Exploration of the Use of Artificial Intelligence Tools as Aesthetic Elements in Select Nollywood Movies

Ohaja, Edith Ugochi (PhD)[1]
Ugo, Solomon Ugo
Department of Mass Communication
University of Calabar
ugosolomonugo@unical.edu.ng
Michael O. Ukonu[1]

[1]Department of Mass Communication
University of Nigeria, Nsukka

ABSTRACT

This study sought to highlight how important AI is in contemporary film production, identify how specifically it has been used to enhance the aesthetics of Nollywood movies and challenges in its deployment. The study was anchored on the Technology Acceptance Model. The research was a qualitative one and the researchers used the in-depth interview method with an interview guide as the instrument for data collection. The population of study comprised the producers and other crew members of the movies studied. Others knowledgeable in Nollywood productions like movie directors, producers, movie review journalists and film aesthetics scholars formed part of the population. Convenience sampling technique was used to select nine respondents for the study and three movies released between 2022 and 2024 were the focus, namely, 'Treasure in the Sky,' 'Too Sure To Lose,' and 'Win or Lose,' given the newness of widespread use of AI. The results of the study revealed, inter alia, that while AI tools are helpful in enhancing aesthetic elements such as costume, pyrotechnics, sound, lighting and translation/sub-titling, they are minimally deployed in Nollywood productions. It was, therefore, recommended, among other things, that Nollywood movie producers should intensify efforts towards quelling resistance to AI use, introduce and broaden the incorporation of AI tools for such purposes as visual effects, realistic facial animation and storyboarding. The study also recommended more investment in Nollywood by the public and private sector to facilitate the use of AI tools to make Nollywood movies more competitive internationally.

Key Words: Artificial Intelligence, Aesthetics, Aesthetic Elements, Nollywood, Movies

Introduction

Artificial Intelligence (AI) is associated with the ability of machines to exercise reasonable levels of intelligence that can compare with or even surpass the intelligence displayed by humans. AI is a term often used to describe machines that imitate human cognitive functions such as learning, reasoning and problem-solving (Russell & Norvig 2016). AI is also described by Sun (2024, p. 1) as "a technical science with the goal of understanding the nature of intelligence and inventing new types of intelligent machines that can act very similar to human intelligence and AI technology includes robotics, natural language processing, speech and image recognition." Similarly, the European Union (2020) opines that "Artificial intelligence (AI) systems are software and hardware systems designed by humans that, given a complex goal, act in the physical or digital dimension by perceiving their environment through data acquisition, interpreting the collected structured or unstructured data, reasoning on the knowledge, or processing the information derived from this data and deciding the best action(s) to take to achieve the given goal." It also avers that AI can address complex problems and provide solutions that are found to be useful in different application domains,

including data mining, industrial robotics, logistics, business intelligence, banking software, medical diagnosis, movie production and search engines.

Outlining different eras of AI paradigms and evolution, the European Union (2020) research centre listed the following: AI foundations of 1950-1970 where computing machine intelligence was symbolic, AI era of 1970-1990s which was practically hinged on knowledge-based systems and the 1990-2020s era grounded in machine and deep learning. This is the current era which has developed to the stage where complex problems are addressed with solutions that are useful in different areas, including movie production.

Rapid advancement in technology and AI tools has given rise to new and smart ways of solving different tasks in different disciplines, including movie production. As a key propeller of the new invention across the globe, some AI tools are being used to enhance aesthetic elements in the movie industry for efficiency, overall beauty and meaning construction in movies. The creative dawn facilitated by AI is deployed in movie production in areas such as realistic sound and visual effects, facial recognition for motion capturing, animation quality by replicating environment, background scenes, costumes, manipulated props and pyrotechniques**.** Applications of AI in the creative industries, including movie production, have dramatically increased in the last five years (Nantheera & David, 2021) and some of the tools are being routinely harnessed in movie production endeavours in the United Kingdom, America and India.

