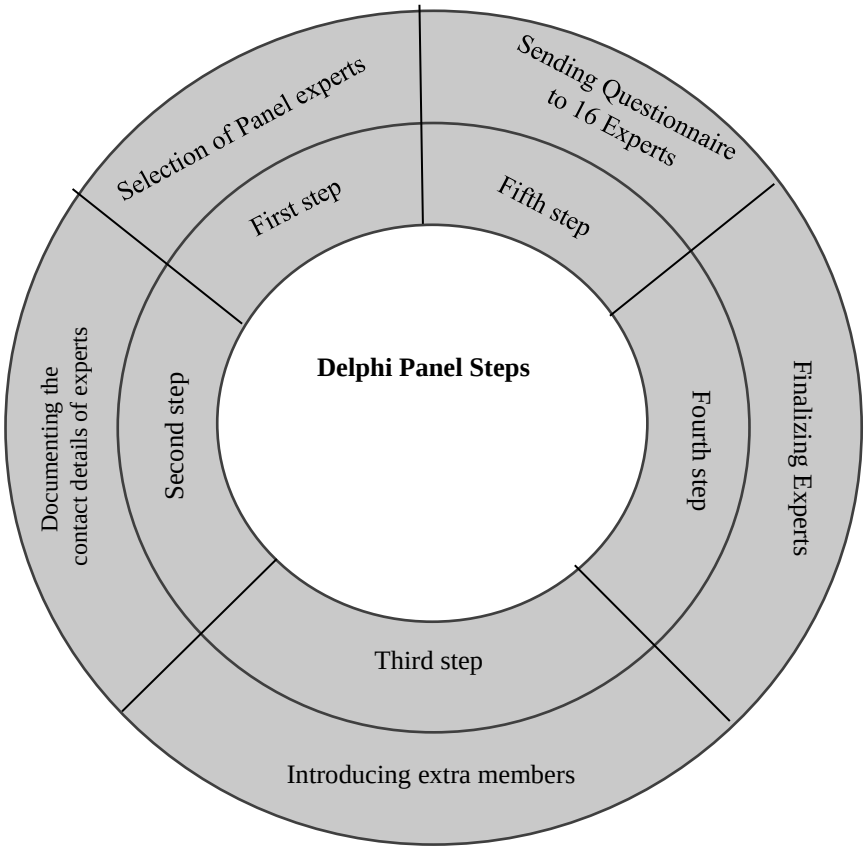

Figure 2: The Delphi panel steps

Results

The researchers employed thematic coding to identify the roles of librarians in Indigenous knowledge, in response to the research question. They organized 235 themes into three principal codes and 30 categories. Table 1 presents the detailed data.

