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RECLAIMING INDIGENOUS KNOWLEDGE IN A DIGITAL AGE: MULTILINGUAL FUTURES, DECOLONIAL POSSIBILITIES, AND THE EVOLVING ECOLOGIES OF AFRICAN LANGUAGES

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ABSTRACT

The rapid expansion of digital technologies across the African continent has opened new pathways for reclaiming Indigenous knowledge while reinvigorating the visibility and vitality of African languages within increasingly globalised, multilingual environments. This study examines how digital platforms, emerging media practices, and technological innovations intersect with decolonial efforts to reshape the evolving ecologies of African languages. Using a qualitative desktop research design, the study synthesises contemporary scholarship through a thematic analysis informed by decolonial theory, Indigenous Knowledge Systems, digital humanities, and the ecology-of-language framework. The analysis demonstrates that digital tools, including lexical databases, online dictionaries, social media platforms, community-curated archives, and multimedia applications, play a pivotal role in language preservation, revitalisation, and intergenerational knowledge transmission. These tools create spaces for new communicative repertoires, promote cultural affirmation, and enhance the global presence of African languages. However, the findings also highlight enduring challenges that constrain equitable participation, including infrastructural limitations, unequal access to digital resources, limited community capacity for digital content creation, and the persistent dominance of hegemonic global languages in online spaces. These barriers underscore the need for intentional, community-driven strategies supported by culturally responsive technological design and enabling policy frameworks. The study argues that while digital technologies possess transformative potential for linguistic and cultural regeneration, their impact depends on the extent to which they align with decolonial principles, centre local epistemologies, and respond to the socio-cultural realities of African communities. The paper concludes that sustainable multilingual futures will require collaborative, ethically grounded approaches that integrate Indigenous knowledge, digital innovation, and critical language scholarship.

Keywords: Indigenous knowledge, Digital preservation, African languages, Decolonial theory, Multilingualism, Language ecology

INTRODUCTION

The question of how to reclaim and sustain Indigenous Knowledge Systems (IKS) in the contemporary era has increasingly received scholarly attention, particularly in Africa's linguistically diverse and historically marginalised societies. Historically, colonialism enforced linguistic structures which prioritised European languages, yet marginalised

African languages, systematically displaced African linguistic resources, and devalued indigenous epistemologies. These legacies continue to shape postcolonial African states, where global languages, especially English, retain dominance in education, governance, media, and digital communication. Consequently, many Indigenous languages remain

structurally excluded from formal knowledge production, limiting their visibility and undermining efforts toward epistemic justice. Against this backdrop, the rapid expansion of digital technologies introduces a pivotal moment for linguistic revitalisation, cultural sustainability, and the reclamation of epistemic agency. Recent scholarship highlights the transformative potential of digital platforms for language preservation and revitalisation by enabling widespread documentation, dissemination, and everyday use of Indigenous languages. For example, Bosch and Griesel (2020) illustrate how initiatives such as the African Wordnet support systematic lexical documentation while enhancing the integration of African languages into broader global knowledge networks. Likewise, Ndukwani and Chikasha (2026) and Minhas and Salawu (2025) show that social media has become an important site for linguistic interaction, where speakers engage in creative language practices that inspire revitalisation and intergenerational continuity. These developments demonstrate that digital environments now constitute central components of the evolving linguistic ecologies in Africa. At the same time, scholars working within decolonial frameworks argue that technological innovation alone cannot guarantee meaningful linguistic regeneration; rather, it must be accompanied by a fundamental reconfiguration of power in knowledge production. Molale and Motsamai (2025), for example, show how Indigenous-language radio functions as a form of epistemic resistance, challenging entrenched colonial hierarchies and advancing Indigenous Knowledge Systems. Similarly, Agyemang and Kuntah (2024) highlight the role of Indigenous-language films in preserving cultural narratives, fostering collective memory, and transmitting intergenerational knowledge. These studies collectively underscore the importance of media as a crucial site of decolonial engagement, cultural affirmation, and linguistic sustainability.

