

The role of digital humanities in the preservation of indigenous knowledge at the National Museums of Kenya

Vol. 8 No. 2

December 2023

Afline Susan Awuor

The Technical University of Kenya
aflinewwuor@gmail.com

Grace Wambui Kamau

The Technical University of Kenya
grace.kamau6@gmail.com

Ashah Owano

Technical University of Kenya
maryowino715@gmail.com

Abstract

Rationale of Study – Digital humanities offer new possibilities for preserving and sharing indigenous knowledge. This paper investigates the role of digital humanities in preserving indigenous knowledge at the National Museums of Kenya. The objectives are to determine the extent to which digital humanities are used in the management, preservation and showcase of indigenous knowledge at the National Museums of Kenya and establish the challenges and opportunities in the use of digital humanities in the preservation of indigenous knowledge.

Methodology – A qualitative research method was adopted to collect qualitative data from the literature review and purposely selected museum staff through interviews. Data was analysed thematically.

Findings – The findings indicate that preservation and management of indigenous knowledge are crucial for maintaining cultural identity, facilitating knowledge sharing, and raising awareness about the richness and diversity of indigenous cultures in Kenya and beyond.

Implications – The study's results can serve as a model for similar initiatives in Africa and beyond.

Originality – This is an original paper which investigates the role of digital humanities in preserving indigenous knowledge at the National Museums of Kenya.

Keywords

Culture, heritage, digital humanities, knowledge sharing, modernisation, globalisation

Citation: Awuor, A.S., Kamau, G.W. & Owano, A. (2023). The role of digital humanities in the preservation of indigenous knowledge at the National Museums of Kenya. *Regional Journal of Information and Knowledge Management*, 8 (2),170-180.



Published by the

**Regional Institute of
Information and Knowledge
Management**

P.O. Box 24358 – 00100 –
Nairobi, Kenya

1 Introduction

The digital era has transformed how people share and preserve information and knowledge. Digitisation is viewed as a tool that can provide long-term preservation and access to indigenous knowledge. This paper focuses on using Digital Humanities to preserve Indigenous knowledge at the National Museums of Kenya. Digital Humanities is a two-way discipline, which includes the systematic use of digital resources in humanities and the humanistic analysis of the application of digital resources. It is the application of computational methods and critical thinking in answering traditional humanities questions such as who we are and what our community is.

Digital humanities offer new opportunities for preservation, organisation, management, and showcasing of indigenous knowledge. Digital humanities approaches help explore collections in new and exciting ways, which, in turn, aid in understanding the past, present, and future. Preserving indigenous knowledge is an intricate issue that calls for a multifaceted approach involving collaboration with stakeholders and the consent of Indigenous communities. Preservation of indigenous knowledge is crucial for maintaining cultural diversity. However, globalisation, modernisation, and non-documentation expose indigenous knowledge to distortion and loss.

2 Literature review

The use of digital humanities in the preservation of indigenous knowledge involves the application of approaches such as web archiving, digital libraries, and digital lexical databases (Durney, 2021; Nayyer, 2021; Renganathan et al., 2018; Tsetselelane, Mdhuli D., Sekgothe, Mokgoatšana, Stewart, Kugara L. & Vuma, 2021). These approaches enable documentation and preservation of indigenous knowledge, enabling cross-generational access.

According to Bosch and Griesel (2020), digital libraries provide a platform for sharing and managing indigenous knowledge. Digital lexical databases, such as the African Wordnet, extend traditional dictionaries by consolidating digitised and dispersed information into a digitised hierarchical structure. Web archiving is significant for collecting, preserving, and accessing indigenous knowledge.

Durney and Tsetselelane (2021) acknowledge that digital humanities approaches are progressively being adopted to manage and preserve indigenous knowledge. Digital

libraries and digital media offer valuable opportunities for preserving, managing, and sharing indigenous knowledge (Bosch & Griesel, 2020).

Renganathan and Inge (2018) assert that adopting technology into the traditional ways of preserving indigenous knowledge can build a bridge across time, ensuring cross-generational transmission of knowledge.

Digital humanities tools empower indigenous communities to protect their cultural heritage. Digital humanities enable them to get proper attribution and control over who has suitable access to their digital resources (Bruchac, 2015). Additionally, digital humanities allow for deep contextual description of museum collections. This makes documentation, identification and access to the collection easier (Emmitt et al., 2021)

Using technology to preserve indigenous knowledge raises ethical concerns regarding control, access, and consent. For indigenous knowledge to be collected, preserved, managed and shared lawfully and respectfully, there is a need to address these ethical concerns. Researchers and practitioners in various fields adhere to these ethical considerations to ensure they work respectfully, inclusively, and legally (Žukauskas et al., 2018).

