Artificial Intelligence in the Preservation of Igbo Folktales

Obasi, Benedeth Chibuzor
Department of General Studies, College of Education, Akwanga, Nasarawa State

Abstract
This research is interested in exploring the usefulness of artificial intelligence (AI) to cultural heritage, specifically focusing on the preservation and dissemination of Igbo folktales. The backdrop of diminishing awareness of Igbo folktales among the younger generation has been a concern to many researchers, who work towards revitalising indigenous languages. The paper highlights the rich cultural heritage of Igbo folktale and the contemporary status of the cultural narrative among the present generation of Igbo. The research problem focuses on the urgent need to recover, document and disseminate this rich cultural heritage and the esteemed need to harness technological advancement, specifically AI, to bridge the gap between traditional cultural practices and the younger generation. The paper uses a comprehensive literature review to examine existing methodologies for folktale preservation, the role of AI in cultural heritage conservation and the use of technology in disseminating knowledge. The theoretical framework used is the Technological Acceptance Model (TAM).

Keywords: Artificial intelligence, Folktales, Cultural heritage.

Introduction

The Igbo are an ethnic group, who are spread across thirteen states in Southern and North Central Nigeria. They are blessed and endowed with a rich cultural heritage. The importance of heritage to Igbo and Nigeria as a whole cannot be over emphasised. This is due to its economic, historical, and educational and research significance. Heritage is a cherished feature of a society passed down from generation to generation through conscious preservation. In other words, heritages are significant endowments emanating from man and nature. There are natural heritage and cultural heritage. Cultural heritages evolve from man's ingenious activities preserved and transmitted through oral traditions or in written concrete forms across generations of human societies.

Oral tradition is the body of information concerning history, culture and environment of a people at any given time and space. This information is often obtained through the words of mouth. Folktales are among the prominent Igbo cultural heritages that exist. Folktale is any short fictional story narrated orally to entertain and illustrate a lesson or wisdom, (See Nwaozuzu, 2006). Agwuna and Omale (2020), define folktale as an aspect of folklore usually composed of fictional tales or stories about animals or human beings involved in actions, activities and social instructions, which culminate in giving a moral bent to the tale.

In an African setting, parents, relations, siblings and members of the community participate in the education of the child. Everybody wants to see the child honest, hardworking, courageous, humble, preserving and of good reputation. Training a child is in a way that it involves a cooperative effort of the members of the community. Folktales are a reflection of the totality of the African socio-cultural existence. It is also central in the promotion and attainment of a harmonious relationship with people and the community. Folktale keeps the tradition of a people aglow by preserving the customary norms, moral and ethical values of the community. The tales are a rich way of preserving belief and values of the people. They

teach the Igbo people how to become a better person in the society through the rich moral lessons embedded in the folktales.

The degree to which societal norms, cultures and traditions have been eroding in the twenty-first century has paved way for the escalating flood of social vices. This prompted Obi (2016), to define Igbo cultural heritage as a vanishing identity. The Igbo folktales have been preserved through oral traditions, where the elders have been playing a crucial role in passing down the folktale through the adoption of storytelling in the family gathering. The increasing modernisation and urbanisation poses a threat to the Igbo cultural assets. In the present day, the youths have shown divergent behaviour towards folklore and this is due to lack of the awareness of the richness of its value. The task is to delve into the role of AI in the preservation of cultural knowledge and folklore culture among the youths and children. There is also the need to adopt AI to help in the preservation of folktales, hence making it available on different online platforms for the young population in the Igbo region for easy accessibility.

The relationship between AI and cultural heritage is a relatively new and evolving field, with many researchers and institutions contributing to the development. The early stage of the use of AI in cultural heritage was how AI could be used to analyse and understand large datasets of cultural artefacts and knowledge. As AI technologies matured, research centres, museums and cultural institutions show more interest in the use of AI for preservation and restoration. This has led to increased funding and support for research in this area.

AI is increasingly being used to simplify life, due to its ability to perform complex intellectual and repetitive processes. AI systems identify their environment, deal with what they identify, solve problems and act to make our daily lives easier (see Sachdeva, 2024). AI holds numerous possibilities in store for the future of education. It has the capacity to make education more accessible, appealing and personalized to individuals and culture needs as well as to make educational organisations more efficient (Luna, 2024).