Despite these promising developments, significant structural challenges persist. Limited access to digital infrastructure, insufficient funding, and low levels of digital literacy continue to hinder the scalability and effectiveness of language revitalisation initiatives (Galla, 2018; Mlambo & Matfunjwa, 2025). Moreover, the dominance of global languages in digital spaces, particularly in mainstream social media, machine translation tools, and AI-driven communication, raises concerns about the future visibility and viability of less-resourced Indigenous languages, even within ostensibly multilingual digital platforms. This study responds to these complexities by examining how digital technologies, multilingual practices, and decolonial approaches converge in the reclamation of Indigenous knowledge in African contexts. Drawing on an integrated theoretical framework that combines decolonial theory, digital humanities, Indigenous Knowledge Systems, and sociolinguistics (language ecology), the study provides a comprehensive analysis of the opportunities, tensions, and limitations associated with digital language preservation. Through a systematic review and thematic synthesis of existing literature, the study aims to contribute to ongoing debates on multilingual futures, cultural sustainability, and the evolving ecologies of African languages in the digital age.

Literature Review

The rapid expansion of digital technologies has fundamentally reshaped the landscape of language use, knowledge production, and cultural transmission. Within African contexts, these developments have opened up new possibilities for reclaiming Indigenous knowledge systems and revitalising historically marginalised languages. This literature review synthesises existing scholarship at the intersection of digital innovation, multilingualism, decolonial theory, and language ecology, with a particular focus on African languages. It highlights emerging strategies for linguistic and epistemic recovery, while also critically engaging

with the structural and socio-cultural challenges that shape these processes in the digital age.

A central theme across the literature is the growing role of digital platforms in the preservation and revitalisation of Indigenous languages. Bosch and Griesel (2020) demonstrate how digital lexical databases, particularly the extension of African Wordnet for isiZulu, function as critical tools for documenting Indigenous knowledge systems and bridging lexical gaps between African languages and global lingua francas such as English. This work underscores the importance of computational linguistics in creating structured, accessible repositories of Indigenous knowledge. Complementing this approach, studies focusing on social media platforms reveal the dynamic, user-driven nature of digital language practices. Ndukwani and Chikasha (2026) and Minhas and Salawu (2025) show how platforms such as Facebook and X enable speakers to produce, circulate, and normalise Indigenous languages in everyday communication. These platforms, while informal, serve as powerful spaces for linguistic innovation, identity formation, and intergenerational knowledge transfer, thereby contributing to the evolving ecologies of African languages. Beyond preservation, digital and traditional media are increasingly recognised as sites of decolonial intervention. Molale and Motsamai (2025) illustrate how Setswana-language radio functions not merely as a communication tool but as an epistemic space that resists colonial language hierarchies. By privileging Indigenous languages in broadcasting, such media disrupt dominant linguistic ideologies and reassert the legitimacy of African epistemologies. Similarly, Agyemang and Kuntoh (2024) highlight the role of Indigenous-language films in cultural preservation and transmission. In the context of globalisation, these films offer counter-narratives that centre local knowledge systems, histories, and identities, thereby contributing to broader decolonial projects. Together, these studies position media, both digital

and analogue, as crucial instruments for reclaiming linguistic and cultural sovereignty.

The literature further emphasises the role of technology in fostering linguistic empowerment within Indigenous communities. Meighan (2021) argues that digital tools, including language-learning applications and online educational resources, facilitate not only language acquisition but also the preservation of cultural practices embedded in language use. This perspective aligns with Galla's (2018) assertion that technological empowerment requires not only access to digital tools but also the development of community-based capacities to use them effectively. Training initiatives and participatory approaches are thus essential for ensuring that Indigenous communities are not passive consumers of technology but active agents in the co-creation of digital linguistic resources. This emphasis on agency resonates strongly with decolonial frameworks, which advocate for the redistribution of epistemic authority and the recognition of Indigenous knowledge holders as central contributors to knowledge production. At the same time, the literature offers a nuanced account of the challenges and opportunities of digital language preservation. Outakoski et al. (2018) highlight the importance of community-driven initiatives in sustaining minority languages in their study of Sámi language use on social media. Their findings suggest that grassroots digital practices are often more responsive to local linguistic needs and cultural contexts than institutional interventions. However, similar studies in African contexts identify significant barriers, including limited access to technological infrastructure, insufficient funding, and a lack of awareness of available digital tools (Mlambo & Matfunjwa, 2025). These constraints underscore the uneven distribution of digital resources and the risk of reproducing existing inequalities within digital language ecologies. Consequently, while digital technologies offer transformative potential, their impact remains contingent on broader socio-economic and political conditions.

