

Indigenous Data and Knowledge Sovereignty in the age of Digital Transformation: Navigating the way Forward

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Abstract: Throughout history indigenous people across the globe have been target of researchers and scholars from a myriad of disciplines resulting in the extraction of data and knowledge regarding indigenous people, thus raising intriguing questions regarding ethical practices. Indigenous people are expressing their discontent with how their data and knowledge is managed under the modern information management frameworks. The study explores how the proliferation of digital technologies including emerging technologies are impacting the indigenous people's data and knowledge sovereignty. The Janus-faced nature of emerging technologies has both positive and negative impact on indigenous people's data and knowledge. The study examines the impact of Open Scholarship regarding indigenous data and knowledge, and how libraries can respond. It explores the challenges arising from the incapacity of indigenous people to access their data and knowledge housed in institutions managed by non-indigenous people. The study is underpinned by the transformative justice theory that resonates with the decoloniality paradigm and appropriate for exploring critical issues regarding indigenous data and knowledge sovereignty.

Keywords: Indigenous people, Indigenous data and knowledge, Data and knowledge sovereignty, Open Scholarship, Emerging technologies

1. Introduction and Background

The way scientific research regarding indigenous people has been conducted since the dawn of imperialism in Africa from the 15th Century onwards raises significant questions regarding the ownership and sovereignty of data and knowledge. Indigenous Peoples have had a long record of being used as subject matter for research worldwide. There are concerns about how indigenous people have been researched to death despite their lack of control of the data and knowledge that arises from the research activities (Goodman et al, 2018). Using the theories of exploration and conquest, early colonial forerunners started monitoring and documenting Indigenous Peoples during the imperial era (Martin, 2003, Goodman, et al. 2018). According to Godrie, (2025) the phrases "collecting" and "exploiting" data in social science fields refer to a research approach which frequently views individuals or groups as research subjects and that such an approach presents scientific and ethical problems. The marginalized Indigenous communities have been subjected to scientific extractivism. According to Humphery, (2001), Hunter (2001), and Smith (1999, p.7), Indigenous Peoples have become suspicious of researchers, hence the calls for participatory action focused on researching with people to longevity and sovereignty. In the present-day digital age, data has transformed into an irreplaceable asset that is commonly referred to as "the new oil," making its management particularly crucial for Indigenous peoples (Hurst, 2026).

Indigenous peoples' data, information and knowledge sovereign are upheld by Indigenous Data Sovereignty (IDSov) (Kukuta and Taylor, 2016; Carroll et al., 2020). Researchers have stressed that to promote collective wellbeing, data governance must consider Indigenous values, cultural customs, and established community obligations (Rhodes et al., 2023; Simpson, 2017). IDSov upholds Indigenous Peoples' rights to control how information on the Indigenous Peoples from whom it originates or relates is gathered, accessed, analyzed, interpreted, managed, distributed, and reused (Walter, 2021). Throughout the past several decades, as Indigenous representatives and activists have fought for the affirmation of their rights, the concept of indigeneity has gained relevance in both national politics and global politics (Werner, 2023). The United Nations General Assembly's 2007 adoption of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) marked a "moment of revolutionary transformation in global politics." (Lightfoot, 2016, p.4). This development at a global precipitated scholarly discourse and brought into focus indigenous knowledge and indigeneity. Werner (2023) suggests that people in Asia and Africa have been reluctant to accept the concept of indigenosity for several reasons. Wolfe (2006) argues that settler-colonial states deny the presence of Indigenous people within their borders or claim everyone is Indigenous (Hodgson, 2009). Furthermore, arguing

for indigenous identity in the African context can be challenging because the Berlin Colonial Conference (1884–1885) artificially separated various communities and nations.

The African Commission on Human and Peoples' Rights (ACHPR) (2005) recognized indigenous communities and acknowledged the worldwide Indigenous movement, notwithstanding indigeneity's limitations. Despite international policy changes and global Indigenous movements, Werner (2023) contends that indigeneity rhetoric has shifted from colonial to decolonizing. Indigenous peoples were often described as those who lived in countries colonized by European empires during colonial times. In the colonial era, indigenous peoples were often referred to as those who previously lived in countries that European imperial governments colonized

Daes (1995) noted that Belgium argued at the UN General Assembly in 1952 that indigenous peoples should not be limited to colonized nations or American colonies but should also include people living in backward states. Williams, (1988) highlighted that the global South passionately opposed the Belgian thesis opting for the safeguarding of sovereignty, declining colonial-era stigmas, and desiring to defend national unity. In Africa, indigenous agitation has a long legacy, and the status of aboriginal peoples is typically unchallenged (Pelican, 2009). Assimilation, migration, and invasion make it difficult to identify who can be classified as indigenous (Pelican, 2009). African communities have a propensity to reproduce at their internal borders, continuously generating and deepening a barrier between original inhabitants and latecomers along which political rights are argued (Kopytoff, 1987).