Some of the most useful AI tools for filmmakers include: Truesync used in translating movies into different languages while retaining the actor's voice exactly with matching lip movements. This AI tool reduces the burden of searching for translators and voice actors and adding subtitles during any production. Descript AI tool is also used in editing text and video in such a way that it automatically takes out filler words and dead spaces in a movie.

In addition, Video AI by Topaz Laboratory is used to upscale video footages and filter background noise for better aesthetics in any movie production. Other AI tools used as aesthetic enhancement devices in movies include colour lab AI which is specifically produced to get clips from different cameras and automatically match them in terms of colour regardless of the timing, photo animation device and capcut video editing AI tool (Fulaan Creative, 2023).

The effectiveness of AI tools as aesthetic enhancement elements lies in the ability of movie producers to utilise various such tools available either as free or subscribed software. In Hollywood and Bollywood, the level of creativity in their scripts and storylines, the skill sets of their actors and the technical quality of their movies endear them to different audiences across the world.

But given that Nigeria is not as highly developed as these countries, this study seeks to ascertain the level of application of AI tools in movie production in Nigeria, using three Nollywood movies released between 2022 and 2024 as bases for assessment. To what extent are AI tools strategically used to enhance aesthetic elements as part of measures that imbue creativity in Nollywood productions to improve the sensations the audience feel and boost the popularity of Nollywood movies.

Statement of the Problem
The objectives of utilising AI tools in movie production are to improve aesthetics by intensifying scenic environment; creating effective lighting, colour and manipulation of voice which is concerned with creation of reality; use of music to establish the background mood; costumes, manipulated props and pyrotechniques**.** These aesthetic elements are used to establish scenarios that can represent actual reality in order to enhance audience appreciation of the beauty and message intent of a particular movie.

With the level of technological savviness and acceptance in Nigeria as the largest tech market in Africa, some claim there is a high level of advancement in Nollywood and parity between it and similar industries in the United States, United Kingdom and India. But is this completely accurate given the dearth in budget, infrastructure and expertise in the use of AI tools which could constitute impediments for Nollywood producers to effectively harness unique prospects of AI tools for aesthetic enhancement as reflected in other parts of the world?

Exploration of the Use of AI Tools as Aesthetic Elements in Select Nollywood Movies

Of particular note is that there is a school of thought that sees the state of Nollywood to be one of decline in popularity, in commercial success and international competitiveness. Even though the industry has not been short of storylines, it has consistently been accused of a lack of the kind of technical quality that tells stories in compelling and appealing ways in line with state of the art technology in film production, especially the new trend of using AI tools in movie production in other climes.

Going by the above, therefore, the researchers sought to determine the level of utilisation of AI tools in Nollywood movies using three movies released in 2024 and 2022 as points of focus, namely, 'Treasure in the Sky' 'Too Sure To Lose,' and 'Win or Lose.'

The study aimed to ascertain the presence or absence of AI tools in Nollywood movies, how relevant AI tools can be used for aesthetic enhancement to attract wider audiences and what may foster or hinder their application in Nollywood movies.

Research Questions
The study set out to answer the following questions:

- Did the Nollywood films, 'Treasure in the Sky' 'Too Sure To Lose,' and 'Win or Lose' apply any AI tools as aesthetic elements during their production?
- Were other digital aesthetic tools besides AI employed in the production of the three movies?
- What factors militate against the full deployment of AI tools as aesthetic elements in Nollywood and what factors facilitate it?

Conceptual Clarifications
To add depth and illumination to the study, the following concepts are hereby elaborated on.

Artificial intelligence

Artificial Intelligence (AI) is software that has created an important impact in the society especially in solving notable human challenges with ease. As a technology of the new age, Lo (2023) describes AI as a technology that enables machines to perform tasks that require some level of human intelligence. Similarly, Nantheera & David (2021) state that AI systems can be trained to simulate the human brain and carry out routine work using large amounts of data. They further explain that an AI system effectively combines computational architecture and a learning strategy within a data environment in which it operates.