Table 1
Role of librarians in Indigenous knowledge management

Category	Code	Evidence
Collection Development	Librarians' Activities	(Asamoah & Ngulube, 2023; Afful-Arthur et al., 2022; 2013; Byrne, 2005; Okurafor, 2010; Lilley and Parangatai, 2014; Sen, 2005; Moahi, 2012; Nakata et al., 2014; Lwoga et al., 2010; Joranson, 2008; Nakata et al., 2005b; Brown, 2017)
Collaborate with Indigenous Communities		(Nakata et al., 2005a, b; Lilley and Parangatai, 2014; Kargbo, 2013; Frutani et al., 2018; Maina, 2012; Byrne, 2005; Brown, 2017; Nakata, 2007)
Dissemination		(Asamoah & Ngulube, 2023; Afful-Arthur et al., 2022; Tela, 2007; Kargbo, 2013; Sen, 2005; Brown, 2017; Lilley and Parangatai, 2014; Byrne, 2005; Okurafer, 2010)
Assessment Needs		(Maina, 2012; Kargbo, 2013; Lilley and Parangatai, 2014; Padmesiri, 2017; Okurafar, 2010; Stevens, 2008; Brown, 2017; Frootani et al., 2018)
Attending Training Programs		(Lilley and Parangatai, 2014; Okurafar, 2010; Maina, 2012; Kargbo, 2013; Grayling and Zulu, 2010; Nakata et al., 2005a)
Create Indigenous knowledge courses for students.		(Lilley and Parangatai, 2014; Okurafer, 2010; Brown, 2017; Ford, Prior, Coat, and Warton, 2014; Nakata et al., 2005b)
Identifying and locating Indigenous knowledge resources		(Nakata et al., 2005a, b; Kargbo, 2013; Moahi, 2012; Lwoga et al., 2010; Padmesiri, 2017; Brown, 2017)
Provide equal access		(Lwoga, 2011; Kargbo, 2013; Lwoga et al., 2010; Maina, 2012; Okurafer, 2010; Nakata et al., 2005a, b)
Demonstrate added value to lifelong learning.		(Kargebo, 2013; Frootani et al., 2018).
Carry out research studies.		(Hance et al., 2018)
Providing relevant Indigenous library services		(Grayling and Zulu, 2010; Nakata et al., 2005b; Kargbo, 2013; Brown, 2017)
Collaborate with colleagues and organizations related to Indigenous knowledge issues and their development.		(Brown, 2017; Lilley, 2018; Kargbo, 2013; Moahi, 2012; Maina, 2012; Nakata et al., 2005a,b).
Increasing awareness of Indigenous knowledge		(Nakata et al., 2005b; Moahi, 2012; Maina, 2012; Lilley and Parangatai, 2014; Ford et al., 2014; Brown, 2017; Kargbo, 2013; Okurafer, 2010)
Cultural awareness training		(Nakata et al., 2005b).
Establish Indigenous knowledge network systems.		(Maina, 2012; Lwoga et al., 2010).
Documentation		(Asamoah & Ngulube, 2023; Afful-Arthur et al., 2022; Joranson, 2008; Moahi, 2012; Kargbo, 2013; Sen, 2005; Grayling and Zulu, 2010; Maina, 2012; Rasruka, 2008; Seifi and Sultanabadi, 2020).
Organization		(Kargbo, 2013; Okurafer, 2010).
Preservation		(Asamoah & Ngulube, 2023; Afful-Arthur et al., 2022; Kargbo, 2013; Lilley and Parangatai, 2014; Grayling and Zulu, 2010).
Professional development activities		(Lilley, 2018; Lilley and Parangatai, 2014; Lwoga et al., 2010).
Indigenous knowledge marketing		(Tella, 2007).
Provide infrastructure for digital information.		(Kargebo, 2013; Padmesiri, 2017; Tella, 2007; Grayling and Zulu, 2010)

Category	Code	Evidence
Understanding of Indigenous knowledge	Librarians' characteristics	(Lilley, 2018; Lilley and Parangatai, 2014; Kargbo, 2013; Maina, 2012; Tella, 2007; Lwoga, 2011; Ford et al., 2014; Nakata et al., 2005a, b; Brown, 2017).
Appreciation of Indigenous knowledge		(Okurafar, 2010; Kargbo, 2013).
Interest & enthusiasm		(Maina, 2012; Nakata et al., 2005b; Lwoga et al., 2010; Kargbo, 2013; Padmesiri, 2017).
Participatory		(Lwoga et al., 2010; Kargbo, 2013).
Knowledgeable & responsibility		(Brown, 2017; Padmesiri, 2017; Kargbo, 2013; Moahi, 2012).
Committed to work & people		(Lilley and Parangatai, 2014; Lwoga et al., 2010).
Skills development	Librarians' skills	(Kargebo, 2013; Ford et al., 2014; Nakata, 2007).
Professional competence skills		(Okurafer, 2010; Kargebo, 2013).
Cultural competence skills		(Maina, 2012; Lilley, 2018; Kargbo, 2013; Nakata et al., 2005a; Grayling and Zulu, 2010; Byrne, 2005).

In the study's second phase, the researchers gathered experts' opinions using the Delphi method, which was carried out over three rounds. By the third round, they selected 21 roles with an average score of 4.5, as shown in Figures 3, 4, and 5.