However, the integration of AI in cultural heritage has with it some controversies. These debates are over the issues of authenticity, subjectivity, high economic investment, and interpretation biases of an AI empowered, or generated artwork. It is necessary to define the authenticity of a work of art (its meaning and requirement it needs) and include this ethical value and principle within a sector specific ethical framework for ethical AI in cultural heritage. Furthermore, if AI generated creative work is considered an artistic expression, the question remains the owner of the authorship. There is need for scientific community and government to develop new regulations and clarity on this issue (see Tribelli, Pansoni, Frontoni & Givanola, 2024). This paper aims at addressing such a gap by streamlining the design of an ethical framework for AI in Igbo folktales specifically. This proposes a call to action for documentation and digitalisation of Igbo folktales to improve the accessibility of the knowledge to the younger generation.

Concept of Folktale

Abrams (2004) defines folktales as short narratives in prose of unknown authorship, which has been transmitted orally, many of which eventually achieve written form. Baldick (2004) on the same note, views folktale as a story passed on by word of mouth rather than by writing and thus partly modified by successive retelling before being written or recorded. It is an unrealistic story of unknown authorship handed down orally for the purpose of entertaining the listeners or the audience in a particular community.

Mbah and Mbah (2007) explain that folktale is set in the imaginary world, known to be this world but divided into three spheres 'land of the Spirit', 'the land of the human' and 'the land of the animal'. They add that beyond these spheres is the fourth setting, which includes the whole universe. Characters in folktales include humans, animals, spirit beings and nature. These animals act and speak like humans that they symbolise while the natural objects are given the ability to speak, think and act like humans. Folktales are simply defined as unrealistic narratives handed down through oral tradition, which often portrays the philosophy and cultural values of a particular group of people.

The importance of folktale cannot be over emphasised and the concept cannot be complete without x-raying its numerous functions. Nyagu and Umezinwa (2018) state that folktales extol virtue but condemn vice. It is believed that the moral lessons found in the folktales would help to positively affect the life of the child.

They stress further that parents in the past engage the service of professional raconteurs to tell folktales to their children. Children trek to far away destinations to listen to folktales and in the end come home fulfilled and their character changed for the better because the folktales they listened to have impacted positively on their lives. Agwuna and Omale (2020) point out that folktales emphasise values, such as truthfulness, hard-work, respect, contentment, obedience, courage, determination, humility, fight for freedom, etc. It is very important that the young ones first read or listen to folk stories, which project good values and harbour central ethos of the society. Akporobaro (2009) agrees that folktales serve as a medium of illumination of the early child's mind and education. Agwuna and Omale add the points that folktales help in inculcating discipline, developing good sense of judgement and moral values, denouncing vices, shaping the intellectual and behavioural inclinations of younger generations. It helps in impacting positive co-existence among people within the community and society. The folktale helps to advance and stabilise the society because of the moral intellectual, socio-cultural and political ideas that it impacts in the young ones, which help to shape their behavioural traits positively. The fundamental attitudes learnt from the folktales mould the character of the youths in a given society.

The concept of artificial intelligence

Artificial Intelligence, widely called AI, is the ability of a computer or computer-controlled robot to perform tasks that are commonly associated with the intellectual beings. They are endowed with the intellectual processes characteristic of humans (Porter, 2024). Though the computer can perform complex tasks very efficiently, none of the advances in computer memory capacity and speed of processing have corresponded to human flexibility in tasks requiring general knowledge (Gregersen, 2024).

The earliest theoretical work on AI was done by Alan Turing, a British mathematician, in the 1940s and 50s when the first AI programmes were developed. Since then, with the steady development of processing power and computer memory, AI in the early 21st century has advanced to the point where programmes can classify images (e.g. PRel.U-net), master games such as chess (Alphazero), carry on conversation chat (Chat GPT), and create an image from a text prompt (DALLE), (Gregerson, 2024).

AI has been found to be useful at performing various tasks including voice or handwriting recognition, medical diagnoses and chatbots. The fact that AI often attains the performance levels of human professionals and experts, it has the potential to cause workers in some fields to lose their jobs (Gregerson, 2024). AI therefore is simply defined as capability of a machine to perform tasks that would require human intelligence, such as reasoning, learning, actions

and problem solving. The use of AI software includes voice assistants, face-unlock image recognition on mobile phones and financial fraud detection apps. Software with AI capabilities can be downloaded from online stores and no peripheral devices are required. The hardware of AI includes drones, self-driving vehicles and robots on assembly lines that have AI capabilities (Sachdeva, 2024).

Literature Review

Di'lecce and Amato (2020) state that the preservation of the rich cultural heritage and folktale of the region of the Northeast India evolve in an efficient manner over a period of time. The older version of the preservation is considered as storytelling through oral traditions, where the elders play a vital role in passing down the folklore through storytelling, myths, legends and epics in the family gathering. However, at the present period, Pierdicca, Rolanti, Matrone, Martini, Morbidoni, Marlinvemi, Frontoni and Lingua (2020) analyse that adoption of different digital platforms has provided important knowledge on the uniqueness of the culture being presented in the online database, websites and the different mobile apps. This they state has helped in increasing the accessibility of the knowledge and the resources in respect to the different cultures.

