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Non-Fungible Tokens for Visibility and Intellectual Property Protection in The Nigerian Visual Art Industry

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ABSTRACT

Nigerian creative artists have long faced a disparity between their efforts and economic returns. Amid this landscape, the emergence of Non-Fungible Tokens (NFTs) and their marketplaces has sparked a revolution in industries such as gaming, literature, art, and music. However, the potential of NFTs in the Nigerian visual art sector raises concerns regarding awareness, effectiveness, and associated risks. This study employs a triangular methodology - surveys, focus group discussions and in-depth interviews, while integrating media economics and the diffusion of innovation theories. Analyzing data from 28 stakeholders, primarily artists, art collectors, and copyright regulators, reveals that early adopters in Nigeria recognize NFT marketplaces for showcasing and trading digital artworks. Despite this acceptance, a lack of confidence emerges concerning the applicability of NFTs for copyright protection. The research further illuminates policy, structural, and economic barriers impeding the Nigerian art realm, underscoring the need for technology adoption. As pirated creative works continue to circulate in Nigeria, NFTs offer an avenue for artists to gain remuneration in the digital metaverse. This study advocates for Nigerian creatives to closely monitor the NFT evolution, offering potential solutions for sustainable growth and paving the way for economic empowerment within the metaverse.

Keywords: Non-Fungible Tokens, Blockchain, Visual Arts, Intellectual Property, Metaverse.

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1. Introduction

The Nigerian visual art industry, like its counterparts around the globe, has been a repository of cultural heritage, expression, and societal reflection for centuries. Yet, even in its profound significance, this industry has consistently grappled with issues such as counterfeiting, unauthorized reproductions, and lack of proper remuneration for artists. With the advent of digital technology and the internet, these challenges have become even more pronounced, with artists finding it increasingly difficult to protect their works and gain appropriate visibility in the global art scene (Faga and Ole, 2011).

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Historically, the significance of copyright in the advancement of culture and creative arts has been a global phenomenon since 1886 at the Berne Convention for the Protection of Literary and Artistic Works and after that, controlled by the World Intellectual Property Organisation (WIPO) across over 100 countries (WIPO, 2022a). However, Nigeria is yet to fully domesticate these agreements as the foundation for its copyright rules, which are constitutional pronouncements under the Decree 42 of 1999, which oversee the laws regulating copyright matters (Afolayan, 2021). Not until January 2020 was the WIPO office opened in Abuja, Nigeria, to stimulate the advocacy, education and capability building in the intellectual property (IP) landscape (WIPO, 2022b).

The blockchain revolution is bringing about the evolution that the art industry can significantly derive advantage. Scarcity is a keystone in the art industry, and duplicable digital artworks are yet to find a sustainable business model (Chohan, 2021). Blockchain technology provides interesting new ways to create, sell, and maintain any digital asset's intellectual property (IP). These assets are referred to as non-fungible tokens (NFTs), which have transferrable, transparent rights to digital resources, such as artworks or collectables (Allen et al., 2022). NFTs, being unique digital assets verified using blockchain technology, present a potential solution to these longstanding problems (Kim, 2021). They allow for the authentication of original artworks, ensuring that artists can retain ownership rights while providing a new avenue for showcasing and selling their works on digital platforms.

The application of NFTs in the visual art industry is not entirely new, with many Western artists and art platforms embracing this technology for enhanced visibility and sales (Niето Mcavoy & Kidd, 2022). However, its integration within the Nigerian art scene, considering its unique cultural and economic nuances, remains underexplored. Early adopters in the creative industries across West Africa have begun to explore NFTs for sales and ownership rights for their creative assets. Using guerrilla marketing, these artists are taking advantage of the global marketplace available for NFTs. For example, on April 1, 2022, Adisa Olashile, a phone photographer, minted a photo of an old Yoruba drummer as an NFT on Opensea - an NFT marketplace (Olugbemi, 2022). This artwork was listed and sold at 0.3 ETH, a little over 1 million Naira at the sale. This is among many other digital artists in sub-Saharan Africa who are getting compensation for their artworks via blockchain networks, including Ghanaian dancing pallbearers who sold the viral social media coffin dance as NFT for 372 ETH, an equivalent of \$1.046 million at sale time (Dosunmu, 2022).

This study is groundbreaking in its attempt to converge the world of NFTs with the Nigerian visual art industry, a marriage of cutting-edge technology and rich cultural artistry. Such a focus is vital, especially given the increasing globalization of the art market, where African art, Nigerian art in particular, is garnering significant attention (Nwadiuwe, 2018).

