

Nigerian Languages in the Digital Era: Challenges and Opportunities

Ihuoma I. Akinremi
University of Jos

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Abstract

The UNESCO Ad-Hoc Expert Group on Endangered Languages (UNESCO, 2003) notes that the capacity of a language to readily expand into new media, including broadcast media and the Internet, is a critical parameter for assessing its vitality. It notes further that this capacity usually serves “only to expand the scope and power of the dominant language at the expense of endangered languages” (p. 11). Nigerian languages, in general, have struggled to secure a place in the digital space and, for most of them, the “response to new domains and media” (UNESCO, 2003, p. 17) is slow or inexistent. This paper explores the challenges and opportunities the digital age presents for Nigeria’s indigenous languages. It first reviews the current state of Nigerian languages in the digital era, and then identifies digital tools and resources that are available for Nigerian languages. Thereafter, it identifies the challenges to integrating Nigerian languages into the digital ecosystem and then highlights the potential and opportunities that digital tools and resources offer to Nigerian languages in a rapidly globalising world. It then proffers suggestions and recommendations for positioning Nigerian languages to take advantage of opportunities in the digital era.

Keywords: *Nigerian languages, digital era, endangered languages, resources, challenges*

1. Introduction: The State of Nigerian Languages in the Digital Era

The challenges that the over 500 indigenous Nigerian languages grapple with are well documented, including marginalisation in Nigeria’s education system, weak implementation of policy frameworks, such as the National Policy on Education and the National Language Policy, lack of resources for teacher training and instructional materials, etc. The effects of this state of affairs include endangerment, cultural erosion, and shrinking intergenerational transmission (Aworinde, 2025; Bamgbose, 2016). Added to this state of affairs is the fact that most indigenous Nigerian languages are marginalised in the digital domain because of their low level of usage and because they do not readily expand into the new media. This marginalisation reflects the fact that advancements in digital technology have divided the world’s languages into two, namely:

- (i) high-resource languages, like English, German, French, Spanish, Chinese, Japanese, which boast of an abundance of resources such as books, movies, and digital texts, and the availability of a large quantity of quality speech resources, and
- (ii) low-resource languages, like African (including Nigerian) languages, which are less studied, resource-scarce, and less digitised, among other denominators (Nwafor & Nguyen, 2025).

Imam, Sani, Gete, Ahamed, Ahmad, Abdulmumin, Yimam, Bello and Muhammad (2025) describe the marginalisation of African languages as a situation of “digital exclusion”, which restricts access to vital technologies. Below are areas that illustrate the digital marginalisation of African and Nigerian languages and the gap in the development of vital digital technologies and resources in these languages.

i. Machine Translation. Only a select few languages of the world have benefitted from the bulk of the improvements made in the last decade in machine translation, leaving the majority of languages, including Nigerian languages, largely underrepresented (Nwafor & Nguyen, 2025).

ii. Automatic Speech Recognition. There is generally a lack or unavailability of research and resources in Automatic Speech Recognition (ASR) for African languages (Dossou & Emezue, 2021). These languages have remained significantly sidelined in both research and practical applications in ASR technologies (Imam et al, 2025).

iii. Natural Language Processing (NLP). Nigerian languages remain significantly underrepresented in current language processing models. Hussen, Sewunetie, Ayele, Imam, Alemu, Muhammad and Yimam (2025) note that the advancements and benefits of Large Language Models (LLMs), the core technology that powers applications like ChatGPT developed by OpenAI, have primarily concentrated on high-resource languages and are largely absent for at least 98% of the over 2000 languages of Africa. In addition, only about 42 African languages have any support in existing LLMs, Small Language Models (SLMs), or Specialised Small Language Models (SSLMs), primarily those with large speaker populations or official status. This is in spite of the fact that African languages account for approximately 28.57% of the 7,000 languages of the world and are spoken by hundreds of millions of people across the continent. Even Hausa, which is spoken by almost fifty million people in West and Central Africa