Despite the growing body of research in this field, several gaps remain. Notably, there is limited empirical evidence on the long-term effectiveness of digital language-learning tools in sustaining language proficiency and facilitating intergenerational transmission. While existing studies demonstrate increased visibility and usage of Indigenous languages online, questions persist regarding whether these practices translate into deeper linguistic competence. Additionally, the role of multilingual digital environments in fostering language diversity requires further exploration. Given the inherently multilingual nature of many African societies, understanding how digital platforms mediate interactions between multiple languages is crucial for developing inclusive language policies and technologies. Furthermore, there is a notable lack of research on integrating Indigenous knowledge systems with advanced digital tools, such as artificial intelligence and natural language processing. While initiatives like African Wordnet represent important steps in this direction, more work is needed to ensure that these technologies adequately capture the cultural and epistemic nuances of Indigenous languages. Equally important is the need for research that examines the socio-cultural impacts of digital language preservation initiatives. This includes exploring how digital engagement shapes identity, community cohesion, and perceptions of linguistic value within different social contexts.

In sum, the literature highlights the transformative potential of digital technologies in reclaiming Indigenous knowledge and revitalising African languages. Digital platforms, social media, and community-driven initiatives have emerged as powerful tools for linguistic preservation, innovation, and decolonial resistance. However, these opportunities are accompanied by significant challenges related to access, resource allocation, and community engagement. Addressing these challenges requires a multidisciplinary approach that integrates insights from sociolinguistics, digital

humanities, and decolonial theory. Future research should prioritise longitudinal studies, participatory methodologies, and the development of contextually relevant technological solutions to ensure the sustainability of Indigenous languages in an increasingly digital world. Building on the reviewed literature, several hypotheses can be advanced. It is plausible that digital platforms significantly enhance the preservation and revitalisation of African Indigenous languages, particularly when they support user-generated content and community participation. Similarly, community-driven digital initiatives are likely to be more effective in decolonising language practices than top-down approaches, given their responsiveness to local needs and contexts. The increasing use of social media may also positively correlate with the maintenance and revitalisation of Indigenous languages, as it facilitates everyday language use and visibility. Moreover, integrating Indigenous knowledge systems into digital platforms is expected to enhance cultural sustainability by embedding local epistemologies within technological frameworks. Finally, increased awareness of and access to human language technology tools are likely to drive their utilisation, thereby strengthening efforts to preserve and revitalise languages.

Theoretical framework

This study is grounded in an integrated theoretical framework that brings into dialogue decolonial theory, digital humanities, and sociolinguistics, particularly language ecology. These frameworks are selected because, when combined, they provide a comprehensive lens for examining the reclamation of Indigenous knowledge in a digital age, while accounting for power, technology, and the dynamic nature of multilingual language practices in African contexts. Rather than operating as isolated perspectives, these frameworks are mobilised in complementary, mutually reinforcing ways to capture the complexity of multilingual futures and decolonial possibilities. At the core of this framework

is decolonial theory, which provides the critical lens through which the historical and ongoing marginalisation of African languages and Indigenous knowledge systems is interrogated. Decolonial theory foregrounds the persistence of coloniality in language hierarchies, epistemic dominance, and knowledge production. Within this study, it is used to examine how digital platforms and media can function as sites of resistance against colonial linguistic norms. As demonstrated in prior studies, such as Molale and Motsamai (2025), Indigenous-language media (e.g., Setswana radio) can act as epistemic counter-spaces that challenge hegemonic language ideologies. In this regard, decolonial theory enables the study to critically assess whether digital interventions merely reproduce dominant structures or actively contribute to epistemic justice, linguistic sovereignty, and the revitalisation of Indigenous knowledge systems.