There are challenges facing digital humanities in collecting, preserving, and disseminating indigenous knowledge. Below is a list by (Dutta, 2019; Holm et al., 2015).

Some regions in Kenya have little or no internet access and wireless technologies. This, therefore, limits their access to digital humanities projects that are majorly online and require Internet access.

Digital humanities projects can be very costly for organisations. For digital humanities projects to be successful, there is a need for continuous financial support and resources such as software, technology, and expertise.

Indigenous communities often collectively own their traditional language, raising ethical concerns on control, access, and informed consent. For any digital humanities project to be successful, there is a need to navigate ethical considerations, stakeholders' collaborations and consent from the indigenous community.

Indigenous knowledge is often in an indigenous language only known to a specific community and seldom documented. Therefore, this requires experts in the given language to translate it to create content in a digital format for easier accessibility.

Incorporating indigenous knowledge into digital humanities projects is also challenging as the necessary expertise and resources may not be available to translate and interpret the content accurately.

There could be resistance or limited participation from the local communities since digital humanities projects may be seen as foreign, external, or imposed on them. Chikonzo (2006) agrees with Dutta (2019) and Holm et al. (2015) on the high cost of Internet connectivity and services as a challenge facing the use of digital humanities in preserving indigenous knowledge but adds the high cost of computer hardware as a significant issue as this is often the largest component, diminishing budgets and inadequate government funding for organisations dealing with information, therefore, making it challenging to harness technology.

There is a discernible gap in the current literature on the intersection of digital humanities and the management, preservation, and showcasing of indigenous knowledge in museums. The existing literature acknowledges the general application of digital technologies in cultural institutions. However, there is a distinct scarcity of comprehensive examinations of the specific challenges, successes, and ethical considerations encountered in the context of indigenous heritage.

This paper aims to illuminate ways digital humanities initiatives can be tailored to respect and enhance the diverse cultural narratives within indigenous communities. This showcases the transformative potential of digital humanities in safeguarding and presenting indigenous cultural heritage within the museum landscape.

3 Methodology

This study employed a qualitative research design. Data was collected from purposively sampled National Museum of Kenya employees actively involved in indigenous knowledge preservation initiatives through face-to-face interviews. According to Creswell and Creswell (2018), purposive sampling involves intentionally selecting individuals based on their informative nature. Interviews were conducted until saturation was reached, denoting sufficient data had been collected to achieve the research objectives. This was after interviewing seven respondents out of the 10 in the department. Additional interviews were improbable to provide significant new information (Hennink, Monique et al., 2020). The resulting qualitative data were analysed thematically to determine the extent to which digital humanities are used in the management, preservation and showcasing of indigenous knowledge and establish the challenges and opportunities in

the use of digital humanities in the preservation of indigenous knowledge at the National Museums of Kenya. A comprehensive analysis of the data provided highlighted the key findings on the employees' experiences, challenges, successes, and practices related to using digital humanities within the museum context. The findings were presented in a clear, coherent, and logical manner.

4 Theoretical framework

Cultural heritage theory was developed in the mid-19th century during Romanticism (Maroivic, 1998). Cultural Heritage Theory provides insights into the transformative role of digital humanities in the context of indigenous knowledge.

Cultural Heritage Theory recognises the role of digital technologies as custodians of cultural heritage. It guides how adopting digital humanities approaches contributes to the documentation, digitisation, preservation and representation of cultural heritage.

Cultural Heritage Theory critically analyses the interwoven connections between technology and indigenous knowledge, enhancing understanding the dynamic between traditional and digital preservation.

5 Findings and discussions

All seven respondents participated in the study, representing a response rate of 70%. Following are the findings and discussions of the study.

5.1 Extent to which digital humanities are used in the management, preservation and showcasing of indigenous knowledge at the National Museums of Kenya

The first objective was to determine how digital humanities are used to manage, preserve and showcase indigenous knowledge. The findings of this study indicate that the National Museums of Kenya has undertaken digitisation as a first step in digital humanities initiatives to enhance access to their collections and promote cultural heritage preservation. The museum houses permanent exhibitions from different regions in Kenya. These exhibitions are tied to objects representing indigenous communities' cultures, rituals, and political guidance. The NMK, mainly the Nairobi National Museum, houses the main gallery, which has several sections with exhibitions such as ethnographic objects and the cycle of life exhibition, which depicts cyclic patterns of human development from childhood to death. The researchers also interacted with the Ormani Exhibition, put up by the Embassy of Oman in the Cultural Discoveries' gallery. The gallery dealing with the cultural aspects of Kenya contains the history of Kenya, the Hall of Kenya, Joy Adamson's exhibition, whose curator is an archivist from NMK, and a

temporary art space. Collections such as artefacts, artworks, photographs, and documents, including natural history specimens, are digitised by creating high-quality digital images and accompanying metadata to provide detailed information about each item.