(Abubakar, Gupta, & Vekkot, 2024) and is the language with the largest population of speakers in Nigeria, has the status of a low-resource language in terms of representation in LLMs (Muhammad, Ahmad, Abdulmumin, Lawan, Sani, Imam, Aliyu, Sani, Umar, Gwadabe, Church & Marivate, 2025).

iv. Social Media Platforms: Nigerian languages, including Hausa, Igbo and Yoruba, which are spoken by tens of millions of people, have a limited presence on social media platforms such as Facebook, Twitter, and WhatsApp. These platforms primarily operate in English, leaving minimal support for Nigerian languages (Ezeamaluwue, Akinremi & Danjuma, 2023; Yusuff, Adétomiwá & Adédèjì, 2020).

In spite of these gaps in the development of digital technologies, digital resources are available for some Nigerian languages, as detailed in the next section.

2. Digital Resources for Nigerian Languages

Researchers have explored the potential of technology for the advancement of Nigerian languages in the digital era. Aworinde (2025) has classified the different technologies that can be employed for indigenous language teaching and revitalisation into the following:

1. Interactive Language Learning Apps (like Duolingo or U-Dictionary).
2. Audio-visual content such as animated cartoons, nursery rhymes and storybooks voiced in indigenous languages, YouTube Channels targeting kids aged 3-10.
3. Gamification and Augmented reality/virtual reality (AR/VR) to teach basic vocabulary through real-life scenarios.
4. AI Natural Language Processing (NLP) e.g. Chatbots that converse in native languages to support home learning; text-to-speech tools for pronunciation assistance.

Likewise, Nwankwegu (2021) has identified the digital technologies that can be leveraged for the development of the Igbo language into the following types:

1. Online platforms, including language learning websites, with resources such as digital dictionaries and translation tools which provide quick access to word meanings, synonyms, and usage examples.
2. Mobile Applications, including language learning apps and interactive storytelling apps.

3. Social media and online communities, including YouTube Channels, podcasts, Facebook, and WhatsApp.
4. E-learning and Distance Education, including online courses that use platforms like Zoom, Microsoft Teams, and Google Meet, and webinars on cultural topics, such as traditions, history, and cuisine.
5. Artificial Intelligence and Machine Learning, including chatbots and virtual assistants, and speech recognition and synthesis technologies.

Web searches show that some of the above-named resources and tools are available for the three major languages of Nigeria, although in limited measure. For Hausa, there is a growing body of digital resources available for the language, including:

- i. Lexical databases: e.g., Hausa WordNet, Archive.org, Rogerblench.info, etc.
- ii. Online Dictionaries: e.g., <http://www.woaka.com/app>, <http://maguzawa.dyndns.ws/>, Google Books, etc.
- iii. Online platforms offering Hausa grammars and courses: e.g., FSI Languages Courses, Learn101, Aflang.humnet.ucla.edu, Google Books, Gloss.dliflc.edu, ILanguages, etc.
- iv. Interactive Learning Systems.
- v. Podcasts and Audiobooks: e.g., Forvo, etc.
- vi. Tools for sentiment analysis (cf. Sani, Ahmad, & Abdulazeez, 2022).
- vii. Adaptation of Ajamī Arabi script for a variety of uses, including the development of fonts and smartphone applications.

For Igbo, there are resources such as:

- i. Mobile apps for language learning: e.g., Omenka (<https://omenkaapp.com/>), Igbo101, Speak Igbo, Igbo Alphabet, iSabi™ Igbo+
- ii. Online Platforms (with a variety of digital Igbo resources): e.g., EziNaUlo (<https://ezinaulo.com/igbo-learning-resources/>), Learn Igbo By Conversation, Forvo, Igbo Amaka Cultural Institute.
- iii. Online dictionaries: e.g., Nkowaokwu.com, Igbo Dictionary & Translator, Igbo Dictionary and Corpus Project.
- iv. Interactive platforms offering Igbo language courses.

- v. YouTube channels for language practice and cultural exchange: e.g., The Medicine Shell.
- vi. Social media channels.