Figure 3: Librarians' activities selected codes from the perspective of panel experts

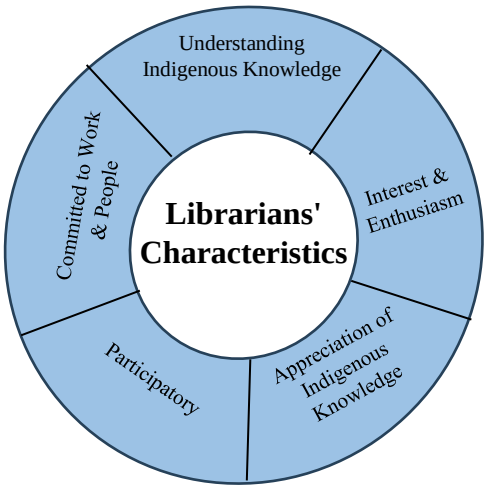

Figure 4: Librarians' characteristic selected codes from the perspective of panel experts

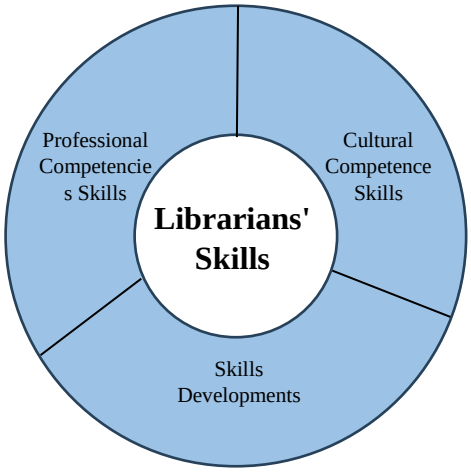

Figure 5: Librarians' skills selected codes from the perspective of panel experts

Discussion

Librarians' activities

This study identified and analyzed the diverse roles librarians play in managing Indigenous knowledge, as determined through a Delphi panel of experts. While 21 distinct roles were recognized, a more critical examination reveals that some roles hold greater foundational, ethical, and transformative value than others. These prioritized roles serve not only as functional elements of Indigenous knowledge stewardship but also as ethical imperatives and structural enablers that influence the success and sustainability of library services in Indigenous contexts.

Among the many responsibilities assigned to librarians, collection development and cultural documentation are foundational to their work. These roles are essential as they directly support the preservation, representation, and accessibility of Indigenous knowledge, often transmitted through oral traditions, storytelling, artefacts, and lived experiences. Without robust and culturally appropriate collection strategies, other librarian roles such as information dissemination, research support, and educational programming would lack a meaningful knowledge base (Maina, 2012; Grayling & Zulu, 2010; Lilley & Paringatai, 2014). In this sense, collection development is not merely a technical task, but a strategic intervention that supports cultural survival and knowledge sovereignty (Chowdhury, McLeod, Lihoma, Teferra, & Wato, 2023). Moreover, as Kargbo (2013) asserts, integrating Indigenous voices into library collections challenges historically exclusionary practices and allows marginalized epistemologies to be institutionalized, reinforcing community empowerment and cultural continuity.

Community engagement closely connects with collection development, bridging institutional services and Indigenous knowledge systems. Engagement with communities is more than a procedural necessity; it is an epistemological and ethical commitment to co-creating knowledge in participatory and culturally grounded ways. Librarians who carry out community profiling, needs assessments, and consultation with elders gather information and affirm the authority and agency of Indigenous knowledge holders (Nakata et al., 2005a;

Forutani, Nowkarizi, Kiani & Mokhtari Aski, 2018). Such engagement helps ensure library services remain culturally resonant, locally relevant, and trusted. Community engagement is indispensable in many rural and oral-based societies, particularly in sub-Saharan Africa, as it fosters access to knowledge that would otherwise be inaccessible while establishing mutual respect and reciprocity (Maina, 2012). In contrast, academic libraries in developed countries may emphasize structured forms of engagement, including formal memoranda of understanding or advisory committees, which align with institutional norms while incorporating Indigenous perspectives (Lilley & Paringatai, 2014; Stevens, 2008).