Many African governments contend that all Africans are indigenous and should have equal access to natural resources, criticizing the idea of "indigenous peoples" and their land rights (Lutz, 2007). Kuper (2005) and Barnard (2006) situate their definitions of indigeneity in anthropological perspectives and practice. Barnard (2006) claimed that, although "indigenous peoples" is not a practical concept in anthropological research, it nonetheless has actuality and meaning for individuals who identify themselves as indigenous. Barnard (2006) maintained the notion of indigeneity noting that it is not easily portrayed by one common definition because, it remains a viable anthropological and political instrument. According to Kuper (2003), the idea of "indigenous peoples" is based on a fundamentalist ideology of culture and identity, that additionally condemns anthropological scholars and activists for employing the term, spreading essentialist ideologies and generating new injustices.

UNRIP was finally adopted by the UN General Assembly in 2007 (Pelican, 2009). The Declaration outlines Indigenous people's individual and collective rights as well as several other rights, such as identity, language, health, education, among many others (Lightfoot, 2016). It emphasizes the right of Indigenous people to continue living and maintaining their own institutions, traditions, and cultures (Lightfoot, 2016). It prohibits discrimination against them and upholds their right to continue as distinct peoples and to pursue their own developmental objectives. The digital revolution, fueled by emerging technologies has enormous potential to protect and spread indigenous knowledge systems (IKS), but it also has significant political and epistemological hazards (Okeke, 2025). Through the Indigenous Language Hub, (Tella, et al. (2025) demonstrated the capacity of AI to preserve and promote endangered indigenous languages. The use of language recognition technologies makes assessing traditional knowledge in hubs easier. Forensic information reconstruction with the aid of AI can be used to reconstruct indigenous cultural artifacts. Generative AI for indigenous data sovereignty involves problems such as data capitalism, the marginalization of alternative modes of knowing, and the loss of epistemic authority (Chisita, et al (2025). When traditional knowledge is repackaged via web platforms without proper contextualization and community consensus, it is more vulnerable to marginalization, exploitation, and erasure (Adedokun, 2024). Bots and conversational agents preserving indigenous knowledge to provide access to information in indigenous languages (Labadze et al., 2023). Any data, in any format, pertaining to Indigenous Peoples is referred to as Indigenous data (Rainie et al., 2019). IDSov, which includes the requirement that data be utilized in manners that promote and enhance collective well-being of Indigenous Peoples, is derived from the inherent rights of self-determination outlined in the UNDRIP (2007), (Snipp 2016; Kukutai & Taylor 2016). Dahl, (2013) argued that from 1982 to 2007, an alternative Indigenous Space was developed, engaging an increasing number of individuals from every continent in a genuinely global process. Customs and traditions in the indigenous realm should be reorganized, redefined, and renegotiated to give them a new lease of potentially important meaning. Incorporating government customs while giving them a new significance in the indigenous area is also crucial (Dahl, 2013).

The concept of scientific extractivism was popularized (Gudynas 2018). Godrie (2025) pointed out that extractivist processes gradually extended to various topics and explanations of exploitation, appropriation, and institutionalization in societies. Furthermore, the author argued that in the process of appropriating indigenous

knowledge, indigenous communities' alternative visions were marginalized. Scientific extractivism takes the form of depriving underprivileged communities of their knowledge, especially their capacity to act, so undermining their goals and concerns. Dispossession can have severe and persistent detrimental impacts on indigenous communities and peoples, as evidenced by their experiences (Coburn et al. 2013).

Statement of the problem

The need to protect indigenous data and knowledge has become a topical in the realm of academic discourse, however, there is limited research pertaining Southern Africa. Despite recent studies emphasizing its importance in the context of technological advancement, intellectual property, and community rights, the area is still relatively new compared to other parts of the global North and Australia. The need to generate knowledge on indigenous data and knowledge sovereignty in Southern Africa has become a matter of agency considering that the region is home to a significant number of indigenous people. The protection of indigenous data and knowledge is imperative in empowering the indigenous peoples right to own and control their data and to make decisions regarding whether they agree or disagree to be participants in any scientific research. This is in line with the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) (2007) which inexplicitly upholds the right of indigenous people to control, protect, and develop their cultural heritage, knowledge systems, and information. Libraries as hubs or reservoirs of knowledge are not an exception to the calls for ethical indigenous data and knowledge management. However, there is currently limited knowledge linking libraries to their role in the protection of indigenous people 's rights to the sovereignty of their data and knowledge. Indigenous people can be more powerful and respected if their rights to protect their intellectual assets is respected. Sui generis frameworks can offer strong cultural and legal instruments to safeguard, manage, and profit from them. Such systems stand the risk of being metaphorical or subject to outside control in the absence of sovereignty. The justification for this study holds significant promise for indigenous people to be empowered and own their narratives including other forms of knowledge as the worlds moves forward toward sustainable development. The study will generate knowledge regarding the role of libraries in empowering indigenous people to realize the importance of their right to have sovereign control over their data and knowledge communities. The study was guided by the following research objectives, which were to:

1. Analyze the impact of scientific extractivism on indigenous data and knowledge
2. Determine the role of universities, government departments and libraries as stewards and partners in indigenous data and knowledge sovereignty
3. Examine the impact of Open Scholarship on indigenous knowledge

2. Conceptual Framework

The transformative justice theory (Kabba, 2000; 2021) served as the foundation for the study since it offers a radical, community-based viewpoint on Indigenous knowledge and data sovereignty. Restructuring digital infrastructures takes precedence over incorporating Indigenous customs and sovereignty into current systems (Gready & Robins, 2014). Transformative justice refers to a transformative shift that confronts unequal and overlapping power relationships and mechanisms of exclusion at both the local and global levels, prioritizes process over predetermined outcomes, and stresses local agency and resources (Gready, & Robins, 2014). As part of recognizing and correcting uneven power relations, transformative justice promotes involvement and agency in processes and in determining results. It seeks to identify the underlying causes of inequality and the ways in which systemic violence is (re)produced by socioeconomic frameworks (Evans, 2016). Transformative justice promotes a revolutionary strategy; instead of relying on the state, it endeavors to strengthen communities at the local level to devise ways to react to and avert violence and other violations. In the context of this article, the illegal extraction of indigenous data and knowledge serves as classic example of epistemic violence since it causes cognitive and cultural harm (Rossner, & Taylor, 2024).

Andersen et al. (2026) envisioned epistemic transformative justice, which applies transformative justice ideas to data, knowledge, and epistemic systems (Kaba, 2021). It targets harms in knowledge production, sharing, and governance and is grounded in transformative justice. Anderson et al (2026) recognized four types of epistemic injustice, namely, cultural methodological epistemic injustice, epistemic diminishment, epistemic cultural disruption and epistemic biophysical disruption. Cultural methodological epistemic injustice involves the sidelining of indigenous methodologies in research and digital platforms through data capitalism violate indigenous data and knowledge sovereignty (Tenlik, 2025). Epistemic diminishment involves the relegation of indigenous data and knowledge to the periphery of knowledge thus perpetuating hierarchies of power based on superiority of the dominant culture (Anderson, 2026). Epistemic cultural disruption manifests itself through the disregard of indigenous protocols and standards to facilitate scientific extractivism (Cope, and Kalantzis, 2009).

Lastly, epistemic biophysical disruption involves the deterritorialization and reterritorialization of indigenous knowledge through digitization or digital transformation (Dudgeon, and Bray, 2024).

3. Methodology

The study employed a narrative literature review covering 2004 to 2026. The narrative review used a hermeneutic approach that embraces a philosophical notion of understanding that comes from both application and interpretation (Schmidt, 2014) and emphasizes interpretive understanding (Boell and Cecez-Kecmanovic, 2014). Instead of focusing on achieving an absolute grasp, a hermeneutic approach to narrative review stresses the process of improving understanding (Boell and Cecez-Kecmanovic, 2014). Byrne (2016) argued that narrative reviews constitute most review articles published in several significant fields. Jahan et al. (2016) argued that a narrative literature review is a vital component of research since it provides a critical and independent review of the current state of knowledge in a particular area (Rother, 2007). The narrative review is a distinct and possibly complementary type of scholarship, rather than a mediocre or prodigal relative of the systematic review (Petticrew, et al 2013). This implies that a narrative review is equally important and valid approach just like any other type of review.