Pavik (2023, p. 8) describes AI as a "machine-based solution that is able to generate new content such as text, images or music based on certain input." AI technology makes many intellectual and practical processes easier, more accurate, faster and cheaper. AI is now being deployed to create and perform tasks that were usually clumsy and difficult for humans in fields as far flung as medicine (e.g. performance of surgeries) and in the creative industries, such as music and movie production.

Howie (2023) explains that AI has five skills, namely, listen and talk, act, watch, think and remember. He highlights critical areas of AI relevant in movie production. These key areas show that AI tools should be able to address technical and aesthetic lapses such as poor quality of camera shots, dull scenes, poor costumes and make-up, poor quality of sound and semiotic presentation.

Film aesthetics

Generally, aesthetics is concerned with a collection of creative decisions an artist makes in any creative endeavour. "Aesthetics is often misconstrued by authors and scholars to be synonymous with beauty but in actual sense, it goes beyond the understanding and appreciation of beauty and the ability to judge beauty with consistency to reason" (Inyang *et al*., 2023, p. 55). Thus, aesthetics is a field of study in philosophy. As Ohaja (2023, p. 2) notes, "just like ethics in philosophy is the study of what is morally right, aesthetics is the study of what elicits sensory perception as elegant and appealing." Ohaja further illustrates the practical manifestations of this body of knowledge in different areas of mass communication, including film production.

Film aesthetics, on its part, relates to the technical abilities and technologies for individuals to create beauty in movies (Aniukwu 2021, p. 1). Aniukwu opines that movie production in Nigeria has attained some degree of professionalism as reflected in the use of camera shots, sound effects, costumes and

make-up as part of aesthetic elements but not being able to use these aesthetic elements effectively in film production garbles the ideal intent of the producer in relation to the quality of film released.

Deploying adequate aesthetics in film production portrays the artistic ingenuity of a producer or director. This aligns with the assertion of Obi *et al.* (2022) that aesthetic qualities of movies enable producers to drive their messages into the minds of audiences. They outline areas of film where aesthetics is reflected as the storyline, acting, dialogue, lighting, camera work and music. They also identify costume, makeup, scenery/location, editing and montage as part of aesthetics in film and further explain that film aesthetics is classified into film style and film narrative. Film style consists of such aspects as the use of colour, sound (including voice, music and sound effects), camera manipulation and editing. Film narrative, on the other hand, concerns such devices as story, plot, characters and theme. Both film style and film narrative are important in ensuring that a movie is sufficiently aesthetic.

Obi *et al.* (2022) argue that the typical Nollywood film does not go through a long process of production unlike Hollywood and Bollywood films as they are produced within weeks or months which do not ensure adequate use of aesthetic elements. The use of AI tools for aesthetic enhancement depends on the available budget, technical ability to deploy AI and time to produce a particular movie In Hollywod and Bollywood, the movie industries have large budgets, professional expertise and long production time.

Hollywood has superior aesthetics in its blockbuster movies that is far beyond what Nollywood and Bollywood come up with. Aesthetics in Hollywood is propelled by big budgets, A-list actors and films that display incredible stunts in scenes like dizzying height climbing and falls, car chases, explosions and extravagant lifestyles. As Hildenbrand & Farias (2019) assert, aesthetics in Hollywood can be observed from the narrative, plot and totality of the scenes.

In the case of Bollywood, Pragya & Ayon (2023) highlight that Bollywood has emerged as one of the top three film industries globally because it has deployed aesthetic components in different dimensions. The visual culture of India with special reference to aesthetics use is manifested in beautiful costumes and properties such as elegant interior designs, elaborate wedding celebrations, fashion costumes and accessories. Aesthetics elements in Bollywood have social impact on Indian society because the use of aesthetics synthesises tradition, culture, religion, patriarchy, nationalism and gender which has shaped this spectacular indigenous cinematic tradition with a growing international and diasporic reach (Asma, 2022). Asma also states that aesthetics in Bollywood creates suspense and sustains the audience.