Building on the foundational works of Iwu (1996) and Adewopo (2012) on intellectual property rights in Nigeria, this paper will critically evaluate how NFTs can redefine these rights, especially for visual artists. Furthermore, it will provide empirical data on the feasibility and potential impact of NFTs on the Nigerian art scene. As such, this study aims to fill a significant gap in the literature by bridging technology and traditional art in an African context, offering insights that could pave the way for similar research in other emerging economies.

Following this introduction, the paper will proceed with a review of existing literature on intellectual property challenges in the Nigerian visual art industry, the global rise of NFTs, and their potential applications in art. Subsequent sections will delve into the methodology adopted for this research, present the findings and their implications, and conclude with recommendations for stakeholders and areas for future research.

1. How do Nigerian visual arts stakeholders perceive NFTs in terms of visibility and copyright protection?
2. To what degree have Nigerian visual art stakeholders adopted NFTs?
3. What policy-related obstacles exist for the application of blockchain technology in IP protection within the Nigerian creative sector?

Consequently, this study endeavors to probe into the role of NFTs as media technologies in enhancing visibility and fortifying IP safeguards within the Nigerian visual art realm. Drawing on insights from artists, art aficionados, and policy experts, this research aims to unravel the prospective ramifications of NFTs on the Nigerian visual art ecosystem and gauge the sector's familiarity and enthusiasm for blockchain solutions.

2. Literature review

While a plethora of studies delve into the potential and implications of Non-Fungible Tokens (NFTs) in the global arts sector, there remains a conspicuous void concerning their relevance and application in the Nigerian visual arts industry. Most existing literature gravitates towards the Western art market, often neglecting the unique cultural, economic, and regulatory dynamics of emerging economies like Nigeria. Furthermore, while there's an abundance of discourse on intellectual property challenges in the Nigerian creative sector, few have interwoven this dialogue with the advent and possibilities of blockchain technology and NFTs. This lacuna becomes even more pronounced when seeking insights on the perception, readiness, and adoption of NFTs among Nigerian visual arts stakeholders. Such an oversight suggests an urgent need for research tailored to understand how NFTs can be integrated and optimized within the specific context of the Nigerian visual art ecosystem.

Varieties of art forms are recorded in Nigerian history. They include Terra Cotta, Wood, tusk and tree carvings, bronze casting, garments, etc. Artistic works in unique societies play a significant part in its history (Ndubuisi, 2017). Modern Nigerian Art originated in the twentieth century, with substantial influences from Aina Onabolu, Akinola Lasekan, and Ben Enwonwu (Ogbechie, 2009). Visual arts represent the culture of its time (Egonwa, 2012), and are concerned with everything visualised, painted, sculpted, viewed, photographed, built, conceptualised and designed.

As new media tools and interfaces evolve, digital art and photography have gained steam. According to Paul (2008), digital art is indefinable because the art form constantly evolves in creation and corporeality. Despite the continuous reconfiguration, the basic feature of digital art is that it requires digital devices and procedures. Digital art procedures manifest themselves in numerous formats, from software to cameras, from the internet to blockchain; creations and presentations have endless limits.

In the art ecosystem, there is a constant interchange between creators and collectors (Velthuis, 2011). According to Yogev and Ertug (2015), the art value chain embraces a pluralistic orientation as an internationally scattered market. The key stakeholders in the ecosystem include artists, art dealers, collectors, public and private institutions, critics, art managers and auction houses (Velthuis, 2011). Art management aids the sustainable progression of art societies and artists in sophisticated markets. However, in developing countries, art management still has a fundamental role in structuring the visual arts sector (Enamhe, 2014). Also, with the progression in innovative creation via digital tools, artists are obligated to promote and monitor their creations.

IP rights over the years have been discussed and rooted in ethical, moral and socioeconomic chronicles. According to Adewopo (2012), the rhetoric for defending creative works can be traced to the Roman empire and utilises inducement, public attention, utilitarianism and many other perspectives. Based on orthodox theories, creativity and its conservation is an important societal principle. Consequently, copyright laws are not merely opinions but quantify value values (March 2007). In contemporary society, the justice system is the leading arbitrator saddled with the responsibility of protecting IP.