Cultural awareness, another critical role, complements these functions by ensuring that librarians engage ethically and sensitively with Indigenous knowledge. Nakata et al. (2005b) emphasize that librarians must possess both technical expertise and intercultural awareness to avoid misrepresenting or commodifying Indigenous knowledge. This includes understanding historical contexts, power dynamics, and local protocols. Cultural awareness is particularly crucial in postcolonial societies, where past harms have created mistrust toward institutions. In such settings, culturally unaware library practices may inadvertently replicate extractive relationships, further marginalizing Indigenous communities. By cultivating cultural awareness through immersive training and community-based interactions, librarians can act as ethical intermediaries facilitating equitable access and representation (Maina, 2012; Nakata, 2007).

Equally significant is the role of librarians in documenting Indigenous knowledge and protecting related intellectual property. Indigenous knowledge is highly vulnerable to exploitation, misappropriation, and commercialization, especially in the absence of legal protections. Librarians are well-positioned to contribute to the development of intellectual property frameworks that respect communal ownership, cultural protocols, and knowledge sovereignty (Sen, 2005; Okorafor, 2010). This may involve implementing metadata standards, developing culturally appropriate classification systems, and establishing controlled access conditions to safeguard sensitive materials. Countries such as South Africa and India offer examples where librarians have collaborated with local communities to develop documentation systems that protect, rather than expose, Indigenous knowledge to exploitation (Lwoga et al., 2010; Kargbo, 2013). The ethical dimensions of this role render it non-negotiable in contexts where information equity and Indigenous rights are at stake.

Another essential role that supports both the scalability and sustainability of Indigenous knowledge programs is institutional collaboration. Librarians engaging with universities, governments, and Indigenous organizations can amplify the reach, legitimacy, and impact of their initiatives. Institutional collaborations often provide access to funding, technical expertise, and policy influence resources that are otherwise difficult to obtain in under-resourced library environments. Programs at institutions such as the University of New Mexico and Kalanya University demonstrate how partnerships can facilitate the integration of Indigenous knowledge across educational curricula, public exhibitions, and community outreach (Brown, 2017; Grayling & Zulu, 2010). Such collaborations in urban and well-funded institutions may also support decolonization efforts and policy reforms extending beyond the library sector.

The prioritization of these roles is not static but shaped by cultural, geographic, and institutional contexts. Community engagement and documentation assume primary importance in rural African communities, where oral traditions are dominant and digital infrastructure is limited. In contrast, academic libraries in high-income countries may emphasize cultural competence and intellectual property protection, given their institutional access to formal legal

and ethical frameworks. In Southeast Asia, especially regions with rich artisanal and ecological knowledge traditions, outreach and marketing may significantly support community development goals (Tella, 2007; Padmasiri, 2017). These contextual variations underscore the need for flexible prioritization based on community needs and systemic conditions.

This analysis reaffirms that while librarians contribute in many ways to managing Indigenous knowledge, specific roles, particularly collection development, community engagement, cultural competence, documentation, and institutional collaboration, should be strategically prioritized. These roles function not only as enablers of library services but also as ethical and political safeguards that ensure Indigenous knowledge is preserved, protected, and meaningfully integrated into broader knowledge systems. Tailoring these roles to specific cultural and institutional settings, and reinforcing them with appropriate training, resources, and policy frameworks, is essential for advancing inclusion, sustainability, and cultural integrity in contemporary librarianship**.**

The findings of this study align with and extend the regional and institutional differences observed in recent literature. For example, Choudhury and Kalita (2025) demonstrated that rural libraries in Assamitized communities engaged in community engagement, while urban libraries emphasized digitization, reflecting how geographic and infrastructural factors shape librarians' roles in Indigenous knowledge management. Similarly, Dei and Danquah (2024) underscored the importance of libraries, museums, and archives in Ghana, while identifying barriers such as outdated tools and the absence of collection development policies, which reinforces the importance of institutional support and policy frameworks. Hangshing and Laloo (2021) emphasized the need for active involvement of library personnel in Indigenous knowledge preservation in Northeast India, particularly as cultural practices face threats from technological displacement.