Narrative literature reviews refer to published foundational articles that discuss and discuss the state of knowledge in a specific field. Such reviews focus on believable truth (Greenhalgh, et al, 2018). Its objective is to provide an authoritative, well-informed, and persuasive case for a group of specialists (Greenhalgh, et al 2018). To achieve this, the author of a narrative review must accurately convey in the written work both the supporting data and how the data has been gathered to support the review's conclusions. These reviews are not bound by the strict rules that govern systematic literature reviews which require the researcher to religiously stick to the rituals of identifying databases and the methodological approaches used for a particular study (Rother, 2007). Narrative literature review is a versatile and thorough method for evaluating and comprehending literature despite the lack of consensus regarding standard reporting requirements (Snyder, 2019; Sukhera, 2022). The researchers chose the narrative literature review because the approach is free from the demands of systematic reviews, and presents revealing depth, and synergy across multiple sources thus rendering them especially helpful for interconnected and expanding fields like Indigenous data sovereignty and epistemic transformative justice. Search terms comprised keyword combinations such as "Indigenous data and knowledge sovereignty," "Digital transformation," "digital technologies," "Narrative review," and "Africa." Boolean logic was applied to four significant academic databases, namely: Google Scholar, SpringerLink, ResearchGate, and Web of Science. The criterion for inclusion was based on the following:

- Peer-reviewed articles
- Articles mainly in English or those with a translation because (authors have second language proficiency).
- Articles focusing on Indigenous Knowledge, data and knowledge sovereignty, open scholarship; indigeneity; scientific extractivism; Africa
- Articles with a high degree of provenance

The exclusion criterion was based on the following:

- Non-peer -reviewed articles
- Articles in other languages other than English and without translation because of language inhibitions

4. Findings and Discussion

Scientific extractivism in Southern Africa, just like any other places in the global South goes beyond the appropriation of minerals and plants to heritage and indigenous data knowledge. In the case of Zimbabwe and South Africa, include cultural artifacts, ancestral remains, geological and botanical specimens, and wildlife heritage collections. Memory institutions worldwide, according to Mataga, Chabata, and Nyathi (2022), have difficulty reterritorializing enormous amounts of artifacts that have been collected from various Indigenous groups and are kept in museums distant from the communities that produced and utilized them. The illegal removal of African artifacts was unquestionably one facet of colonialism. Colonialists stole land and subjugated a people by obliterating and eradicating their culture through the acquisition of cultural items, such as the human remains of African indigenous peoples and the heroes who opposed colonialism (Batt, 2021). The deterritorialization of human remains serves as a classic example of scientific extractivism, to serve the interests of the metropole at the disadvantage and dehumanization of the Indigenous people in Zimbabwe and South Africa (Prior, 2007; Gudynas 2018). The findings from the literature review indicate classical case studies of

scientific extractivism that confirm the colonial agenda through epistemic injustice. Firstly, In South Africa, Saartjie Baartman, who was trafficked to the global North in 1810 because her body would provide answers to Europeans scientific curiosity and serve as an object of the dehumanizing greedy capitalist exploitation.

Qureshi, (2004) vividly captures the “raison d'être” for the trafficking of Sara Baartman whose value lay in her perceived uniqueness as a rare live specimen of the exotic” (p, 235). Given this development, many thousands of non-European skulls and other organs that were used as "scientific" data throughout the 19th century had to be repatriated home thus fulfilling the desire for data, information and data sovereignty. The Hoodia case, which sparked calls for benefit-sharing to defeat capitalist scientific extractivism, is another well-known example from South Africa (Adekola, 2026). The CSIR institute in South Africa exploited the San people's knowledge of *Hoodia gordonii* as an appetite suppressant, which was documented by outsiders, to patent the active ingredient in the plant (Adekola, 2026; Sood, et al 2026). An international outcry followed the revelation that the patent had been licensed to foreign corporations (for the development of diet medications) without consulting the San. In 2003, under duress, CSIR joined entered discussions and accepted a benefit-sharing agreement that gave the San a portion of possible revenue from the sale of Hoodia. According to Chiripanhura, Sibanda, and Chabata (2025), Zimbabwe, like any other former colony, struggles with the restitution of cultural artifacts that were plundered by the former colonial overlords. Four headrests and two Makonde masks that were pilfered and unlawfully smuggled to Poland were recovered from the gallery in 2006 (Chiwara, 2019). Of significant importance in the reclamation of Zimbabwe's cultural heritage is the reterritorialization of Zimbabwe's soapstone birds by Cecil John Rhodes's British South African Company (BSAC) in the 1890s (Matenga, 2011). Invaluable efforts to reterritorialize such valuable artifacts using diplomatic soft power have been made between 1980 and 2026 (Chiwara, 2019). In a similar vein, eight human remains and soapstone carvings that were unlawfully smuggled from Zimbabwe during the colonial era were repatriated by South African authorities. Such initiatives are a manifestation of epistemic transformative justice with reference to correcting harms in knowledge production, sharing, and governance. (Anderson et al 2026).