In Nigeria, the copyright laws shelter creative industry content like books, music, artworks and films (Nigeria's Amended Copyright Law, 1992; 1999). The Nigerian Copyright Act authorises the Nigerian Copyright Commission (NCC) to control, administer and protect the IP rights of creatives. NCC's function reflects in the endorsement of several global agreements like the Paris Convention for the protection of industrial property (endorsed in September 1963), the patent law treaty (endorsed April 2005) and the Patent Cooperation Treaty (endorsed May 2005). However, according to Faga & Ole (2012), these agreements are difficult to administer in Nigeria because the proper attention and resources have not been introduced.

Furthermore, following the application of the Nigerian Copyright decree No. 47 of 1988, which resulted in the creation of NCC, deeds have been geared towards enforcing the law. According to Afolayan (2021), local efforts made include the Strategic Action Plan against Piracy (STRAP) and the Copyright Litigation and Mediation (CLAMP) in 2005. In participating on a global scale, the NCC embarked on strategic coalitions with diverse influential institutions to broaden the latitude and impact of its anti-piracy processes and publicity campaign (Ezekude, 2012). The NCC executes based on its membership and signatures in the Trade-Related Aspects of Intellectual Property Rights (TRIPS), World

Intellectual Property Organization (WIPO) and Bern convention agreements (Dinwoodie & Dreyfuss, 2012).

Notwithstanding the role of the NCC, its aptitude to safeguard IP rights has been scrutinised over the years due to repetitive public copyright infringement of music, books, and art sold on the streets of Lagos. According to Adewopo (2012), Nigeria's present configuration of IP laws and authorities has increasingly exposed the need for jurisprudence and policy development essential to fortify the creative industry. The first challenge is the age of the IP laws. Second, IP rights protection's nature and scope are incompatible with contemporary developments in the relevant creative fields. Finally, the speed and method of law enforcement are not effective.

With the ever-evolving developments in information and communication technologies, various content transactions are taking place in the digital environment. A unique transaction model based on blockchain (a digital ledger) was conceptualised in 2014 and standardised in 2018; it is now gaining popularity in the digital economy. Referred to as Non-Fungible Tokens (NFT), they can be applied to digitise and trade gaming, literature, art, music and other creative assets (Kim, 2021). According to Wang et al. (2021), the basic NFT protocol involves five stages: digitisation, storage, signing, issuance and trade.

The NFT unit certifies that a digital creative asset is not substitutable, thus the non-fungible description. Just like in the Louvre, the NFT becomes an exclusive asset. Therefore, NFTs generated on Ethereum, and similar blockchains are provable authentication devices and differ from duplicable assets (Conrad, 2022). The main properties of NFTs are ownership, transferability, transparency, fraud prevention, and immutability (Bamakan, 2021). Due to the NFT, owners can effortlessly and transparently transfer NFTs to buyers, automatically documented in a decentralised and transparent ledger.

In 2021, the market volume for NFTs grew to \$12 billion from \$250 million in 2020 (Reyburn, 2021). Clear examples of trending NFT sales include artist Beeple's sale of digital art for \$69 million and former Twitter CEO Jack Dorsey performing a digital auction on his initial tweet for \$2.9 million (Valuables, 2021). These sales provided much publicity for NFTs. However, many observers claim that the 2021 NFT market is a Ponzi scheme which will fizzle out. Substantiation for this viewpoint emanates from explosive growth and technical issues. Contrariwise, stakeholders are positioning investments to tackle the network's challenges, to actualise the perceived potential.

Early adopters in the creative industries across West Africa have begun to explore NFTs for sales and ownership rights for their creative assets. Adisa Olashile sold a viral NFT at 0.3 ETH (Olugbemi, 2022), a little over 1 million Naira at sale time. Ghanaian dancing pallbearers sold the viral social media coffin meme as NFT for 372 ETH, equivalent to \$1.046 million at the sale (Dosunmu, 2022). NFTs serve not just as a currency, a product or a tool but as an asset (Dowling, 2021). These assets are disruptive; however, the volatile nature raises eyebrows on whether NFTs are IP and their role in modifying the art showcase and copyright space.

Scholars have utilised several methods and approaches to research work on blockchain, NFTs and IP. Baytaş et al. (2018) theorise about the symbolic value of ongoing treasure designs on the blockchain. Wilson et al. (2021) drew a theoretical map of the NFT network and its participants. Similarly, Nadini et al. (2021) charted the NFT value chain grounded on purchase volume and other metrics. Similarly, Dowling (2021) inspects the costing models of *Decentraland*, which enabled the sales of digital land allocations in the multiverse. However, several works on copyright issues (Nwankwo, 2018; Kim, 2021) and the media and creative industry (Enamhe, 2014; Ndubuisi, 2017) utilised conceptual reviews to induce new theoretical or historical standpoints.