Nollywood Industry

Nollywood industry is a household brand in Africa and the global stage that has been described as "the Nigerian home movie industry (a version of America's Hollywood and India's Bollywood." Nollywood has been credited with recording a substantial portion of Nigeria's culture, creating employment for numerous Nigerians and "providing much needed diversion" for viewers in Nigeria and beyond (Ohaja, 2008, pp. 1 & 3). Nollywood also features advocacy against social vices in some of its productions.

With respect to Nollywood's evolution, although film in Nigeria was introduced by the establishment of Glover Cinema in Lagos on August 12, 1903, Ohaja (2008) explains that it gained roots with the introduction of Western Nigeria Television Authority in the 1950s which enabled audiences to be exposed to Hollywood features that made Nigerians begin to thirst for films with local content. Ohaja (2008) further states that television did its best to fill the void through dramas like 'The Village Headmaster' and 'Cock Crow at Dawn,' yet, the quest for local films fully became realised only with the birth of Nollywood industry triggered by the release of 'Living in Bondage' by Kenneth Nnebue in 1992. The success of 'Living in Bondage' is attributed to its gripping storyline and ease of distribution across the country via VHS tapes. This dealt a blow to regular cinema viewing in theatres in the country because people could watch Nollywood movies in the comfort of their homes (Obi *et al.,* 2022).

Digital technology has changed the production process by bringing in digital cameras and editing equipment that produce better quality

sound, pictures and make post production cheaper and more efficient. The ease of storage introduced by digital technology has also improved the shelf life of Nollywood films and facilitated distribution via Video On Demand (VOD). Nollywood producers now have and use VOD platforms such as Iroko, 9flix, Dobox, Iflix, Netflix and channels on pay television platforms like Digital Satellite Television (DSTV).

Commenting on the market prospects of Nollywood films, the International Trade Organisation (ITO, 2023) posits that Nollywood has great commercial viability as one of the most prolific film industries in the world with an annual output of 2,500 movies. Global entertainment and media outlook for 2022-2026 pegs Nollywood industry as the fastest growing among the creative industries in the world. Citing Price Waterhouse Cooper's projection for 2023, the ITO also reports that the industry has contributed 2.3% ($660 million or 239 billion Naira) to Gross Domestic Product (GDP) in Nigeria having projected export revenue earnings of around $1 billion dollars.

Synopses of the Nollywood Movies Studied

'Treasure in the Sky'

'Treasure in the Sky' is a production of Uche Mbunabo, released by Skybound Entertainment in 2024 and set in a secondary school in Abuja. It highlights the reality of high school finalists who build the hope that upon graduation from secondary school, there are treasures in the world depicted as the sky. The movie, which is a tragic love story, portrays some youthful exuberance among teenagers. While in school, their teachers challenge their intellectual depth during a quiz competition. The less bright students exhibit some jealousy towards their smarter mates among the finalists.

As stated in the movie, "tomorrow is not promised." Thus, the untimely death of Jidenna, the lead actor, ended hopes of a future together with another character he had a love affair with. However, this adversity, which devastated many of the pupils, created a bond among them. The demise of a rising star, like Jidenna, shows that the hopes of many youths go up in flames because life is a gamble with different negative odds such as death. The cast included Miwa Olorunfemi, Clinton Joshua and Chinenye Nnebe.

'Too Sure To Lose'

'Too Sure To Lose' was produced by Kingsley O. Akam and released by Reality Entertainment Limited in 2022. According to the producer, it is inspired by true-life experiences of different victims involved in various forms of gambling in Nigeria. Thus, the movie is based on social realism and the producer created it to serve as a means of fostering value re-orientation in the society. The plot showed that the society cannot develop through betting/gambling, which is not a decent source of livelihood. The central message is that youths are the predominant gambling class which is reflective of greed and desperation.