Government departments, libraries, and universities play key roles in promoting, protecting, documenting, preserving, and maintaining indigenous knowledge(see Fig. 1). Their collaborative efforts are crucial for ensuring the intergenerational transmission of traditional wisdom through decolonizing knowledge systems, particularly through community-led approaches and the implementation of frameworks like FAIR (Findable, accessible, interoperable, reusable and the CARE (Collective benefit, Authority to control, Responsibility, Ethics) principles for indigenous data governance (Chigwada & Ngulube, 2024). Indigenous knowledge content management system (CMS) known as Mukurtu, is one of the systems implemented in alignment with the CARE and FAIR principles of data governance, which provide a framework for the ethical management of Indigenous data and digital cultural heritage, was developed in Australia (Christen et al., 2017). This CMS system empowers Indigenous peoples to control how their cultural materials are stored, accessed, and shared while also ensuring respect for traditional protocols and community preferences (Mukurtu, 2024).

Universities act as academic hubs in decolonizing education by integrating indigenous knowledge into academic curricula, promoting indigenous languages and legitimizing indigenous knowledge through research (Grange, 2020). These academic institutions are responsible for decolonizing research practices to support indigenous data and knowledge sovereignty while also implementing ethical research governance. They also play distinct roles in indigenous data and knowledge sovereignty is to establish indigenous ethics committees to vet research, ensuring that knowledge gathering adheres to cultural protocols and prevents exploitation; in upholding indigenous self-determination, implementing free, prior and informed consent (FPIC) and respecting indigenous data and knowledge sovereignty. UNDRIP recognizes Indigenous Peoples' right to facts that reflect their past and present realities and support their self-determined social, economic, and cultural development (Davis, 2016). However, previous studies revealed that significant research on indigenous knowledge has been conducted by researchers without decolonizing the research (Datta, 2018; Keane, Khupe & Seehawer, 2017). Academic and indigenous researchers rarely think of sharing their indigenous research with the indigenous knowledge owners and their communities who participated (Masenya, 2022).

Libraries and related institutions act as hubs or reservoirs of indigenous knowledge focusing on digitizing, documenting and preserving both explicit and tacit knowledge. These institutions act as repositories of knowledge to ensure that it is accessible and usable in enhancing sustainable development in a country. Libraries and archives have a long history of collecting, storing, organizing, preserving and providing access to indigenous data and knowledg. In 2015, the IFLA stressed its support for the UNESCO Vancouver Declaration of the libraries' role of providing access and safeguarding of heritage resources (UNESCO Memory of the World Programme, 2015). UNDRIP, (2007) also recognized the rights of indigenous peoples and called upon states to consult and

cooperate with indigenous peoples to obtain their free, prior and informed consent regarding matters that affect indigenous communities (UNDRIP, 2016). Librarians manage data using both FAIR and CARE principles to balance open data trends with the need to protect sensitive, communal knowledge from misappropriation (Cummings et al 2023). The FAIR principles deal with the reusability of data and enhancing the ability of machines to automatically find and use data (Carroll et al. 2021). On the other hand, the CARE principles describe how data should be treated to ensure that indigenous governance over data and its use are respected and complement the FAIR principles in ensuring that data movements respect indigenous communities' right to use data ethically (Carroll et al. 2020; Jennings et al., 2023). Librarians are responsible for adopting the FAIR principles by ensuring that the indigenous knowledge collections they had in their libraries are accessible and findable through the classification and cataloguing processes (Balogun, 2023). It is also the responsibility of the librarians to train community members to manage their own data and knowledge while also fostering trust-based, long-term partnerships rather than extractive engagements. The United Nations 2030 Agenda further highlighted the need for universal literacy in its preamble, which underlines clearly the need to not only preserve and give access to cultural heritage but also to ensure that people have the skills to use digital heritage (United Nations, 2015).