3. Theoretical underpinning

This study utilises media economics and the diffusion of innovation theories to provide explanatory power towards understanding and appetite for blockchain technology in the Nigerian visual arts space.

4. Media Economics Theory

The interplay between technology, regulations, economics and globalisation lingers in communication activities and their role as economic institutions. Many perspectives have existed in media economics over the years. Noam (2009) provides a perspective as he reviews the financial elements, markets, and strategies that have created media economies with vast influence on the public.

The emerging digital technologies have challenged and reshaped the study of media economics. Media economics complement existing communication theories by enhancing significant extents of its policy, economics, regulation, audience behaviours and inclinations (Albaran et al. 2006). Observing the economic roles of individual media companies helps understand their societal function.

Blockchain technology has evolved into countless business operations, including minting and trading NFTs in the creative ecosystem. In this study, the media economics theory and the diffusion of innovation theory provide explanatory power to the regulations and acceptance conundrum that confronts the rise of NFTs to create and maintain visibility, transparency and transferability of digital assets.

5. Diffusion of Innovation (DOI)

The DOI theory concentrates on the conditions which magnify or reduce the prospect that members of a specific group will accept newness (Pijpers & van Montfort, 2005). This theory posits that media content and interactions produce information and impact standpoints and decision-making. Rogers (1995) claims that innovation happens through creation and circulation across a given society over a period of time, leaving unavoidable repercussions in its wake. The information that novelty carries infiltrates via influencers within networks. The nature of these influencers synchronises the level of adoption. DOI studies seek to clarify the variables persuading new media adoption, such as literacy.

These influencing components in DOI theories also affect audience conduct via relationships; however, gatekeepers and regulators also play a part in the diffusion process. Using the DOI theory, five adopter groups are often highlighted. They are “innovators, early adopters, early majority, late majority, and laggards” (Rogers and Singhal, 2003). The adopter groups and the role of opinion leaders will be evaluated to evaluate the perception and extent to which Nigerian visual arts stakeholders are adopting NFTs for visibility and IP protection.

6. Data and methodology

The design for this study utilised a descriptive cum exploratory approach to evaluate how Nigerian art industry stakeholders perceive NFTs and how much they accept this blockchain technology for visibility and IP protection. This research design focused on the effect of a phenomenon and survey tools to assemble information. A triangulation method was deployed to generate data using surveys, focus group discussions and in-depth interviews.

The study population comprised art industry stakeholders living in Nigeria. These stakeholders include visual artists, art collectors and public sector directors from the Nigerian Copyright Commission. There is no precise information about Nigeria’s overall population of practising visual artists. However, artists’ associations exist that include the Guild of Professional Fine Artists of Nigeria (GPFAN) and the Society of Nigerian Artists (SNA). The GPFAN with a 26-person membership was utilised as the population for the quantitative studies.

In this experiment, the primary purpose of the sampling was to certify suitable participants from the population to facilitate appropriate responses to the research questions. This quantitative method adopted Taro Yamane probability sampling, a fair sampling approach in quantitative research. Utilising the Taro Yamane sample calculator, the study utilised 24 respondents for the quantitative survey; these first participants are referred to in this study as GPFAN.

For the qualitative study, a purposive sampling technique was used to recruit the second and third set of participants who provided in-depth information about NFTs and IP protection for visual artists in Nigeria, respectively. The second set of interview participants were five NFT art collectors who participated in focus group discussions (FGDs) on the local NFT ecosystem. The third set of participants were two directors in the Nigerian Copyright Commission who provided global insights on IP rights for

Nigerian artists. The goal of qualitative data was to purposively uncover an assortment of views while restricting the sample size to the point of saturation. Saturation occurs when the inclusion of more participants in the study does not lead to unique additional viewpoints (Mays and Pope, 2000).

Based on the triangulated method, multiple methods were used to analyse data. The questionnaire results were analysed using the SPSS tool because of its ability to collect, organise and analyse quantitative data. These results were tabulated and have been discussed extensively. On the other hand, the audio of the in-depth interviews and FGDs were transcribed for data analysis. Once the transcript was accomplished, a thematic analysis was executed using Nvivo. Data presentation was performed using illustrative quotes, charts and word clouds.