Another theme found in 'Too Sure To Lose' is politics/corruption, which was portrayed as overshadowing every worthwhile thing in the Nigerian society. The movie depicted that many youths have lost hope in the leadership system in the country and see education as a scam. They, therefore, see gambling as a soothing balm against the failed system. The movie implores government at all levels in the country to help young people who need jobs, skills and reassurance of a prosperous future. Some of the notable cast members were Patience Ozokwor, Obi Okoli and Eve Esin.

'Win or Lose'

This movie was produced and directed by James Amuta and released by Extron Signal Entertainment, also in 2022. Its primary goal was for the privileged to see slum dwellers or under-privileged people like those in the Makoko area of Lagos State as beautiful and warm people with high aspirations for a successful life. 'Win or Lose' is largely an advocacy picture to draw attention to vulnerable communities with little or no government presence. As a representation of many communities with similar features, the movie highlights the squalor, poverty, landlord harassment and social vices that are synonymous with areas such as Makoko.

It is also a comic movie. However, the humour was used to depict serious issues such as societal neglect and disdain for vulnerable settlements. Winning a lottery in the movie was portrayed as an escape route from poverty. The cast included Odunlade Adekola, Rachael Okonkwo and Gregory Ojeifu.

Empirical Review
Artificial Intelligence in the Creative Industries

Nantheera & David (2021) reviewed the state of the art in AI technologies and how the new norm of AI is being applied in the creative industries such as movie production. The study categorised creative applications related to AI into five different groups, namely, content creation, information analysis, content enhancement/post production, information extraction and data compression. The scholars identified a clear distinction between AI as a creative tool to embellish artistic creations and a creator of content itself. They posited that utilisation of AI in the creative industries can be maximised but this requires technical expertise on the use of these applications or software by workers in these industries, like movie producers.

The scholars illustrated, inter alia, that AI-based system in movie production can perform shot framing, shots sequencing and automatic shot selection from a plethora of shots available to the producer. This means that with AI technologies, editing processes in movie production are no longer tasking and time-consuming. The study under review concluded that the current state of AI technology can work more efficiently if AI aligns with humans in the creative industries rather being left as a stand alone device. For instance, AI can create a movie as a device on its own but before this is achieved, the application needs some training through exposure to several films of the genre that AI is tasked to produce in order to learn the structure of the movies and this training is supervised by humans.

Perception of Aesthetic Elements in Nollywood Films

Obi *et al.* (2022) examined the perception of aesthetics in Nollywood videos. The study sought to ascertain the way the audience perceived the quality of different aesthetic elements used in creating movies and rudiments for proper application of aesthetics in Nollywood films. It argued that Nollywood film producers are often glued to content while ignoring aesthetic components in films.

Using survey research design and questionnare as instrument for data collection, the study highlighted some obstacles against proper application of aesthetics in Nollywood films such as: poor editing devices that result in flaws like poor transition in the form of dissolve and superimposition. Other problems include poor timing of shots, inadequate use of lighting as artistic embellishment and noisy nature of many films. In context, the study found that poor financing or low budgeting hampers training and proper application of aesthetics in Nollywood movies. The researchers, therefore, suggested enhanced collaboration with well-established directors who understand techniques of film aesthetics that would ensure quality use of costume and make-up, quality shots, scenes, lighting and other aesthetic devices.

The foregoing study paid great attention to the style aspect of film aesthetics. Ohaja (2008), on the other hand, considered the narrative aspect of film aesthetics for the most part. Using library research and personal observation, the researcher examined the level of realism in Nollywood movies and found it to be low, with the stories assuming Cinderella-like twists and endings and the settings often too opulent for the characters. The researcher also identified the over-use of certain themes in Nollywood movies, like witchcraft/*juju* poisoning and wicked mothers-in-law, thereby turning these themes into clichés and making them seem more commonplace than they actually are. She, therefore, recommended the embrace of realism in Nollywood storytelling to increase the appeal of its movies to both simple, uneducated people and more sophisticated and international audiences.