For Yoruba, available resources include:

- i. Lexical databases: e.g., Digital Yoruba Corpus, Yoruba Web corpus (YorubaWaC).
- ii. Yoruba learning websites: e.g., NKENNE, Memrise, Live Lingua, Drops, Yoruba Name Project, Yorùbá Yé Mi Textbook, YorubaLessons.com, MyLanguages.org, Lesson notes in Yoruba.
- iii. YouTube Channels for language practice and cultural exchange: e.g., Yoruba101 (by Genii Games), Nalingo Naija, Yorùbá Lessons with Adérónké, Másòyìnbó, Blessing Kayode: (@DiamanteBox), Discover Yoruba Podcast.
- iv. Language learning apps: e.g., uTalk, Grammarific: Yoruba Grammar, Learn Yorùbá Online.
- v. Podcasts: Podcast: e.g., I Speak Yoruba Too – Speak Real Yoruba.
- vi. Social Media platforms: e.g., Whatsapp, Facebook.
- vii. Online Tutors: e.g., Websites like Preply and italki

Apart from the three major languages, there are digital resources for some other Nigerian languages. An example is the Olùkùmi talking dictionary (Anderson, Arokoyo & Harrison, 2015). The bottom line is that Nigerian languages are at different levels in the development of digital tools and resources. As noted by Udoh (2021), digital tools are needed for work on different aspects of Nigerian languages, both software and hardware, and for different activities – surveys, fieldwork, documentation, archiving, etc. The next segment highlights challenges to the development of digital tools and resources for Nigerian languages.

3. Challenges to the Digital Integration of Nigerian Languages

Several factors are responsible for the underdevelopment of Nigerian languages in the digital sphere. Some of them are detailed below.

- i. The Digital Divide. Speakers of the indigenous Nigerian languages, most of who live in

rural areas, are often excluded from digital advancements; they lack access to smartphones, internet services, and the necessary digital literacy to engage with digital content in their native languages (Aworinde, 2025; Nwankwegu, 2021). In contrast, people in metropolitan areas have more exposure to technology, albeit in global languages (predominantly English). The digital divide and the associated technological barriers restrict the availability of online resources and platforms to a substantial portion of the population of the speakers of Nigerian languages (Nwankwegu, 2021).

ii. A Gap in Research Contributions. Although research into developing digital tools for

Nigerian languages is increasing, it is still in its infancy and a lot remains to be done. There is generally very little comparable research in NLP for African languages (Dossou & Emezue, 2021), and research on voice recognition for African languages is limited (Abubakar, Gupta, & Vekkot, 2024). Muhammad et al (2025) have observed for Hausa that although it is a well-documented language, it remains underrepresented in NLP research, having received relatively little attention and lacking open-source corpora that can be used for many NLP tasks. Furthermore, the few available Hausa corpora are dispersed and difficult to access.

iii. Infrastructural Challenges and High Computational Costs. There is a general lack of the

infrastructure required for the development of speech and language technologies for African languages (Abate, Tachbelie, & Schultz, 2020; Abubakar et al, 2024; Hussen et al, 2025).

iv. Severe Data Scarcity. The gap in technological development has led to a data gap in

Nigerian languages, i.e. a severe lack of digital speech and language resources (Abate et al, 2020; Hussen et al, 2025; Imam et al, 2025; Muhammad et al, 2025). Hussen et al (2025) note that existing models of NLP, especially LLMs, require vast amounts of training data and infrastructure, and the scarcity of speech data poses substantial barriers to NLP development for African languages, adding that benchmark availability is often sparse and unevenly distributed across tasks. There is also a scarcity of digital resources for voice recognition training and adaptation for African languages (Abubakar et al, 2024).