Librarians characteristics

The study identified five key characteristics librarians should develop to manage Indigenous knowledge effectively. Among the identified characteristics, a deep and respectful understanding of the value of Indigenous knowledge emerges as the most foundational. As argued by Kargbo (2013), Moahi (2012), and Okorafor (2010), this understanding enables librarians to see Indigenous knowledge not as supplementary or informal but as a legitimate and holistic system of knowing. Recognizing the intrinsic value of Indigenous knowledge systems is crucial for developing effective collection, documentation, and outreach strategies. Without such an understanding, efforts to engage with Indigenous communities risk being superficial or misguided. Understanding its social and ecological relevance is crucial in rural African contexts, where Indigenous knowledge informs agricultural, health, and environmental practices (Maina, 2012). In Southeast Asian societies, where knowledge is deeply connected to seasonal cycles and local livelihoods, this understanding helps maintain cultural sensitivity and relevance (Padmasiri, 2017). This characteristic, therefore, forms the conceptual foundation upon which all other librarian actions and attitudes must be built.

The librarian's ethical commitment is closely linked to this foundational knowledge, a professional responsibility to protect the intellectual and cultural rights of Indigenous knowledge holders. This includes resisting the commodification and unauthorized dissemination of knowledge and ensuring communities retain control over how their knowledge is collected, stored, and shared. Ethical commitment becomes particularly significant in settler-

colonial societies, such as Australia and Canada, where libraries have historically been complicit in the extraction of knowledge. In such contexts, librarians must implement culturally appropriate access protocols and advocate for Indigenous data sovereignty (Nakata, 2007; Lilley & Paringatai, 2014). Ethical commitment is not only a moral obligation but also a strategic necessity; it is essential for building trust with Indigenous communities and ensuring long-term collaboration. From a prioritization perspective, this characteristic is second only to foundational understanding, as it addresses historical injustices and shapes the framework for equitable and respectful engagement.

The third characteristic of participatory further deepens a librarian's capacity to engage ethically and effectively. Indigenous knowledge is often passed down through lived experiences, oral traditions, ceremonies, and community interactions. Librarians who actively participate in community events, rituals, and everyday practices gain valuable insights into how knowledge is structured and shared. This immersion fosters mutual trust and reciprocal relationships, making community members more likely to participate in library-based knowledge initiatives (Nakata et al., 2005b; Maina, 2012). In rural areas of sub-Saharan Africa, for example, the success of documentation projects often depends on whether librarians are perceived as insiders or outsiders (Kargbo, 2013). Similarly, in Indigenous Māori communities in Aotearoa New Zealand, librarians who demonstrate cultural humility and participate in community life are better positioned to support initiatives grounded in tikanga Māori (Lilley & Paringatai, 2014). Cultural immersion is, therefore, a practical and ethical extension of the first two characteristics and is especially important in contexts where trust must be earned through relational engagement rather than institutional authority.

Interest and Enthusiasm for Indigenous knowledge, while sometimes undervalued, play an important motivational role. Passionate librarians are more likely to initiate innovative programs, such as exhibitions, oral history projects, and educational campaigns, that increase awareness of Indigenous knowledge and its contemporary relevance (Lwoga et al., 2010; Padmasiri, 2017). This enthusiasm can help bridge generational divides by encouraging young people to engage with cultural heritage, particularly in urban or institutional settings where traditional knowledge may be overlooked or marginalized. For example, in Southeast Asian universities, librarians who demonstrate visible enthusiasm for Indigenous crafts and rituals have been able to spark student interest in documenting local knowledge systems (Padmasiri, 2017). While enthusiasm is not a substitute for ethical or cultural competence, it complements those characteristics by enabling more dynamic and participatory knowledge services.

Finally, appreciation of Indigenous knowledge refers to a librarian's ability to adapt their actions to the rhythms, needs, and preferences of Indigenous communities. This characteristic is especially relevant in knowledge systems aligned with seasonal cycles, spiritual calendars, and life-stage ceremonies. Librarians who synchronize their engagement with these community-specific rhythms are more likely to build sustainable and respectful partnerships (Maina, 2012; Nakata et al., 2005b). For instance, in Southeast Asian rural contexts where knowledge around agriculture, herbal medicine, and disaster management is time-sensitive, librarian responsiveness can directly influence the success of community outreach programs (Padmasiri, 2017). Responsiveness also supports crisis intervention, such as during natural disasters, where Indigenous ecological knowledge plays a crucial role. Although less foundational than understanding or ethical commitment, this characteristic significantly enhances the cultural relevance and timeliness of librarian interventions.