Theoretical Framework

The Technology Acceptance Model (TAM) proposed by Fred Davis (1989) is used as a theoretical underpinning for this study as part of its propositions revolve around perceived ease of use, ease of acceptance and behavioural intentions of users of information technology. Since its inception, the model has been tested with various digital media applications to become the most widely applied model of user acceptance and usage.

TAM's tenets or objectives shed light on the processes that underlie the acceptance of technology in order to predict the behaviour of successful implementation of technology. Davis posits that the degree to which a person believes that adopting a new technology would

be useful and free of effort would enhance its chances of adoption (Davis, 1989; Marikyan & Papagiannidis, 2023).

Also, the model identifies and defines variables that validate measures that would correlate with systems and the degree to which a person using a particular system would enhance his or her job perfomance.

TAM is one of the most widely used models to explain user acceptance behaviour especially as it relates to new forms of movie production. In effect, AI is applied widely in Hollywood and Bollywood because of advanced technologies and expertise which bother on ease of use. Qingxiong (2004) explains that the model is grounded in social psychology which sheds light on AI penetration because movies highlight social realism. TAM asserts that preconceived ideas have influence on perceived usefulness (PU), perceived ease of use (PEOU), attitude and behavioural intention to use. This applies to information technology in general and AI for movie production in this case as it accentuates creation, production and consumption of films. Therefore, TAM is relevant in this study of Nollywood films as it helps us understand what informs the appropriation of AI as a value-addition for aesthetic enhancement.

Methodology
The study used a qualitative method for data collection, the in-depth interview, with an interview guide as instrument for data collection. The population comprised the production crews of the three movies studied, including the producers, directors and film editors. Others knowledgeable in Nollywood productions like movie directors, producers, movie review journalists and film aesthetics scholars formed part of the population. The researchers utilised the convenience sampling technique to interview those that could be reached owing to difficulties in contacting some key members of the population due to their celebrity status and their resultant insulation from easy public access.

The sample thus comprised nine respondents – three film director/producer/editors, three lecturers in theatre and film studies and three entertainment journalists with specialisation in film reporting.

The three movies the study focused on were conveniently chosen from Nollywood movies released between 2022 and 2024, which fell within the time when the use of AI had become prevalent in many fields, including movie production. The researchers carefully watched the movies before interviewing the respondents to ensure they asked all the relevant questions and to ensure their familiarity with the issues raised. The interviews were conducted via phone calls and extended messaging on WhatsApp.

The presentation and analysis of data consisted of descriptive rendering and interpretation of the interviewees' responses in the light of literature and the theoretical framework.

Presentation of Data
The data below were drawn from the interview transcripts and organised in themes as they relate to the three research questions.

Theme One: Application of AI tools as aesthetic elements during the productions of 'Too Sure To Lose,' 'Treasure in the Sky' and 'Win or Lose':

The interviewees were first asked to explain what they understand by film aesthetics. They indicated that film is storytelling through art but besides the story and dialogue, aesthetics refers to the things that audiences see and hear in a movie that affect how they feel about it. They affirmed that how a film looks and feels is usually the job of the art director or the production designer under the supervision of the director. That means the art director and the cinematographer create the non-narrative dimensions of a film. These dimensions include the film's style, tone, look, or mood. Aesthetics, the interviewees stated, has to do with application of beauty considerations in costume coordination, set design and props arrangement.

On AI tools that were deployed to enhance the overall aesthetic composition of the three movies, the interviewees revealed that such tools were rarely used because the movies under review focused on social realism.

One of the producers asserted that "there was no need to embellish the movie with AI-generated aesthetics but they used other ways of superimposition with the aid of Computer Generated Images (CGI)."