Complementing this perspective is the framework of digital humanities, which situates the use of digital technologies within broader processes of knowledge production, preservation, and dissemination. Digital humanities is particularly relevant for understanding how tools such as lexical databases, online archives, and social media platforms facilitate the documentation and circulation of Indigenous knowledge. Bosch and Griesel's (2020) work on the African Wordnet exemplifies how computational resources can bridge linguistic gaps, making Indigenous languages more visible and accessible within global knowledge systems. In this study, digital humanities provides the analytical tools to examine how technological infrastructures shape the representation, standardisation, and accessibility of African languages, as well as the extent to which these technologies are inclusive of Indigenous epistemologies. Importantly, this framework also allows for an interrogation of the digital divide and the uneven distribution of technological resources across communities.

The third pillar of the framework is sociolinguistics, with a specific focus on language ecology. This

perspective conceptualises languages as dynamic, interdependent systems that exist within broader social, cultural, and technological environments. It is particularly useful for analysing how African languages evolve within multilingual digital spaces and how they are maintained, transformed, or marginalised through everyday practices. Studies such as Ndukwani and Chikasha (2026) demonstrate how social media platforms serve as sites of linguistic negotiation, where speakers actively construct identities and sustain language use. By adopting a language ecology approach, this study examines how digital environments reshape the relationships between languages, users, and contexts, and how these interactions contribute to the resilience or vulnerability of Indigenous languages.

The integration of these three frameworks addresses key gaps identified in the literature, particularly the need for more holistic and interdisciplinary approaches. While decolonial theory critiques power and epistemic injustice, digital humanities offer insights into the technological mechanisms of knowledge preservation, and sociolinguistics accounts for the lived, everyday practices of language use. Together, they enable a nuanced understanding of how digital technologies can both enable and constrain the reclamation of Indigenous knowledge. This integrative approach also foregrounds the importance of community agency, recognising that sustainable language revitalisation is often driven by grassroots, community-led initiatives rather than top-down interventions. Furthermore, the framework is attentive to cultural sustainability, which intersects with all three perspectives. Cultural sustainability emphasises the need to preserve not only languages but also the cultural meanings, practices, and knowledge systems embedded within them. By situating digital language preservation within this broader context, the study acknowledges that language revitalisation is not merely a technical process but also a socio-cultural and political one.

This integrated theoretical framework provides a robust foundation for analysing the complex interplay between digital technologies, multilingual practices, and decolonial imperatives in African contexts. It enables the study to move beyond single-discipline explanations and instead offer a multidimensional account of how Indigenous knowledge can be reclaimed, sustained, and transformed in the digital age.

Methodology

This study adopted a qualitative desktop research design to examine the reclamation of Indigenous knowledge in the digital age, with a particular focus on multilingual futures, decolonial possibilities, and the evolving ecologies of African languages. Given the interdisciplinary and conceptual nature of the topic, desktop research, also known as secondary research, was appropriate, as it enabled a systematic engagement with existing scholarly work, policy documents, and digital resources. This approach allowed the study to synthesise diverse strands of knowledge while critically interrogating how digital technologies intersect with language preservation and Indigenous epistemologies.

Methodological approaches within the broader field of Indigenous knowledge reclamation are notably diverse, reflecting its interdisciplinary character. Existing studies employ qualitative, quantitative, mixed-methods, and digital humanities approaches to explore different dimensions of language preservation. This study drew on insights from these approaches while maintaining a qualitative, interpretive orientation. Qualitative methods are widely used to examine the socio-cultural and epistemic dimensions of language revitalisation. Molale and Motsamai (2025), for example, utilise qualitative content analysis to investigate how Setswana-language radio promotes Indigenous knowledge systems and challenges colonial language hierarchies. Similarly, Agyemang and Kuntoh (2024) employ systematic review and thematic analysis to assess the role of Indigenous-language films in cultural preservation. These approaches informed

the present study's reliance on thematic analysis as a key analytical tool. Additionally, digital humanities and corpus linguistic methods, as demonstrated by Bosch and Griesel (2020), introduce innovative techniques for documenting and analysing Indigenous languages through digital lexical databases. These methodological innovations illustrate how technology can be used not only as a subject of study but also as a research tool, expanding the scope and depth of linguistic inquiry.