The study established that the National Museums of Kenya has collaborated with Google to digitise and develop digital collections uploaded in the cloud on a platform known as Google Arts and Culture, which provides public access to the digitised collections. Google Arts and Culture platform allows users to search and explore the Museum's holdings remotely. Thus enhancing accessibility and preservation of their digital collections in the cloud and gaining insights into Kenya's rich cultural heritage. This concurs with Burdick et al. (2016), who infer that, for digital humanities projects to thrive, they require collaborations with stakeholders, continuous funding, and expertise who explore, analyse, and communicate knowledge in the digital realm.

The study sought to know what digitisation entails, and the respondents mentioned photographing and scanning objects and converting them into high-resolution images with contextual information to create digital representations. This initiative helps NMK reach a wider audience by facilitating remote exploration and long-term preservation of delicate and rare artefacts of historical value. These benefits contribute to the evolving benefits of digital humanities in museums, as documented by several scholarly works in the field (Burdick et al., 2016; Woo Lee et al., 2019)

Google Arts and Culture provides a virtual exhibition platform that showcases the museums' collections, including curated exhibits. The virtual exhibitions provide a real-time experience of the NMK's rich collections and learning hubs about Kenyan culture and history (National Museums of Kenya, n.d.).

Some of the respondents said that:

"The museum offers 360-degree photography and virtual tours to its galleries and collections, providing access from anywhere in the world," Participant A.

"National Museums of Kenya is digitising educational resources related to their collections to provide in-depth knowledge and context about the exhibited items," Participant B.

"Most of the objects stored in the museum are largely organic and are therefore prone to insect infestation or damage by environmental factors such as dust,

moisture, or too much light. Having them photographed and digitised keeps them longer” Participant C.

These findings reveal that Google Arts and Culture offers the National Museums of Kenya a robust platform with extensive reach to showcase its collections, engage with a global audience, and collaborate with other institutions.

5.2 Challenges and Opportunities of digital humanities in the preservation of indigenous knowledge at the National Museums of Kenya

The second objective was to establish the challenges and opportunities in using digital humanities to preserve indigenous knowledge at the National Museums of Kenya. While Google Arts and Culture offers a wealth of resources and opportunities for the NMK, there are challenges associated with using this platform. A significant number of respondents from NMK mentioned that:

“Access to high-speed internet is crucial for seamless browsing and interaction with the Google Arts and Culture platform. Reliable internet connectivity and infrastructure are challenging in certain areas, especially in remote locations. In some cases, limitations in internet access may hinder the effective utilisation of the platform's features” Participant A.

Google Arts and Culture primarily operates in English, which presents challenges to the local communities where English is not the dominant language.

“With the high cost of living, it is likely that the number of people who visit the platform will go down. Will you buy food or pay for internet?” Participant E

“There is still so much indigenous knowledge and skills out there to be captured, but due to westernisation, young people see this indigenous knowledge as inferior and do not bother with it. Some knowledge holders do not get to transfer this knowledge and it therefore dies with them” Participant D.

The researchers further sought to establish the safety and privacy of data on the online platform in terms of hacking and misappropriation. The findings indicate the NMK has implemented measures to keep the digitised collection safe. Data safety is a critical concern when it comes to digitisation. They acknowledge that no system is immune to hacking. However, Google and the National Museums of Kenya have taken significant measures to ensure data security. Some measures taken regarding data safety include using encrypted connections, firewalls, intrusion detection systems, and regular security audits to protect against unauthorised access and data breaches.

User authentication only allows authorised individuals to upload collections to the site. Use strong passwords, enable multi-factor authentication and regularly update security settings to mitigate the risk of unauthorised access. Bertacchini and Morando (2013) emphasise that it is beneficial to implement multiple authentication methods when dealing with sensitive data.