Some interviewees opined that AI tools are mostly used in science-fiction movies as seen in Hollywood. Examples of such movies are 'Atlas,' 'Planet of the Apes' and 'Interstellar.' AI is used to build the extraordinary sets, mythical creatures, unnatural activities, among other fabulous elements of such movies.

One of the movie producers explained that there are three key stages in the production of any film: pre-production planning which entails hiring of cast and crew etc., production (covering filming or principal photography) and post-production activities such as editing, colour-grading, sound scoring, music composition and addition of visual effects. In Nollywood, the use of AI has been observed largely in the third stage – post production – because a lot of video editing software currently use AI. AI-driven technologies can enhance visual effects in movies. AI algorithms can improve the quality of images because AI-powered tools in software like Adobe Premiere help in sorting through footage and merging of video clips.

However, beyond the movies under review, respondents mentioned some Nollywood movies that have utilised AI tools. They include 'Breath of Life' (2023) and 'Mikolo' (2023). Similarly, 'Ordinary Fellows' (2019) utilised AI tools like ShotPro to create the storyboard before filming. 'Other Side of History' (2022) also used ShotPro AI to create location mood-boards while 'The F in Family' (2024) utilised DaVinci AI for the same purpose.

Theme Two: Utilisation of other digital aesthetic tools besides AI in the production of the three movies:

In the movies under review, experts interviewed advanced that there was effective use of digital tools that are not AI. For example, Colour Lab 2.0 helped to achieve colour grading and green screen superimposition devices also served as aesthetic elements. 3D computer graphics and CGI were also cited as very relevant digital tools used in achieving aesthetic goals in the movies and in other Nollywood productions.

According to some of the producers, AI and CGI are almost the same and interwoven but AI is faster in terms of speed. It implies that what CGI uses three hours to achieve, AI can use 45 minutes or less to achieve it. They explained that a CGI animation device such as Google Earth Studio is very relevant in movie production and although it is not an AI tool, it generates artificial environments using Google's satellite and 3D imagery. One of the producers opined that instead of using a drone to capture a scene in London, Google Earth Studio can give you that exact environment. The respondents asserted that after a film's release, it takes only a very critical eye to know that the environment is a virtual one fabricated for meaning construction.

Furthermore, one producer indicated that he uses Adobe After Effects as well as Blender software to create animations and other motion graphics. He also uses them to do video editing and add stunning special effects to his movies during post production.

Other software used as digital tools for aesthetics in Nollywood productions are Adobe Photoshop and Corel Draw for graphics and poster designs.

Theme Three: Different factors that militate against the full deployment of AI tools as aesthetic elements in Nollywood films and the factors that facilitate it:

The interviewees identified factors that constitute set-backs in deploying AI in film production in Nollywood as: low budgetary provisions for Nollywood films, poor knowledge of emerging AI tools by many directors and producers, Nollywood movies revolving around social realism as against fusing science and fiction.

One of the experts in movie production specifically posited that many Nollywood producers seem resistant to embracing new methods in filmmaking, particularly those involved in low-budget productions who prefer conventional approaches.

For small production companies in Nollywood, the cost and accessibility of advanced AI tools pose significant barriers to implementation. For instance, even after acquiring the tools, funding is required for training crew members. In Nollywood, storytelling often draws from the rich cultural heritage, which may not necessarily match the aesthetic standards promoted by AI technologies from advanced countries. Also, many are hesitant to depend entirely on AI for aesthetic choices to maintain

creative control and take a hands-on approach to crafting films.

The interviewees, however, reasoned that since AI algorithms accomplish automatic task execution which can do the job for humans, technical expertise on the deployment of AI tools in film production is very important. They opined that expanding movie budgets and constant training of producers and directors on the advantages and how to use AI software in movie production would increase its application in Nollywood movies.