The data gap makes it difficult for speakers of Nigerian languages to interact with digital content in their mother tongues. An example is given by Ekekwe (2025)

from the field of AI data annotation. The absence of computing infrastructure, like scaled data systems, for Nigerian languages prevents AI models from effectively serving the vast population that primarily communicates in these languages. Since AI models are trained predominantly on English data, they struggle to perform optimally when applied to contexts where Nigerian languages are prevalent. Muhammad et al (2025) also note the limited open-source datasets and inadequate model representation for Hausa. The consequence of this data gap and the inability of speakers of Nigerian languages to interact with mother-tongue based digital content is language attrition, especially among younger generations who are more likely to adopt dominant languages, like English.

v. Lack of Language-Specific Digital Resources and Tools (cf. Nwankwegu, 2021, for Igbo). A study by Iloene, Iloene, Mbah, and Mbah (2013) notes that even where new technologies are available for the teaching of a Nigerian language, like Igbo, and teachers have skills in the use of these facilities, they make limited use of them because some symbols used in the language are not available by default on the standard keyboard, neither are there software programmes (system and application) that support easy use of indigenous languages on the computer and Internet.

vi. Unique Properties of African Languages. The diacritical, morphological and tonal complexities of some African languages affect text-based NLP (Dossou & Emezue, 2021; Hussen et al, 2025; Imam et al, 2025). For example, errors found in Speech-to-Text corpora and Data Preprocessing involving Igbo were found to be mostly due to the omission or mismatch of diacritics (Dossou & Emezue, 2021). Similarly, the use of diacritics above alphabetical characters to convey phonological information was found to limit the effectiveness of a proposed model of speech recognition technology in Hausa (Abubakar, Gupta, & Vekkot, 2024). In addition, one of the challenges in the development of the Digital Yoruba Corpus was the non-availability of digital text with diacritics (Fagbolu, Ojoawo, Ajibade & Alese, 2015). Elsewhere in Africa, the morphological complexity of some Ethiopian languages were found to result in very high Out Of Vocabulary (OOV) rates (Abate et al, 2020).

It has also been noted that the preservation of culture and the digitisation and integration of rich oral traditions such as storytelling and folklore into modern digital formats, while maintaining their authenticity, poses a unique challenge (cf. Nwankwegu, 2021, for Igbo). This should also be true for other Nigerian languages.

vii. Lack of Standardised Orthographies. There are many underdeveloped

languages in Nigeria which do not have orthographies (Udoh, 2021). Some other languages have orthographies that are not generally acceptable or standardised. In the development of digital resources for Nigerian languages, inconsistent orthographies is a challenge (Aworinde, 2025; Nwankwegu, 2021). Hussien et al (2025) note that a unified approach to orthography and language coding is essential for ensuring the effective digital integration of Nigerian languages.

viii. Financial Constraints. Securing adequate funding and sponsorship for language technology can be challenging (Nwamini, Nwankwegu, Nwode, Nwofe & Ogbonna, 2025; Nwankwegu, 2021). Many initiatives rely on grants, donations, or government support, which may not always be sufficient or consistent.

ix. Cultural and Societal Factors: These include attitude to the learning of Nigerian languages. The learning of global languages like English or French is often prioritised in Nigeria, as they are viewed as more beneficial for economic opportunities than indigenous languages (Nwankwegu, 2021). Furthermore, ambivalent and negative attitudes have direct consequences for the use of Nigerian languages in digital spaces (Ezeamalu et al, 2023). This state of affairs negatively affects the development of digital resources for these languages.

x. Lack of Collaboration and Synergy among Stakeholders. Using Igbo as an illustration, Nwankwegu (2021) has noted the roles of various stakeholders in fostering a digitally-empowered ecosystem that supports Nigerian languages. Educational institutions have the responsibility of integrating indigenous language courses into formal education supported by state-of-the-art digital tools; technology companies contribute technical expertise to develop innovative language learning applications and platforms; governments and non-profits provide funding, resources, and policy support, while cultural organisations and community groups ensure cultural authenticity and community engagement. While efforts have been made in these directions, stakeholders have tended to work in isolation from one another and there has been no synergy in making the various efforts to be channelled towards targeted outputs and timelines.

xi. Lack of Incentive: This includes lack of incentive for developers to localise digital content. Aworinde (2025) also notes that a lack of teacher incentives and lack of recognition for indigenous language instruction are challenges to technology-based language learning in Nigeria.

xii. Lack of Knowledge of Available Technologies. A real challenge to the

development of Nigerian languages in the digital sphere is that language practitioners tend to remain stagnant. They rarely invest time and effort into knowledge about digital developments and their benefits for Nigerian languages, neither do they develop capacity in using digital tools and resources.