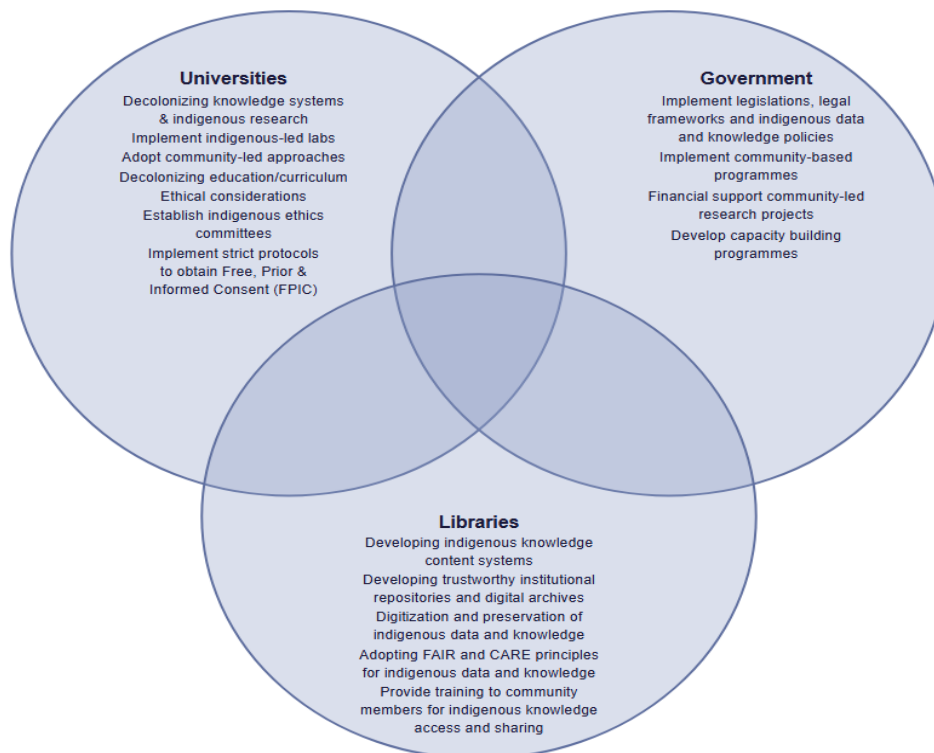


Figure 1: Triple helix: Universities, government departments and libraries

The Fig. 1 above shows the strength of university, government, along with library networks becomes when these institutions are connected to Indigenous knowledge and data sovereignty. Indigenous peoples' data and knowledge sovereignty indicate a state of epistemological authority. The open exchange of data and knowledge is essential to the advancement of science and to research success. Indigenous people can gain sovereignty over their knowledge and data through open scholarship based on decolonization and participatory action research. By combining culture, tradition, and technology, a program will likely be successful. Previous studies have also recognized that access to information and knowledge is a fundamental human right, a crucial element of social justice, equality, and information freedom (Riegner, 2017; Kumar, and Surendran, 2026). Open scholarship seeks to remove obstacles to information sharing and access while promoting diversity as a standard in the research process. The UNESCO (2021) guideline on open science also examines and considers the significance of knowledge access for human development. To achieve uniformity in the generation of knowledge and access, the guideline functions as a worldwide framework for open scientific policy that is epistemically inclusive in all aspects. Open Science is fundamental for the growth of knowledge, scientific activity and for sustainable development (Ocholla, 2025).

The Budapest Declaration further makes explicit reference to the acceleration of research and the sharing of the learning in support of the bidirectional flow of information (Chan et al., 2002). Future studies should examine how abundant intelligence masks AI's flaws to reimagine AI and sync it with Indigenous sovereignty concepts.

5. Conclusion and Recommendations

It is imperative to devise innovative strategies regarding the right of communities to indigenous data and knowledge sovereignty while leveraging emerging innovative technologies to manage and protect traditional as highlighted below:

- Developing trustworthy institutional repositories, which allows communities to define access protocols and maintain control over their knowledge.
- Conducting community led participatory action research including community led central infrastructure for archiving indigenous knowledge
- Implementing indigenous led labs and involving indigenous communities in the digitization process to ensure that their cultural values and ethics are well captured.
- Adopting CARE and FAIR principles in ensuring indigenous data and knowledge sovereignty
- Developing specialized legislation such as Sui generis laws
- Implementing strict protocols requiring researchers to obtain free, prior and informed consent before collecting indigenous data and knowledge.
- Fostering culturally acceptable and responsive innovation partnerships involving key indigenous knowledge stakeholders
- Developing blockchain-based framework for sustainable management of indigenous data and knowledge
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Ethics Declaration: The preparation of this work, as well as prior research and narrative reviews, did not require ethical approval.