To facilitate greater use of AI tools, the filmmakers and experts averred that promoting innovation in the Nollywood filmmaking community through workshops and networking events can foster the sharing of ideas and best practices regarding AI-driven aesthetics. They also suggested that making AI tools affordable and offering training programmes and resources can empower filmmakers to gain the skills they need.

They disclosed that some filmmakers are pioneering new approaches independently, earning them the label "New Nollywood" for their forward-thinking mindset. Ensuring that AI algorithms are sensitive to Nollywood's cultural nuances and aesthetic preferences is crucial for aligning AI technology with local storytelling traditions.

Discussion of Findings
The main instruments of data collection and the format for this study included detailed orient and clarification probes to enhance understanding of statements from the interviewees.

Findings from the study showed that, first, many Nollywood films focus on social realism and the filmmakers feel they do not need to embellish them with AI-generated aesthetics. They argue that unlike in science fiction, utilising AI aesthetics in any movie that portrays social realism would not help to put the plot or setting of the movie in proper perspective.

The foregoing aligns with Obi *et al.* (2022)'s assertion that Nollywood filmmakers usually dwell more on content and storylines than aesthetics. The irony is that for all their acclaimed focus on social realism, Ohaja (2008) still found many Nollywood movies to be unrealistic and fixated on Cinderella-like storylines.

Furthermore, it is worth noting that Sun (2023) disagrees with the assumption that AI can only be used in science-fiction films. He contends that AI technology can significantly increase the efficiency with which a film script, which may be based on other genres, is created given that AI scripting is not restricted to science fiction. The AI scripting process is used to generate facts, relevant data and assist the producer in uncovering plot ideas for a more compelling narrative in the film.

Besides, this study learnt that many Nollywood movies dwelling on social realism like 'Ordinary Fellows' (2019) and 'Other Side of History' (2022) utilised AI tools effectively for aesthetics.

Second, according to the findings of this study, Nollywood filmmakers still rely on Computer Generated Images such as Green Screen, bouncing bubbles, 3D computer graphics, colour lab and others in achieving aesthetic ends in Nollywood instead of utilising AI tools that deliver efficient and superior aesthetics.

Third, the study's findings indicate that low budgetary provisions for Nollywood film production, poor knowledge of AI by many directors and producers, resistance to the new innovation and the belief that genres of Nigerian movies revolving around social realism do not need AI militate against full deployment of AI in Nollywood movies.

These findings are in line with the tenets of the Technology Acceptance Model used as the theoretical framework for this study. Low perceived usefulness of AI tools, including the idea that other digital tools like CGI can suffice, low ease of use occasioned by lack of expertise and funds for hardware acquisition and software subscription generally lead to limited adoption of AI tools for aesthetic purposes in Nollywood.

Conclusion
Nollywood has grown substantially from its inception with the release of 'Living in Bondage.' In fact, it has grown to the point of being ranked behind Hollywood and Bollywood as the third largest film industry in the world. However, the study has shown that

the industry is still largely behind, particularly with respect to the use of aesthetics.

Recommendations

Based on the findings of the study, the following recommendations are made:

- Nollywood producers and directors who misconstrue the relevance of AI tools due to the genre of films they make should reassess their position as these tools can make their work faster, more efficient and they are versatile enough to be helpful at every stage of film production from conceptualisation to post production.

- All Nollywood producers and directors also need to strive to keep pace with the rapidly evolving AI trend in filmmaking for such purposes as visual effects, realistic facial animation and storyboarding as it surpasses the benefits from older technologies and will help to keep their products competitive locally and internationally.

- Adequate funding for Nollywood films from both the public and private sector is called for and intermittent training for the industry's directors, producers and other crew members to equip them with the resources and expertise for pervasive deployment of AI tools for aesthetic embellishment in both film style and narrative to boost the appeal of Nollywood movies and make them the cash cows they are expected to be for Nigeria's GDP.

- Machine learning scientists who develop AI software are urged to domesticate their products in different parts of the world, including Nigeria, to make them useful in telling local stories and garnishing cultural movie productions.

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