4. Opportunities Available for Nigerian Languages in the Digital Era

The digital era offers new possibilities for Nigerian languages and what language practitioners can do with them. The new possibilities are in areas like language learning and cultural engagement, language development and promotion, language and cultural preservation and revitalisation (see Nwankwegu, 2021, for Igbo). One way to understand the value of such new opportunities is to consider the consequences of overlooking them, i.e. the adverse effects of failure in the preservation and intergenerational transmission of indigenous Nigerian languages because of the non-utilisation of digital technology. The following opportunities available for Nigerian languages in the digital age should be understood in the light of such considerations.

i. Language Learning and Cultural Engagement. Research has shown that digital tools enhance language learning and cultural engagement. They ease the acquisition of relevant literacy skills and facilitate proficiency in indigenous languages (Okoye, 2022; Ukaegbu & Obiagboso, 2025). For example, cell phones enhance the writing skills of Nigerian children in indigenous languages, as they learn how to write text messages in these languages. Language learning apps on cell phones offer learners the opportunity to link oral communication with written communication, thus improving their speaking, writing and reading skills in the indigenous language (Eze, 2023).

Technology also enhances both the teaching and learning of indigenous languages; it has been shown to enhance indigenous language learning by both L1 and L2 learners in the university (Eze, 2023). For cultural engagement, social media platforms, in particular, offer powerful tools for sharing content, connecting communities, and fostering language use (Nwankwegu, 2021).

ii. Language and Culture Development and Promotion. The digital revolution can strengthen the use of languages among native speakers, and their transmission to new generations of learners (Nwankwegu, 2021). It also provides the opportunity for indigenous languages to become useful in science and technology, which arouses the interest of students to proudly study them in the university. This makes the languages

more productive, versed and globalised (Eze, 2023). Thus, digital technology can be strategically employed to check the lack of intergenerational transmission that is a major challenge for most of Nigerian languages.

This is also true for the promotion of Nigerian cultures. It has been noted for Igbo that digitising traditional media of communication is a means of projecting Igbo culture of communication for the (younger and) unborn generations in the era of digital media (Nwamini et al, 2025). Thus, instead of Nigerian languages and cultures to continue in the mould of “undeveloped” or “non-global”, digital technology can be harnessed to develop and promote them. Nigerian languages can be made accessible, viable and more attractive for native and non-native speakers, tourists and NYSC members (Fagbolu, Ojoawo, Ajibade & Alese, 2015; Ukaegbu & Obiagboso, 2025).

iii. Language and Culture Preservation and Revitalisation. One possibility offered by digital technology is the preservation of linguistic and cultural heritage. Udoh (2023) notes the role of social media platforms in providing critical channels for sharing information and providing preservable audio, multimedia, and text data. Social media platforms like YouTube, WhatsApp, Instagram, Tik Tok, Snapchat, Reddit, Pinterest, Twitter, LinkedIn have billions of users. They generate indigenous language texts, recordings and print data that can preserve and disseminate indigenous languages.

Language preservation is also possible through digital archives; “... online archives and databases present significant opportunities to document and preserve Nigerian languages,” especially the endangered languages (Udoh, 2023). The digitisation of historical and cultural texts in Nigerian languages would not only provide educational resources for speakers and ensure that future generations have access to their linguistic heritage, but would also make Nigerian languages accessible to a broader audience by facilitating their integration into digital platforms.