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References

- ACHPR, I. (2005). Report of the African Commission's Working Group of experts on indigenous populations and communities (Working group report).
- Adekola, T. A. (2026). Whose knowledge, whose cure? traditional medicine and the boundaries of WIPO's 2024 genetic resources treaty. *The Journal of World Intellectual Property*.
- Andersen, H. K., et al (2026). Identifying epistemic injustices to inform epistemic transformative justice. In M. Massimi, A. E. L. Brown, & M. Jaspers (Eds.), *Ways of world knowing: Local knowledge, coastal communities, and equitable ocean governance* (p. 41). Oxford: Oxford University Press.
- Balogun T. (2023a). Data management of digitized indigenous knowledge system in repositories. *Information Development* 39(3), 425–438.
- Barnard, A. (2006). Kalahari revisionism, Vienna and the 'indigenous peoples' debate. *Social anthropology*, 14(1), 1-16.
- Batt, F. (2021). The repatriation of African heritage: shutting the door on the imperialist narrative. *African Human Rights Yearbook*, 5, 328-350.
- Blair, N. (2015). Researched to death: Indigenous peoples talkin' up our experiences of research. *International Review of Qualitative Research*, 8(4), 463-478.
- Byrne, J. A. (2016). Improving the peer review of narrative literature reviews. *Research integrity and peer review*, 1(1), 12. <https://doi.org/10.1186/s41073-016-0019-2>.
- Carroll SR, Garba I, Figueroa-Rodríguez OL, et al. (2020) The CARE principles for indigenous data governance. *Data Science Journal* 19: Article 43.
- Carroll SR, Herczog E, Hudson M, et al. (2021) Operationalizing the CARE and FAIR principles for indigenous data futures. *Scientific Data* 8: Article 108.
- Carroll, S. R., et al (2020). The CARE Principles for Indigenous Data Governance. *Data Science Journal*, 19.
- Chan, L et al. (2002). Budapest Open Access Initiative. Declaration Document: Open Access. Available online: <https://www.budapestopenaccessinitiative.org/read/> (accessed on 28 April 2023).
- Chigwada, J & Ngulube, P. (2023) Librarians' role in the preservation and dissemination of indigenous knowledge. *International Federation of Library Associations and Institutions*. 50(2), 242–256.
- Chiripanhura, P., Sibanda, M., & Chabata, F. (2025). Digital Repatriations: A Temporary Solution to Improve Access to Zimbabwe's Heritage. In T. Masenya & M. Bhuda (Eds.), *Revaluation and Preservation of Indigenous Knowledge Systems in Modern Society* (pp. 17-38). IGI Global Scientific Publishing. <https://doi.org/10.4018/979-8-3693-7964-6.ch002>.
- Chisita, C. T. & Abdullahi, I. (2016). Culture, Tradition and Technology: The Role of Library and Information Science Schools as Integrative Forces. In I. Management Association (Ed.), *International Business: Concepts, Methodologies, Tools, and Applications* (pp. 632-645). IGI Global Scientific Publishing. <https://doi.org/10.4018/978-1-4666-9814-7.ch030>