Deep cultural immersion and understanding are indispensable for engaging with oral knowledge systems in rural African settings. In contrast, while equipped with technological and institutional resources, urban academic libraries in the Global North prioritize ethical commitment and responsiveness to Indigenous research protocols. Ethical frameworks and relational immersion are paramount in Aotearoa New Zealand and Australia, where Indigenous communities demand sovereignty over their knowledge. Meanwhile, enthusiasm and responsiveness are key to integrating traditional knowledge into Southeast Asia's development goals and educational initiatives.

While all five characteristics identified by the Delphi panel are necessary, they are not of equal weight. The most critical characteristics, including an understanding of the value of Indigenous knowledge, an ethical commitment, and participatory approaches, serve as the moral and conceptual foundation for all librarian activities in Indigenous knowledge management. These traits enable librarians to act as information professionals and cultural stewards, advocates, and partners in knowledge preservation. This prioritization is supported by growing scholarship and practical examples from diverse regions. As such, future training, policy development, and institutional frameworks must focus on cultivating these core characteristics to ensure libraries serve as inclusive, respectful, and transformative spaces for Indigenous knowledge.

Empirical studies and established knowledge management theory support prioritising librarian characteristics in Indigenous knowledge management. Nonaka and Takeuchi's (1995) SECI model provides a valuable lens through which to understand librarians' roles. Community participation, responsiveness, and cultural immersion align with the socialization process, in which knowledge is exchanged through direct human interaction. Similarly, Davenport and Prusak's (1998) concept of knowledge brokers reinforces the idea that librarians serve as ethical intermediaries between Indigenous communities and institutional structures, facilitating the respectful exchange and preservation of culturally embedded knowledge. Integrating these theoretical perspectives with practical insights from the literature (e.g., Nakata et al., 2005b; Maina, 2012; Padmasiri, 2017) allows for a more nuanced understanding of why specific librarian characteristics, such as cultural awareness, ethical commitment, and participatory engagement, are foundational for effective Indigenous knowledge stewardship.

Librarians' skills

Among the identified skills, professional expertise in knowledge management, documentation, indexing, and information and communication technology (ICT) forms the technical foundation of Indigenous knowledge services. These skills are necessary for the acquisition, preservation, and accessibility of Indigenous knowledge resources in both physical and digital environments. Okorafor (2010) notes that the ability to document and organize Indigenous knowledge systematically ensures its protection from loss and enables equitable access for diverse user groups. In contexts where Indigenous knowledge is at risk of erosion, technical proficiency becomes particularly crucial due to factors such as urban migration, generational shifts, or climate change.

However, technical skills alone are insufficient without an accompanying cultural competence, which emerges as the most critical and ethically grounded skill in managing Indigenous knowledge. Cultural competence encompasses the awareness, understanding, and respectful engagement with Indigenous peoples' values, languages, worldviews, and traditions

(Nakata et al., 2005b; Moahi, 2012). It enables librarians to design services that are technically accurate, culturally relevant, and responsive to the community's needs. In postcolonial or settler-colonial contexts, such as Australia, New Zealand, and Canada, where historical injustices have damaged relationships between institutions and Indigenous populations, cultural competence is indispensable for rebuilding trust and fostering respectful collaborations (Lilley & Paringatai, 2014; Nakata, 2007). In such settings, it is not simply a matter of operational skill but an ethical obligation that influences how knowledge is collected, categorized, and shared.