Drawing on these methodological insights, the present study employed a systematic literature review strategy within an interpretivist paradigm. Data were sourced from peer-reviewed journal articles, academic books, conference proceedings, and relevant grey literature, including policy reports and digital repositories. Academic databases such as Google Scholar, Scopus, and Web of Science were utilised to identify relevant sources. A structured search strategy was implemented using keywords such as Indigenous knowledge, African languages, digital preservation, language revitalisation, multilingualism, and decolonial theory, combined through Boolean operators to ensure comprehensive coverage. To ensure the quality and relevance of the selected literature, clear inclusion and exclusion criteria were applied. Sources included in the study focused on indigenous knowledge systems, African languages, and the role of digital technologies in language preservation or knowledge dissemination. Preference was given to studies grounded in relevant theoretical frameworks such as decolonial theory, sociolinguistics, and digital humanities. Sources that lacked methodological rigour, fell outside the scope of the study, or were outdated and did not offer foundational insights were excluded.

The analysis of the selected literature was conducted through thematic analysis, which involved coding and categorising recurring patterns and concepts across studies. Key themes identified include digital preservation, decolonial media practices, technological empowerment, multilingual digital

environments, and challenges in language revitalisation. The analysis was both descriptive and interpretive. It summarised the main findings of the literature while also critically engaging with them through the lens of the study's integrated theoretical framework. This enabled a deeper understanding of how digital technologies both enable and constrain the reclamation of Indigenous knowledge. Importantly, the study also reflected on methodological innovations and challenges within the field. The increasing use of digital tools, such as social media analytics, online corpora, and lexical databases, represents a significant advancement in research on language preservation. However, scholars also highlight persistent challenges, including difficulties in accessing reliable data, limited technological infrastructure, and the need for meaningful community engagement. These challenges were critically examined in this study, particularly regarding the uneven distribution of digital resources across African contexts.

To enhance the trustworthiness and rigour of the research, the study employed source triangulation by drawing on a wide range of interdisciplinary literature. Transparency in the search strategy and selection process further enhanced the study's credibility and replicability. In addition, critical evaluation of sources ensured that the analysis was grounded in reliable and relevant scholarship. Ethically, the study adhered to principles of academic integrity and respect for indigenous knowledge systems. Although it did not involve human participants, care was taken to accurately represent the perspectives and contributions of indigenous communities as reflected in the literature, in line with decolonial commitments to epistemic justice.

Despite its strengths, the study has certain limitations. As a desktop-based investigation, it relies on existing literature and cannot capture real-time, community-level experiences. Furthermore, gaps in the existing research, particularly in underrepresented African contexts, may limit the

analysis's comprehensiveness. Nonetheless, by integrating diverse methodological insights and employing a systematic and theoretically informed approach, this study provides a robust and comprehensive examination of indigenous knowledge reclamation in the digital age.

Findings

The findings of this study are derived from a systematic synthesis of the reviewed literature, guided by the thematic areas identified in the methodology: digital preservation, decolonial media practices, technological empowerment, multilingual digital environments, and challenges in language revitalisation. Across these themes, the literature reveals a complex but largely optimistic picture of how digital technologies are reshaping the reclamation of Indigenous knowledge and the future of African languages, while also exposing persistent structural and epistemic constraints. Drawing on an integrated theoretical framework, decolonial theory, digital humanities, and sociolinguistics (language ecology), and informed by the diverse methodological approaches identified in the literature, the analysis reveals several interrelated patterns that illuminate both the transformative potential and the structural limitations of digital interventions in African language contexts.