On similar note, Kidd and Castano (2013) clarify that the adoption of social media has contributed to the process of sharing folklore knowledge among the population. Kaswan, Gaur, Dhatterwal, Kumar (2021) note that the information, which suggest that the major example of AI technology in the preservation of culture is the optimisation of Natural Language Processing (NLP), which has been used for the translating and analysing of the text of folklore, providing sentiment analysis and the identification of the key themes and motifs. This process has helped in maintaining the interest of the population in an efficient manner according to their report. Considering the competing theories in the area of AI and cultural heritage, some of the competing theories include semiotic approach, programme evaluation approach and novel theoretical model, etc.

In modern research, the semiotic approach has been enriched by digital technology and theories from digital humanities. Berlanga-Fernandez and Reyes (2022) explore the digital approach to semiotics, examining how digital tools and methodologies are applied to the study of signs and meanings within various texts and contexts. Their analysis highlights the evolving landscape of semiotic research in the digital era, emphasising the integration of technological advancements with traditional theoretical frameworks. In discussing the effectiveness of investment in the digital transformation of cultural heritage, Srakar and Vecco (2020) employ the programme evaluation approach. They explore this within the context of the broader digital shifts in the cultural and creative industries. El-Farouki and Bouziane (2024) propose the novel theoretical model, which integrates AI with semiotic and cultural studies to create a transformative approach to understanding and preserving visual cultural heritage. They state that this model would aim to enhance the accessibility and interpretation of local heritage on a global scale. Cultural heritage projects often aim to serve a diverse user group. This qualifies Technology Acceptance Model to fit into the theoretical model for this paper.

Contemporary Nigerian Society and Folktale

Prior to the colonisation of African countries, the Igbo share a common culture. There was no formal education as it is in this present period. The culture and tradition of the traditional Igbo man were preserved in their oral literature.

Folktale as a body of narratives is an important aspect of the oral performance through which society impacts morals and worthwhile values to members of the family or the community. Agwuna and Omale (2020) confirm this to the effect that traditionally children were trained with folktale to help them to imbibe the societal norms and values of where they live. Usman (2014) makes it clear that there was no formal education and before the introduction of western education in Biv emirate, the girl-child early education was informal. He posits out that the only educational activities were folktale or tales by moonlight.

Every folktale has a moral, which is necessary for the upbringing of the youths. Before the introduction of formal education, folktale provided a most effective avenue for the transmission of the values and norms in the African communities.

Through folktales, the young ones are thought to adhere to the tenets of the society within which they are born. Unfortunately, today, society seems to have neglected these folktales, which acted as a great teacher of wisdom in the olden days and is essential in bringing up the Africa and Nigeria child responsibly.

Theoretical Framework

The theoretical model for this work is Technology Acceptance Model (TAM). Priyanka (2012) posits that TAM is a research model that predicts how individuals will accept and use new technology. The model is based on the idea that two main factors influence a person's intention to use a new technology: perceived ease of use (easy to use) and usefulness (how useful).