Furthermore, strong interpersonal and communication skills complement and reinforce cultural competence by enabling librarians to establish meaningful and reciprocal relationships with Indigenous communities. These skills involve listening, empathy, clarity, and cultural humility traits essential for building trust, co-creating knowledge initiatives, and facilitating inclusive decision-making processes. In Indigenous knowledge management, communication is often relational and non-hierarchical, involving elders, knowledge holders, and community stakeholders. Librarians who can navigate these dynamics with sensitivity and clarity are better positioned to understand community needs and mediate between institutional expectations and Indigenous knowledge systems. In rural areas, particularly in Africa and Asia, where specific social actors safeguard community knowledge or traditional protocols govern its use, these relational skills can determine whether Indigenous knowledge becomes accessible or stays protected and private (Maina, 2012; Kargbo, 2013).

The contextual relevance of these skills highlights the need for nuanced prioritization. While technical skills are well-developed in technologically advanced urban academic libraries in regions such as Australia, the United States, and parts of Europe, the historical lack of cultural competence has often limited the effectiveness of Indigenous knowledge services (Stevens, 2008; Nakata, 2007). Conversely, in rural African or Southeast Asian settings, where oral traditions dominate and ICT infrastructure is limited, the value of interpersonal communication and cultural fluency often outweighs digital proficiency. For example, in communities where elders serve as primary custodians of knowledge, listening attentively and respecting relational protocols is far more critical than ensuring metadata accuracy or designing databases. In these environments, librarians must become facilitators of dialogue and cultural exchange, rather than merely information managers.

In light of this analysis, it becomes clear that a strategic and ethically informed framework must guide skill development for librarians working with Indigenous knowledge. Cultural competence and communication must be embedded in professional development curricula as core competencies, rather than supplementary training. At the same time, technical skill-building in documentation, classification, and digital preservation should be contextualized within ethical and cultural frameworks to prevent technocratic approaches that risk disconnecting the knowledge from its cultural roots.

While technical, cultural, and interpersonal skills are all necessary for librarians managing Indigenous knowledge, they must be prioritized according to their ethical weight, relational function, and contextual necessity. Cultural competence remains paramount, providing the moral and epistemological grounding required to interact responsibly with Indigenous knowledge systems. Practical communication skills serve as a bridge between institutional practices and community expectations, facilitating collaboration and fostering trust. Though essential for operational success, technical skills are most effective when guided by culturally informed and ethically sound practices. Librarianship in Indigenous knowledge must be

reoriented towards relational, ethical, and context-sensitive professional practice models.

Conclusion

This study systematically synthesized existing literature to elucidate librarians' roles, challenges, and contributions in Indigenous Knowledge Management (IKM). Through a rigorous meta-synthesis and expert validation via the Delphi method, the findings highlight librarians' multifaceted responsibilities, spanning knowledge preservation, organization, dissemination, and cultural advocacy. The study underscores librarians as custodians and facilitators of Indigenous knowledge, bridging gaps between traditional knowledge and contemporary information systems.

A key contribution of this research is its methodological innovation, integrating meta-synthesis with expert consensus to refine and validate the identified roles of librarians in IKM. This approach not only enhances the reliability of the findings but also provides a roadmap for future research and policy development in the preservation of Indigenous knowledge. Furthermore, the study reveals that successful Indigenous knowledge management necessitates collaborative engagement between librarians, Indigenous communities, policymakers, and academic institutions. It calls for culturally competent information professionals with specialized skills in Indigenous knowledge documentation, digital archiving, and the ethical sharing of knowledge.

Given the scarcity of comprehensive research on the role of librarians in Indigenous knowledge management, this study serves as a foundational work that informs library professionals, researchers, and decision-makers on best practices for safeguarding Indigenous intellectual heritage. Future studies should explore the evolving intersection of digital technologies, Indigenous epistemologies, and library science to foster more inclusive and sustainable knowledge management frameworks.

Limitations of the Study

This study is subject to several limitations. First, the decision to include only English-language sources may have excluded relevant research published in other languages, particularly studies conducted in non-English-speaking regions with rich Indigenous traditions. Second, the review only covered studies published between 2004 and 2023, based on the absence of relevant literature before 2004 and the timing of the study's completion in 2024. Third, the scope was limited to peer-reviewed journal articles, excluding book chapters and grey literature, which may also contain valuable insights. Lastly, the researchers included only studies that referenced librarians or libraries, which may have led to the exclusion of broader knowledge management research relevant to library contexts.

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