Google and the National Museums of Kenya must adhere to privacy policies and legal requirements to protect user data as stipulated in the constitution. Policies and legal requirements outline how data should be collected, stored, and used. Haggerty (2020) agrees that policies and regulations ensure responsible handling, processing, and protection of user information and may vary depending on the jurisdiction and specific circumstances. There is a need for regular updates to address any identified vulnerabilities or security flaws. Updates ensure that platforms such as Google Arts remain secure and protect against hacking. The respondents said:

“We store them in the cloud, but how much space do we have there? Will we get to a point where we are told the space is full?” Participant C

“Having a digital platform like this is expensive for organisations. There is a need for collaborations and funding to sustain it.” Participant F

From the findings, data safety is a shared responsibility between the platform providers and content holders. By implementing strong security measures and regular monitoring, the National Museum of Kenya and Google aim to mitigate risks associated with hacking and ensure the protection of their collection or content.

Ethical issues require careful consideration, transparent policies, and ongoing dialogue between the National Museum of Kenya and Google Arts and Culture. Kanyabuhinya and Juma (2022) confirm that Kenya has comprehensive legislation for protecting Traditional Knowledge in the Protection of Traditional Knowledge and Cultural Expression Act 2016 (No.33 of 2016).

One primary ethical concern is ownership and control of cultural heritage. The study found that the National Museums of Kenya ensures ownership and control over its collection associated with intellectual property rights. The National Museums of Kenya considers how its artefacts and cultural heritage are represented, protected, and contextualised on the platform. NMK is cautious about the potential appropriation and exploitation of cultural heritage through Google Arts and Culture. The response emphasised that.

“The NMK ensures that the digitisation and online display of cultural artefacts is done respectfully, with proper permissions.” Participant G.

“Our collections have messages. Beliefs and practices associated with the collection are respected to ensure cultural sensitivities.” Participant A.

“It is difficult to compensate an entire community; the best we can do is give credit to the respective community and make sure their collection is well taken care of.” Participant B.

The collaboration between the National Museums of Kenya and Google Arts and Culture has raised several ethical considerations, which require ongoing dialogue, transparency, and collaboration between the National Museum of Kenya and Google Arts and Culture.

6 Conclusion

Digital humanities offers new opportunities for preservation, organisation, management, and showcasing the cultural heritage of indigenous communities. The digital humanities approach opens avenues for researchers, scholars, and indigenous communities to collaborate, document, represent, share, and showcase indigenous knowledge digitally. Integrating digital humanities approaches to traditional methods of indigenous knowledge empowers indigenous communities to preserve their cultural heritage and enhance accessibility across generations.

This project's success calls for stakeholder collaboration, continued support, and ethical consideration in handling indigenous knowledge.

7 Recommendations

To enhance the use of digital humanities in managing, showcasing, and preserving indigenous knowledge at the NMK, the following recommendations were proposed:

The National Museums of Kenya will continue with their quest to expand and digitise its collection. Contextual information should be attached to all digitised objects and images to enhance accessibility. NMK will embrace emerging technologies for innovation and foster a sense of community involvement around the digitised collections.

To overcome the language barrier, translations, localisation of content, and providing educational resources in local languages may be necessary to make the platform more accessible and relevant to the local audience. Since Google is in collaboration with NMK,

they can explore the Swahili translation services of Google for their content for consumption by the local communities in Kenya. Collectively, these efforts aim to create a rich digital experience, ensuring the widespread appreciation and preservation of indigenous knowledge.

Acknowledging the significant role of high internet speed in accessing the online platform and the cost it attracts, initiatives should be undertaken to explore options for subsidising internet costs and partnering with local organisations to provide access in underserved regions.

Digital humanities projects involving indigenous knowledge must adhere to ethical guidelines and culturally appropriate protocols. NMK needs to review and negotiate agreements that align with its ethical values and ensure the protection and promotion of Kenya's cultural heritage as given in the Protection of Traditional Knowledge and Cultural Expression Act 2016 (No.33 of 2016). These guidelines and protocols are based on ownership, access, control, respect, and consent principles to ensure that the community retains sovereignty over indigenous knowledge.

By implementing these recommendations, we can strengthen the use of digital humanities in preserving and revitalising indigenous knowledge and contribute to the broader goals of cultural preservation.