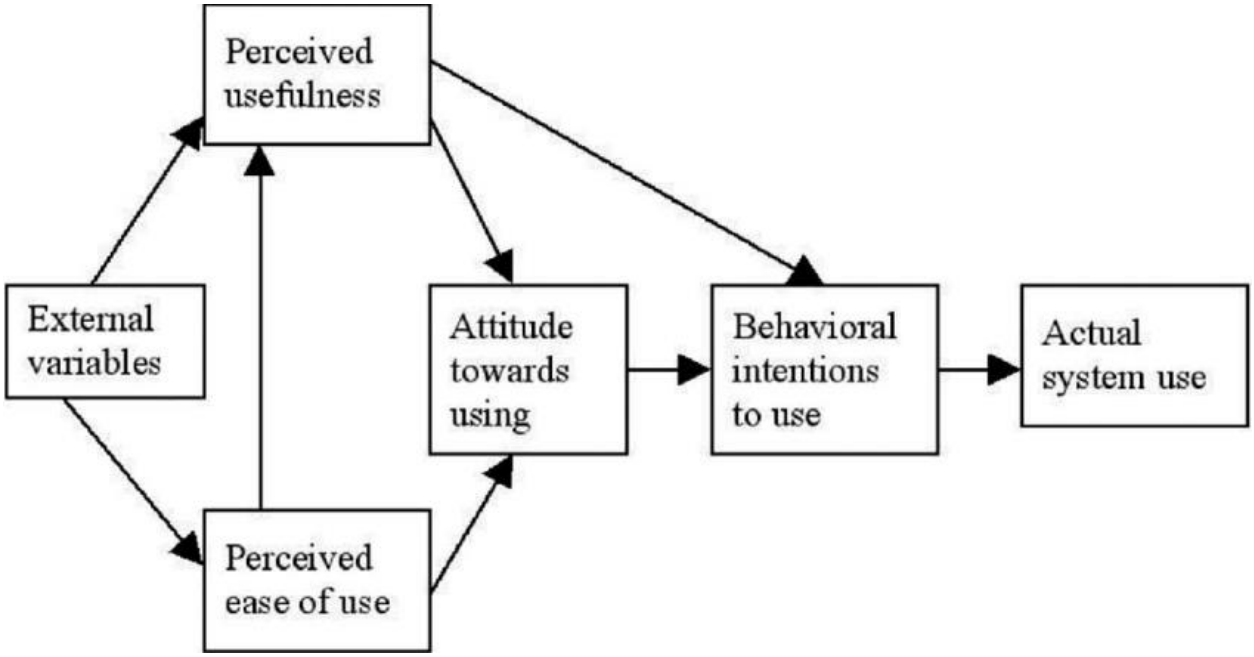
TAM is a three-stage process that predicts behaviour based on these two factors and behavioural intention:

i. External factors: system design features trigger cognitive responses

ii. Cognitive responses: perceived ease of use and perceived usefulness are formed

iii. Affective response: attitude towards using technology or intention is formed

The model TAM was proposed by Fred Davis in 1989. This was built on the Theory of Reasoned Action (TRA) by Fishbein and Ajzen, focusing on how individuals perceive and react to technology.



TAM provides a structured approach to gather insights into their technology perceptions; this ensures that solutions are designed to fit user expectations. There is a higher potential for sustainable adoption and engagement. TAM offers a user-focused and flexible framework that can be adapted to the complexities of AI deployment to the cultural heritage sector. It brings technological innovation with human values, making it an essential tool for meaningful and sustainable integration of AI into this sensitive and valuable domain.

Artificial Intelligence in Folktale Preservation

Das, Gijre, Devi and Mitra (2021) provide their findings on the Northeast region of India, which they stated are considered a treasure trove of diverse culture and rich folklore traditions. However, modernisation and urbanisation pose a threat to the cultural assets of the region and reduce the rate of awareness. Their findings confirm that the adoption of AI has helped in the procedure of increasing the preservation of the cultural awareness in the region.

Samikshya, Mandakini, Annisha and Anurag,(2024) point out that the AI tool has helped in the procedure of addressing the challenges of accessibility among the population. It has also been helping in the translation and digitalising of folklore content. Hence, it is making it available on different online platforms for the younger population in the cosmopolitan cities.

Tips on how AI can contribute to folktale preservation:

1. Digitalisation and accessibility:

   AI can aid in the preservation and digitalisation of folktales, ensuring their accessibility for future generations through virtual museums and online platforms.

2. Restoration of materials:

   AI can be used to restore damaged materials or incomplete recordings and manuscripts, ensuring the longevity of cultural treasure.

3. Transcription and translation:

AI powered speech recognition and natural language processing (NLP) can accurately transcribe and translate oral stories, ensuring that these valuable narratives are preserved and accessible to a wider audience.

4. Pattern recognition and analysis.

   AI algorithms can analyse patterns, themes and symbol elements within folktales, helping researchers to classify and categorise different types of legends, facilitating comparative studies and cross-cultural analysis.

Conclusion

Folktales cannot be appreciated unless it is put into use. When it is put into use, its functionality is be revealed. It has to be told and revealed from time to time. It has to be listened to by the target group. Artificial intelligence is now a fundamental part of modern life and has revolutionised our society in every sense. It has, therefore, come to solve the problem of lack of personnel and proximity requirement for telling and retelling of folktales. It has also provided a mode of preservation and documentation of this rich cultural heritage.

Recommendations

1. Robust work should be done on the adaption of Igbo folktales from the medium of oral delivery to the medium of AI.
2. Children put more interest on visual information and therefore the need to adapt the stories to drama performance using AI. This will rekindle their interest in the information and moral lessons which these folktales carry.
3. The current era is digital and making these stories available in digital platforms with the use of artificial intelligence will solve the problem of accessibility among children and youths.
4. The government should invest in the scripting and production of AI. Folktales through funding of AI technology to schools and institutions
5. Those who invest in education as well as government should consider the investment opportunities these AI powered folktales afford. There are marketing opportunities in Nigeria because such learning aids are needed in Nigeria schools and therefore, will encourage investors.