Digital Preservation

The findings indicate that digital technologies are increasingly transforming the preservation of Indigenous knowledge and African languages. Studies such as those by Bosch and Griesel (2020) demonstrate that digital lexical databases, particularly the African Wordnet for isiZulu, offer structured, scalable platforms for documenting linguistic resources with greater complexity and precision. These databases not only preserve vocabulary but also encode semantic networks, phonological information, and lexical relations, making them invaluable for linguistic research, curriculum development, and emerging computational applications such as natural language processing and machine translation. Beyond formal

repositories, the literature also shows that participatory digital platforms, especially social media, significantly contribute to the real-time preservation of language practices. These interactive environments allow speakers to generate, circulate, and archive Indigenous language content as part of their everyday communication. This dual model of preservation, combining institutional digital collections with user-generated content, enhances both the authenticity and sustainability of revitalisation efforts. It ensures that languages are not only documented as static artefacts but also actively lived, reshaped, and adapted to contemporary sociocultural contexts. Additionally, the findings underscore that effective digital preservation extends beyond capturing linguistic structures to safeguarding the Indigenous knowledge systems encoded within language. This illustrates the need for culturally responsive digital tools that reflect Indigenous epistemologies rather than impose dominant linguistic or Western-centric frameworks. Thus, digital preservation is most impactful when it captures the intertwined structural, cultural, and epistemic dimensions of language.

Decolonial Media Practices

The literature strongly affirms that media platforms serve as important sites of decolonial engagement. Molale and Motsamai (2025) illustrate how Setswana-language radio functions as an epistemic space that counters colonial language hierarchies by privileging Indigenous languages in public discourse. Through this medium, Indigenous knowledge systems become legitimised, normalised, and circulated, reinforcing linguistic pride and cultural identity. Similarly, Agyemang and Kuntoh (2024) highlight the role of Indigenous-language films in preserving cultural narratives, documenting oral traditions, and fostering intergenerational knowledge transmission. Such films operate as repositories of collective memory, enabling communities to maintain cultural coherence in the face of globalising cultural pressures. Their

multimodal nature, combining language, imagery, sound, and embodied storytelling, makes them especially effective for communicating complex cultural knowledge. Strengthening this theme, the analysis suggests that decolonial media practices are most impactful when grounded in local communities and community-driven. Rather than merely increasing the presence of Indigenous languages in media spaces, these practices actively challenge dominant epistemologies, redistribute linguistic authority, and create alternative avenues of knowledge production. Media thus emerges not simply as a channel of communication but as a powerful mechanism for epistemic transformation, cultural reclamation, and sociolinguistic empowerment.

Technological Empowerment

The findings highlight technological empowerment as a critical factor in effective digital language revitalisation. Meighan (2021) emphasises that digital tools, including language-learning applications, virtual dictionaries, online archives, and multimedia platforms, provide accessible and flexible opportunities for linguistic engagement. These tools allow users to interact with their languages through interactive, personalised, and context-sensitive formats, thereby strengthening both linguistic proficiency and cultural awareness. However, Galla (2018) makes clear that access to technology alone is insufficient for meaningful empowerment. Capacity-building initiatives, such as digital literacy training, community workshops, and locally responsive support structures, are necessary to ensure that communities can effectively utilise and sustain digital resources. Without such interventions, the potential of digital tools remains largely underleveraged, especially in rural and low-resource contexts. Further reinforcing this finding, the literature suggests that technological empowerment must be understood as a function of agency rather than solely of infrastructure. When communities are actively involved in the design, implementation, and ongoing management of digital

initiatives, they are more likely to adapt, sustain, and innovate within these systems. This emphasis on ownership and participation aligns with decolonial principles of shifting control from external institutions to local communities. Thus, technological empowerment encompasses access, capacity, agency, and long-term community stewardship.

Multilingual Digital Environments

The emergence of multilingual digital environments represents a significant transformation in the ecology of African languages. Ndukwani and Chikasha (2026) demonstrate that social media platforms enhance the ethnolinguistic vitality of Xitsonga by increasing its visibility, legitimising its public use, and creating informal spaces for communication and cultural expression. Likewise, Minhas and Salawu (2025) show that digital platforms offer important avenues for promoting languages such as Punjabi and Setswana, enabling transnational communities to maintain linguistic ties and cultural continuity. These environments support dynamic linguistic practices, including code-switching, translanguaging, and hybrid language forms, that reflect the fluid multilingualism characteristic of African societies. Such practices contribute to the adaptability and resilience of Indigenous languages by allowing speakers to negotiate identity and meaning across linguistic boundaries. However, the findings also reveal that multilingual digital spaces are shaped by unequal power dynamics. Dominant global languages, particularly English, continue to structure digital communication norms, platform design, and algorithmic visibility. This can marginalise less-resourced languages and limit their digital presence. Strengthening this analysis, the study finds that sustaining multilingual digital ecologies requires intentional interventions, including the development of supportive language technologies, multilingual interface designs, and language-inclusive policies. Without such efforts, digital environments risk

reproducing existing linguistic hierarchies rather than transforming them.