References

- Bertacchini, E., & Morando, F. (2013). The future of museums in the digital age: New models for accessing and using digital collections. *International Journal of Arts Management*, 15(2), 60–72.
- Bosch, S. E., & Griesel, M. (2020). Exploring the documentation and preservation of African indigenous knowledge in a digital lexical database. *Lexikos*, 30, 1–28. <https://doi.org/10.5788/30-1-1603>
- Bruchac, M. (2015). *Deep description and reflexivity: Methods for recovering object histories*. <https://core.ac.uk/download/pdf/76394526.pdf>
- Burdick, A., Drucker, J., Lunenfeld, P., Todd, P., & Schnapp, J. (2016). *Digital humanities*. MIT Press.
- Chikonzo, A. (2006). The potential of information and communication technologies in collecting, preserving and disseminating indigenous knowledge in Africa. *The International Information & Library Review*, 38(3), 132–138. <https://doi.org/10.1080/10572317.2006.10762714>
- Creswell, J. W., & Creswell, D. J. (2018). *Research design: Qualitative, quantitative and mixed methods approaches* (5th ed.). SAGE PublicationsSage CA: Los Angeles, CA.
- Durney, S. (2021, September 20). The library advocacy gap: increasing librarians' political self-efficacy. *Community Engagement*. <https://www.ideals.illinois.edu/handle/2142/110959>
- Dutta, U. (2019). Digital preservation of indigenous culture and narratives from the global South: In search of an approach. *Humanities* 2019, 8(2), 68. <https://doi.org/10.3390/H8020068>
- Emmitt, J. J., Timothy, M., & Armstrong, J. (2021). Digital modelling in museum and private collections: a case study on early Italic armour. *Journal of Computer Applications in Archaeology*, 4(1), 63–78. <https://doi.org/10.5334/jcaa.63>
- Haggerty, K. (2020). Intellectual property guidelines for the digital humanities. In *Routledge International Handbook of Research Methods in Digital Humanities* (pp. 428–440).

<https://www.taylorfrancis.com/chapters/edit/10.4324/9780429777028-30/intellectual-property-guidelines-digital-humanities-kenneth-haggerty>

- Hawkins, S. (2021). Introduction: Access and control in digital humanities. In *Access and Control in Digital Humanities* (pp. 1–20).
- Hennink, M., Hutter, I., & Bailey, A. (2020). *Qualitative Research Methods*. Sage.
[https://books.google.co.ke/books?hl=en&lr=&id=_InCDwAAQBAJ&oi=fnd&pg=PP1&dq=Hennink,+M.,+Hutter,+I.,+%26+Bailey,+A.+\(2020\).+Qualitative+research+methods&ots=3ubOqSu3bB&sig=z71i6UYk6tH9QX3u0IezoCXkUtw&redir_esc=y#v=onepage&q=Hennink%252C M.%252C Hutter%252C I.%252](https://books.google.co.ke/books?hl=en&lr=&id=_InCDwAAQBAJ&oi=fnd&pg=PP1&dq=Hennink,+M.,+Hutter,+I.,+%26+Bailey,+A.+(2020).+Qualitative+research+methods&ots=3ubOqSu3bB&sig=z71i6UYk6tH9QX3u0IezoCXkUtw&redir_esc=y#v=onepage&q=Hennink%252C M.%252C Hutter%252C I.%252)
- Holm, P., Jarrick, A., & Scott, D. (2015). The digital humanities. In *Humanities World Report*. Palgrave Macmillan, London. https://doi.org/10.1057/9781137500281_4
- Kanyabuhinya, B., & Athanas, J. L. (2022). Protection of traditional knowledge and traditional cultural expressions in mainland Tanzania. *The Eastern African Law Review*, 48(2).
- National Museums of Kenya. (n.d.). *Google Arts & Culture*. Retrieved May 19, 2023, from <https://artsandculture.google.com/partner/national-museums-of-kenya>
- Nayer, K. P. (2021). Issues and intersections of indigenous knowledge protection and copyright for digital humanities. *Access and Control in Digital Humanities*, 192–202.
<https://doi.org/10.4324/9780429259616-15>
- Rees, L. E. S. (2012). An interpretation of digital humanities. In *Understanding Digital Humanities* (pp. 21–41). Palgrave Macmillan UK. https://doi.org/10.1057/9780230371934_2
- Renganathan, Sumathi, & Inge, K. (2018). Digital preservation of language, cultural knowledge and traditions of the indigenous Semai. *SHS Web of Conferences*, 53.
- Tsetselelane, Mdhluli D., Sekgothe, Mokgoatšana, Stewart, Kugara L., & Vuma, L. (2021). Knowledge management: Preserving, managing and sharing indigenous knowledge through digital library. *Theological Studies*, 77(2). <https://doi.org/10.4102/hts.v77i2.6795>
- Woo Lee, J., Kim, Y., & Hee Lee, S. (2019). Digital museum and user experience: the Case of Google Art & Culture. In *International Symposium on Electronic Art* (pp. 979–980). <http://www.isea-archives.org/proceedings-catalogue/>