Digital technology also has the capacity of revitalising indigenous Nigerian languages if they can be equipped like high-resource languages (Eze, 2023, for Igbo). Aworinde (2025) notes that leveraging digital technology can help Nigerian languages shift from endangerment to empowerment. He also notes the potential of gamification of online resources to revitalise interest in Nigerian languages among children and to attract L2 learners. In other words, the typical elements of game playing and interaction can be leveraged in online resources to combat the endangerment and lack of intergenerational transmission of Nigerian languages. Interactive language learning applications, like

Duolingo, are mainly used by adults, indicating that gamification is also effective for adult language learning.

iv. Social and Economic Advantages. There are also social and economic advantages to be gained from the digital integration of Nigerian languages. With regard to the development of AI models that understand and process information in Nigerian languages, Ekekwe (2025) notes that the integration of AI with local languages would significantly expand market reach, especially to communities that are not fully proficient in English. This would unlock substantial economic and social opportunities by filling the market void created by the absence of scaled data systems for Nigerian languages. It would offer substantial competitive advantages for businesses, researchers and innovators, drive business growth and empower communities that have historically been underserved. The author notes that this would have profound implications for various sectors, including research labs, big tech companies, local consumer goods companies, open markets, and video shopping platforms, all seeking to connect with Nigerian communities in their preferred languages. These sectors can leverage localised AI to enhance consumer engagement and reach.

5. Solutions and Recommendations

The study recommends the following steps to address the challenges noted above so as to better position Nigerian languages to leverage the benefits of the digital age. It is noted, however, that there is a need to analyse barriers to the digital integration of Nigerian languages and to identify practical, inclusive strategies (Imam et al, 2025). In addition, the combined effort of all stakeholders is necessary for addressing the challenges.

i. Development and standardisation of orthographies for all Nigerian languages. Highlighting the importance of orthography for underdeveloped Nigerian languages, Udoh (2021) describes it as the first step of development after the preliminary phonological description of a language. With an orthography, a literary tradition and other forms of empowerment can follow (Hussen et al, 2025). Thus, language standardisation and corpus development by the community are crucial for their integration into digital platforms and the development of resources for them.

ii. Improvement of the quality of digital data available for Nigerian languages. Hussen et al (2025) note the importance of promoting community-driven data collection,

standardising scripts, and expanding benchmarks across diverse tasks. Linguists have a vital role to play in ensuring that the quality of Nigerian language data provided for the digital space are both technically accurate and culturally authentic (Udoh, 2021; Aworinde, 2025). They also have a role to contribute to the development of systems like Google Translate by creating grammars and datasets for underrepresented languages (Arokoyo, 2025).

iii. Eliminating or, at least, reducing the digital divide. This requires solutions like expanding broadband infrastructure, providing low-cost devices, and securing diverse funding sources (Nwankwegu, 2021). The stakeholders in this regard need to wake up to this responsibility.

iv. Peculiarities of Nigerian languages. These need to be addressed in practical ways. Udoh (2023) recommends the creation of computer keyboards for Nigerian languages using a harmonised orthography with all the special letters in the different languages, instead of using the English keyboard. A similar view is expressed by Fagbolu, Ojoawo, Ajibade and Alese (2015), who suggest that the authorities vested with development of Information and Communication Technologies for languages in Nigeria need to present a request to the Unicode consortium so that the characters used in the orthographies of Nigerian languages would come as pre-composed characters. Dossou and Emezue (2021) also recommend that the linguistic complexities of African languages for text-based NLP would require careful speech interpretation, which could provide more intuition on how to deal with them.

v. Funding for language technology. Key players like the Linguistic Association of Nigeria must brainstorm and put in place practical strategies for securing institutional and government backing, with funding, resources, and inclusion of Nigerian languages in digital services, alongside fostering international collaborations. This would help to elevate Nigerian language representation in digital research (See Hussen et al, 2025).

vi. Systematic coordination of stakeholders' efforts. The need for increased collaboration between stakeholders, including researchers, educational institutions, tech experts and companies, governments, language enthusiasts, educators, and community groups in efforts to position Nigerian languages for vitality in the digital age cannot be overemphasised (Nwankwegu, 2021; Udoh, 2021). However, the additional step needed at this point is a systematic coordination of such efforts. Udoh (2021, 2023) has noted that research, documentation and development of digital tools have tended to be haphazard for Nigerian languages. Stakeholders have tended to work in isolation

without finding out what others are doing in different areas, comparing notes, brainstorming and planning strategies. Thus, there is a need for a more systematic team-oriented interdisciplinary approach to these issues to be put in place. Stakeholders must pull their efforts together in order to position Nigerian languages for vitality in the digital age. Advocacy in this area should be accompanied by practical action, which can be initiated by the Linguistic Association of Nigeria.