Challenges in Language Revitalisation

Despite the opportunities presented by digital technologies, the literature identifies several persistent challenges that impede the success of language revitalisation initiatives. Galla (2018) and Mlambo and Matfunjwa (2025) highlight barriers such as limited internet access, inadequate digital infrastructure, insufficient funding, and low awareness of existing digital tools. These obstacles disproportionately affect marginalised and rural communities, limiting their participation in digital language initiatives. Additionally, the findings reveal a notable lack of longitudinal research assessing the long-term impacts of digital preservation efforts. While there is growing evidence of increased language visibility and online usage, it remains unclear whether these outcomes translate into sustained proficiency, increased intergenerational transmission, or shifts in language attitudes. This gap complicates efforts to evaluate the effectiveness and scalability of digital interventions. Strengthening this theme, the analysis suggests that challenges are not only technical but also socio-cultural and political. Factors such as language prestige, policy commitment, community motivation, and broader socio-economic conditions significantly influence revitalisation outcomes. Addressing these challenges requires a holistic approach that integrates technological innovation with policy reform, community engagement, educational strategies, and culturally grounded methodologies.

Discussion

The findings of this study, when situated within broader scholarly discourse, underscore the transformative yet uneven role of digital technologies in the reclamation of Indigenous knowledge and the revitalisation of African languages. Existing literature consistently demonstrates that digital platforms are not neutral infrastructures; rather, they are embedded in socio-political, cultural, and epistemic systems that

influence whose knowledge is validated, which languages gain visibility, and how linguistic resources circulate. The interplay between technology, power, and knowledge, therefore, constitutes a central axis of analysis in understanding the digital futures of African languages.

From a digital preservation perspective, Bosch and Griesel (2020) show that digital lexical databases such as the African Wordnet form critical linguistic infrastructure, enabling the systematic documentation and computational modelling of Indigenous languages. These tools not only support linguistic research but also facilitate the integration of African languages into natural language processing systems, spell checkers, translation tools, and other digital applications. However, as Meighan (2021) cautions, the long-term relevance of such tools depends on their accessibility, cultural relevance, and resonance with community needs. Preservation efforts that fail to engage users meaningfully risk producing static, institutional repositories that do not translate into active language use or intergenerational knowledge transfer.

Decolonial media practices emerged in the findings as particularly powerful in challenging entrenched linguistic hierarchies. Molale and Motsamai's (2025) work on Setswana-language radio illustrates how Indigenous-language broadcasting functions not merely as a communication tool but as an epistemic intervention that reclaims public discursive space for marginalised knowledges. Similarly, Agyemang and Kuntoh (2024) demonstrate that Indigenous-language films serve as cultural archives that capture local narratives, oral traditions, and communal memory. These developments resonate with wider decolonial scholarship, which calls for the centring of Indigenous epistemologies and the refusal of colonial linguistic dominance. Importantly, such media practices highlight that decolonisation is enacted not only through theoretical critique but through everyday cultural production and linguistic affirmation.

Technological empowerment, another key theme, reveals a critical tension between access and agency. While digital platforms offer unprecedented opportunities for learning, preservation, and communication, Galla (2018) emphasises that communities can only benefit from these opportunities when they possess the digital literacy, technical skills, and infrastructural support required to engage meaningfully with technology. Meighan (2021) further argues that technological tools must be embedded within culturally responsive pedagogical frameworks to support authentic linguistic engagement. These insights collectively suggest that empowerment extends beyond mere access to digital resources; it requires that communities exercise ownership, control, and creative agency over their linguistic and cultural futures.