References

Abrams, M. H. (2004). *A glossary of literary terms*. Boston. Thompson Wordsworth.

Agwuna, S. & Omale, A. (2020). Pursuing the ideal Igbo folktales as practices and prompts for societal value re-orientation. *The Nigerian Teacher Today Journal.* Vol. (17) 1 – 11.

Akporobaro, F. (2005). *Introduction to oral literature*. Ikeja: Pincetone.

Baldick, C. (2004). *Oxford dictionary of literary terms.* Oxford. Oxford University Press.

Berlanga-Fernandez, I. & Reyes, E. (2022). The digital approach to semiotics: a systematic review. *Text and Talk,* O. https://doi.org/10.155/text-2021-0073.

Das, A., Gujre, N., Devi, R., & Mitra, S. (2021). A review on traditional ecological knowledge and its role in natural resources management: Northeast India, a cultural paradise. *Environmental management* 1-22.

DiLecce, V., & Amato, F. (2020). A Survey on AI techniques for cultural heritage understanding from ancient manuscripts to paintings. *Information processing and Management*, 57(5) 102067

El-Farouki, A. & Bouziane, K. (2024). Theoretical perspectives on AI, semiotics, and cultural heritage. *The international journal of cross-cultural Communication and Media Studies* (CMS) vol. 1. N.2 pp. 1 – 09.

Gregerson, E. (2024). Artificial Intelligence at a glance. Encyclopedia Britannica. Retrieved on 11th April, 2025 from https://www.britannica.com/topic/Artificial-Intelligence-AI-at-a-Glance-2235722.

Kasulan, K., Gaur, L., Dhattenual, J. & Kumar, R. (2021). AI based natural language processing for the generation of meaningful information electronic health record (EHR) data. In *Advanced AI techniques and applications in bio information* (pp. 41-86) CRC Press.

Kidd, D. & Castano, E. (2013). Reading literary fiction improves theory of mind. *Science*, 342(6156) 377-380.

Luna, J. (2024). AI in Education: Benefits, challenges and ethical considerations. Retrieved 8th April, 2025 from https://www.datacampicom/blog/ai-in-education.

Mbah, B. & Mbah E. (2007). *Lectures on Igbo literature and stylistics*. Nsukka: University of Nigeria Press Ltd.

Nwaozuzu, G. I. (2006). The child as an image of the innocent and credibility in Igbo. *Journal of Igbo studies (JIS)* (1) 28-34.

Nyagu, U. & Umezinwa, R. (2018). Folktales as a tool for character development. *International multi-disciplinary journal* Bahir Dar, Ethiopia ATRREV vol. 12(3) www.afrievjo.net

Obi, B. (2016). Igbo Cultural heritage. Retrieved on 5th April, 2025 from https://books.google.com.ng.

Pierdicca, R., Paolanti, M., Matrone, F., Martini, M., Morbidoni, C. Malinverni, E., Frontoni, E. & Lingua, A. (2020). Point cloud semantic segmentation using a deep learning framework for cultural heritage. *Remote Sensing*, 12(6), 1005.

Porter, A. (2024). What is generative AI? Retrieved on 20th March, 2025 from https://bigid.com/blog/what-is-generative-ai/

Priyanka, S. (2012). Technology Acceptance Model: A survey of literature. *International journal of business and social research (IJBSR),* Vol. 2(4) pp. 175-178.

Sachdeva, N. (2024). 20 uses of Artificial Intelligence in day to day life. Retrieved 10th April, 2025 from https://www.insights.daffodilsul.com/blog/20-uses-of-artificial-intelligence-in-day-to-day-life.

Samikshya, M., Mandakini, B., Annisha, M. and Anurag, H. (2024). Harnessing the impact of AI in the preservation and transformation of Folklore India. *Journal of trends and challenges in Artificial intelligence* vol. 1(2) p. 69-74. ASPUR Publishing.

Srakar, A. and Vecco, M. (2020). Are investments in the digital transformation of cultural heritage effective? A program evaluation approach. In *Digital transformation in the cultural and creative industries* (pp. 81-98).

Tribelli, S., Pansoni, S., Frontoni, E. & Givanola, B. (2024). Ethics of AI for Cultural Heritage: Opportunities and challenges. In *EEE Transactions on Technology and society*. Vol. 5 no. 3, pp. 293-305.

Usman, B. (2014). *Girl-child education in Biv Emirate*. Abuja: Klamidas Communications.