Aworinde (2025) has proposed the launch of a national digital repository of indigenous language resources. This study recommends that such an arrangement should have a structure that would enable the coordination of efforts being made in different parts of the country. Each State and Local Government Area should have a language digitisation committee with representatives to a larger national committee. The Linguistic Association of Nigeria is well positioned to champion such coordination efforts.

vii. Relevant stakeholders must ensure that new technologies are available and accessible to indigenous language teachers, and that they are enabled to build capacity in the requisite skills for using the new technologies.

viii. Nigerian linguists and other language practitioners must avail themselves of information about the availability of digital tools and resources and also develop capacity in utilising them. Thankfully, the current curriculum for the B.A. Linguistics programme in Nigerian Universities, which is contained in the Core Curriculum Minimum Academic Standards (CCMAS) recently introduced by the Nigerian Universities Commission (NUC), includes courses that can equip Nigerian graduates of Linguistics to be ICT-literate and to utilise the new technologies relevant to the discipline. In the 70% which constitutes the input of the NUC, there are courses such as Language Documentation, Language Pathologies, Disabilities and Dysfunction, Language Business, Nigerian Languages and National Development/SDGs, Digital Linguistics, Cognitive Linguistics, Computational Linguistics, New and Invented Languages, and Forensic Linguistics. These are new areas that had earlier been included in calls for the revision of the traditional Linguistics programme in Nigerian universities (see Udoh, 2021). Departments of Linguistics can also leverage their 30% input to introduce courses in other relevant areas.

In addition to revamping the curriculum, there is also the need to equip lecturers in departments of Linguistics so that they have the requisite capacity to produce graduates who would take the indigenous language to the next level in the digital age. Arokoyo (2025)

captured this necessity in her description of “the 21st Century linguist.” They have the core attribute of language technological proficiency and development; they leverage digital tools for research and engage with technologies like artificial intelligence and machine learning to process and analyse large linguistic datasets. In her words, the linguist of the 21st century is

a dynamic, interdisciplinary scholar who combines traditional linguistic expertise with modern tools and global awareness to address the complexities of language in a rapidly evolving world...Today’s linguist is not just a theorist, but a problem solver working in speech technology, translation services, language preservation, artificial intelligence, etc....The linguist of the 21st century is a versatile, innovative, and socially conscious professional, whose work transcends academia, addressing global challenges while respecting local realities. By combining traditional linguistic knowledge with modern technology and interdisciplinary collaboration, they play a pivotal role in preserving linguistic diversity, advancing communication technologies, and advocating for linguistic equity in an interconnected world. (Arokoyo, 2025, pp. 30, 33)

The challenge for Nigerian linguists is to take the action necessary to upgrade their capacity to function effectively as linguists in the digital age.

ix. Paradigm shift. There is a need for a paradigm shift in how Nigerian languages are taught in schools and universities. Nigerian languages cannot continue to be taught the way they were taught in the 1980s, 1990s and the early 2000s if their vitality is to be ensured.

6. Conclusion

This study has highlighted the prospects and opportunities available for Nigerian languages in the digital age. The challenges are enormous, but appropriate planning, funding and coordination of efforts being made by various stakeholders can yield the benefits accruable to the proper positioning of Nigerian languages in the digital sphere. There is no overemphasising the utmost importance of integrating Nigerian languages into the digital ecosystem in order to ensure their survival and relevance in the digital age. Practical action now needs to be taken by the relevant stakeholders.

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Ihuoma I. Akinremi
University of Jos