- Chisita, C. T. & Masenya, T. M. (2025). Indigenous Data and Knowledge Sovereignty Amidst Technological Dynamics: Reflections on Selected Southern African Indigenous Communities. In T. Masenya & M. Bhuda (Eds.), *Revaluation and Preservation of Indigenous Knowledge Systems in Modern Society* (pp. 39-60). IGI Global Scientific Publishing. <https://doi.org/10.4018/979-8-3693-7964-6.ch003>
- Chisita, C. T., et al (2025). Data capitalism in the milieu of the surveillance economy: What can libraries do? *IFLA Journal*, 51(2), 339-349.
- Chiwaru, D. (2019). Documentation: A Security Tool for the Identification and Repatriation of Illicitly Trafficked Objects from Museums with Particular Reference to the National Gallery of Zimbabwe. *Heritage*, 2(1), 390-399.
- Coburn, E., et al (2013). Unspeakable things: Indigenous research and social science. *Socio. La nouvelle revue des sciences sociales*, (2), 331-348.
- Cope, B., & Kalantzis, M. (2009). Signs of epistemic disruption: Transformations in the knowledge system of the academic journal. *The future of the academic journal*, 13-61.
- Cummins, J., Soto, A., Anderson, J., Gosart, U., Ward, A., & Carroll, S. R. (2023). Enhancing Stewardship of Indigenous Peoples' Data, Information, and Knowledges in Libraries and Archives through Indigenous Data Governance. *Library Trends*, 72(1), 13-47.
- Daes, E. I. A. (1995). Standard-setting activities: evolution of standards concerning the rights of indigenous people. United Nations. Sub-Commission on Prevention of Discrimination and Protection of Minorities. Working Group on Indigenous Populations.
- Dahl, J. (2013). The United Nations and the Indigenous Space. In: Dahl, J., Fihl, E. (eds) *A Comparative Ethnography of Alternative Spaces*. Palgrave Macmillan, New York. https://doi.org/10.1057/9781137299543_2
- Datta, R. (2018). Decolonizing both researcher and research and its effectiveness in Indigenous research. *Research Ethics Review*, 14(2), 1–24.
- Davis, M. (2016). Data and the United Nations Declaration on the Rights of Indigenous Peoples. In: *Indigenous Data Sovereignty*. DOI:10.22459/CAEPR38.11.2016.02.
- Dudgeon, P. and Bray, A. (2024). The Indigenous Turn: Epistemic Justice, Indigenous Knowledge Systems, and Social and Emotional Well-Being. In: Ravulo, J., et al (eds) *Handbook of Critical Whiteness*. Springer, Singapore. https://doi.org/10.1007/978-981-97-5085-6_31
- Evans, M. (2016). Structural violence, socioeconomic rights, and transformative justice. *Journal of Human Rights*, 15(1), 1-20.
- Futures in African Museums: The “Robert Edward Codrington Collection” at the Zimbabwe Natural History Museum. *Collections*, 18(1), 42-58.
- Godrie, B. (2025). Resisting scientific extractivism: A post-extractivist policy of knowledge production with marginalized communities. *Gateways: International Journal of Community Research and Engagement*, 18(1), 1-14.
- Goodman, A., et al (2018). We’ve been researched to death. *International indigenous policy journal*, 9(2), 1-20.
- Grange, L. (2020). Decolonising the university curriculum: The what, why and how. In book: *Transnational Education and Curriculum Studies* (pp.216-233). DOI:10.4324/9781351061629-14.
- Gready, P., & Robins, S. (2014). From transitional to transformative justice: A new agenda for practice. *International Journal of Transitional Justice*, 8(3), 339-361.
- Greenhalgh, T., et al. (2018). Time to challenge the spurious hierarchy of systematic over narrative reviews? *European journal of clinical investigation*, 48(6), e12931.
- Gudynas, E. (2018). Extractivisms: Tendencies and consequences. In *Reframing Latin American Development* (pp. 61-76). Routledge.
- Hodgson, D. L. (2009). Becoming indigenous in Africa. *African Studies Review*, 52(3), 1-32.
- Humphery, K. (2001). Dirty questions: Indigenous health and ‘Western research.’ *Australian and New Zealand Journal of Public Health*, 25(3), 197-202. doi: <https://doi.org/10.1111/j.1467842X.2001.tb00563.x>
- Hunter, E. (2001). A brief historical background to health research in Indigenous communities. *Aboriginal and Islander Health Worker Journal*, 25(1), 6.
- Hurst, S., et al (2026). Sovereignty in the Digital Age Indigenous Perspectives on Health Data and Emerging Technologies. *SSM-Qualitative Research in Health*, 100698.
- Jahan, N et al. (2016). How to conduct a systematic review: a narrative literature review. *Cureus*, 8(11).
- Kaba, M. (2021). *We do this' til we free us: Abolitionist organizing and transforming justice* (Vol. 1). Haymarket books.
- Keane, M., Khupe, C., & Seehawer, M. (2017) Decolonizing methodology: who benefits from indigenous knowledge research? *Educational Research for Social Science*, 6(1), 12-24.
- Kumar, S. K., & Surendran, B. (2026). Information literacy for lifelong learning. *KASU Journal of Accounting Research & Practice*, 11(1), 12-21.
- Labadze, L., et al (2023). Role of AI chatbots in education: systematic literature review. *International journal of Educational Technology in Higher education*, 20(1), 56.
- Lin, H.F. (2007). Effect of extrinsic and intrinsic motivation on employee knowledge sharing intentions, *Journal of Information Science*, 33:135.
- Masenya, T. M. (2022). Decolonization of Indigenous Knowledge Systems in South Africa: Impact of Policy and Protocols. *International Journal of Knowledge Management (IJKM)*, 18(1), 1-22.

- Matenga, E. (2011). The Soapstone Birds of Great Zimbabwe: Archaeological Heritage. Religion and Politics in Postcolonial Zimbabwe and the Return of Cultural Property, Department of Archaeology and Ancient History, Uppsala University. Available <https://www.diva-portal.org/smash/get/diva2:451503/FULLTEXT02.pdf>(Accessed 7 May 2026).
- Ocholla, D. N. (2025). The complex marriage: interfacing open science and open indigenous knowledge. *Library Management*, 46(3-4), 252-267.
- Qureshi, S. (2004). Displaying Sara Baartman, the 'Hottentot Venus'. *History of Science*, 42(2), 233-257.
- Riegner, M. (2017). Access to information as a human right and constitutional guarantee. A comparative perspective. *Verfassung und Recht in Übersee/Law and Politics in Africa, Asia and Latin America*, 50(4), 332-366.
- Sood, H., (2026). Intellectual Property Rights in Smart Agriculture for Medicinal Plants. In *Transforming Medicinal Plant Agriculture: Implementing Soil-less Systems and AI Innovations for Smart Farming* (pp. 291-312). Singapore: Springer Nature Singapore.
- Tella, A., Jatto, E. O., & Ajani, Y. A. (2025). Preserving indigenous knowledge: Leveraging digital technology and artificial intelligence. *IFLA Journal*. <https://doi.org/10.1177/03400352251342505>
- UNESCO (2021) Oral traditions and expressions including language as a vehicle of the intangible cultural heritage. Available at: <https://ich.unesco.org/en/oral-traditions-and-expressions-00053> (accessed 10 July 2023).