The dynamics of multilingual digital environments add both complexity and opportunity to the linguistic landscape. As Ndukwani and Chikasha (2026) illustrate, social media platforms enhance the ethnolinguistic vitality of languages such as Xitsonga by facilitating informal communication, identity performance, and community cohesion. Likewise, Minhas and Salawu (2025) demonstrate that digital platforms can amplify the visibility of minoritised languages across transnational networks. Yet these promising developments coexist with the dominance of global languages, particularly English, which shape algorithmic visibility, platform interfaces, and user norms. This duality reflects broader principles of language ecology, in which languages interact within structures of power, prestige, and resource distribution. Sustaining Indigenous languages in digital contexts, therefore, requires intentional initiatives that promote linguistic diversity, challenge entrenched hierarchies, and support inclusive language technologies.

Finally, the challenges identified across the literature highlight the structural constraints that limit the transformative potential of digital interventions. As noted by Galla (2018) and Mlambo and Matfunjwa

(2025), limited infrastructure, inadequate funding, low digital awareness, and insufficient institutional support impede the scalability of revitalisation initiatives. These challenges are rooted in wider socio-economic inequalities, underscoring that digital revitalisation cannot be divorced from questions of development, policy, and resource distribution. The absence of longitudinal research further complicates understandings of impact, raising questions about whether digital revitalisation efforts lead to sustained language transmission, improved proficiency, or enhanced cultural continuity.

The findings suggest that reclaiming Indigenous knowledge in the digital age requires a holistic, integrated approach, one that combines technological innovation with decolonial epistemic shifts, community-driven participation, and supportive policy environments. As highlighted by scholars such as Molale and Motsamai (2025) and Galla (2018), digital tools are most effective when grounded in local contexts, driven by community agency, and aligned with Indigenous ways of knowing. Only through such integrated approaches can digital technologies contribute meaningfully to the revitalisation of African languages and the broader reclamation of Indigenous knowledge systems.

Conclusion

This study has examined the role of digital technologies in reclaiming Indigenous knowledge and revitalising African languages through an integrated framework that combines decolonial theory, digital humanities, and sociolinguistics. The findings show that digital platforms, media practices, and technological innovations offer significant opportunities for linguistic and cultural renewal. Digital lexical databases such as the African Wordnet (Bosch & Griesel, 2020), social media spaces for everyday linguistic engagement (Ndukwani & Chikasha, 2026; Minhas & Salawu, 2025), and Indigenous-language media formats including radio and film (Molale & Motsamai, 2025; Agyemang &

Kuntoh, 2024) illustrate the expanding landscape of digital tools that support language documentation, visibility, and intergenerational knowledge transmission. Together, these interventions highlight the potential of digital technologies to reconfigure linguistic ecologies and create new avenues for the preservation and revitalisation of Indigenous knowledge systems.

However, the study also reveals persistent challenges that must be addressed to fully realise this potential. Issues of digital access, technical capacity, and resource allocation remain significant barriers, particularly in marginalised and under-resourced contexts (Galla, 2018; Mlambo & Matfunjwa, 2025). Additionally, the dominance of global languages, especially English, continues to shape digital communication norms and platform design, often reinforcing linguistic hierarchies and limiting the visibility of less-resourced Indigenous languages. Crucially, the analysis underscores that successful language revitalisation extends beyond technological innovation. It requires a decolonial orientation that centres community agency, cultural relevance, and epistemic justice in digital initiatives. As the literature indicates, community-driven and contextually grounded approaches are more likely to be sustainable, impactful, and aligned with the lived realities of language users.

In conclusion, reclaiming Indigenous knowledge in the digital age is a complex, iterative process that necessitates interdisciplinary collaboration, supportive policy frameworks, and long-term community engagement. Future research should prioritise longitudinal studies to evaluate the enduring impacts of digital revitalisation efforts, as well as the design of culturally responsive technologies that reflect the linguistic diversity and epistemic richness of African communities. Addressing these challenges will help cultivate more inclusive and equitable digital language ecologies that support the flourishing of Indigenous knowledge systems in the 21st century and beyond.

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