7. Results and discussion

The analysis result is divided into sections, descriptive and exploratory forms of research. Meanwhile, the population required for the quantitative study was adequate and reachable since the survey was conducted using an online questionnaire. The mode of data collection was expedient, adaptable, and a high-privacy way of getting participants' responses, as Couper (2011) suggested. Thus, Google forms were used to conduct an online survey and helped restrict respondents from responding to a single question several times. Another benefit of using the online survey is that it allows easy and fast importation of data into software used for analysis (Carbonaro et al., 2002). The earlier questions in the survey helped certify that 100 percent of the respondents are Nigerian, and the questionnaire was distributed through the GPFAN president. Subsequently, the interviewed and FGD respondents identified as Nigerian art industry or copyright stakeholders.

The total number of valid and completed responses for the entire quantitative survey was 21, about 87.5 percent of the total sample size. Although the whole valid datasets are under the desired 24, the decision to go ahead with the available data for analysis.

What is your age group?

21 responses

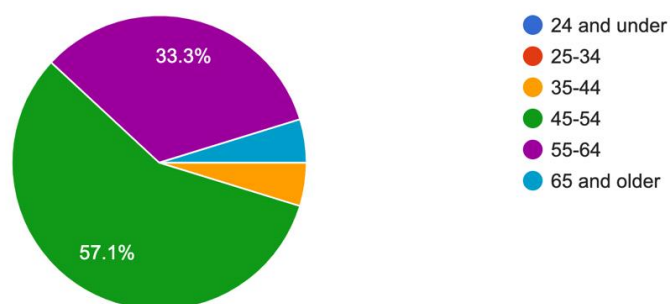


Figure 1: Pie chart showing the age of the GPFAN Artists.

The results show that all the respondents identified as the male gender. In other demographic data, the age of the respondents was categorised into five different sections, as shown in Chart 1. Findings show that most GPFAN artists are between 45-54 years old, representing 57.1 percent. This was followed by 33.3 percent between the ages of 55-64. Further results from the survey showed that the rest of the artists were either 35-44 years or older than 65, representing 4.8 percent each. Furthermore, in determining the level of education of GPFAN artists, 81 percent of the respondents have Bachelor's degrees or Higher National Diplomas. In comparison, Lower diplomas/ Technical college and Masters Degree holders represented 9.5 percent of the population, respectively.

Which of the following describes your understanding of Non-Fungible Tokens (NFT)?
21 responses

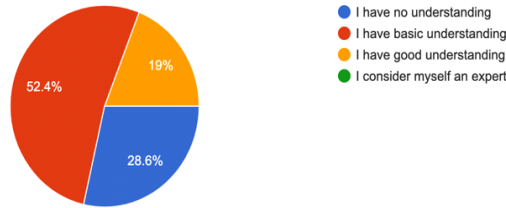


Figure 2: Pie chart showing the level of NFT understanding by GPFAN Artists.

The results show the respondents' awareness about NFTs, with a dominant 81 percent of the respondents knowing the digital assets while 19 percent have never heard of it. However, in drilling down the quality of NFT awareness and understanding, 52.4 percent have a basic understanding of the asset, 19 percent have a good understanding, and 28.6 percent have no understanding. This implies that some of the respondents, despite knowing the term NFT do not understand the functionalities of the digital asset. Respondents showed that social media played a huge role in the awareness of NFTs, with 61.9 percent citing these channels as the source of information. Other sources cited include word of mouth (28.6%), website (4.8%), schools and training (4.8%).

Which of these Non-Fungible Tokens (NFT) do you own or plan to own?
21 responses

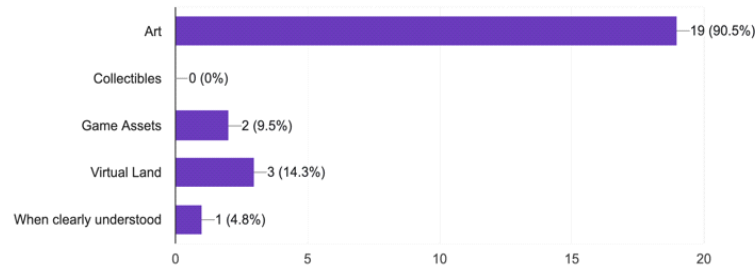


Figure 3: Bar chart describing the types of NFT desired by GPFAN Artists.

Furthermore, enquiries were made to determine the level of NFT ownership amongst the audience. Only 33 percent of the respondents own NFTs, while the remaining 66.7 percent do not own any form of NFTs. Conversely, 66.7 percent plan to hold NFTs in the future, while 28.6 percent of the respondents are undecided. Only one respondent demonstrated no future interest in NFTs. On the knowledge of NFT types and the level of interest, an overwhelming 90.5 percent desire/have NFT art, 19.5 percent want/have virtual land, and 9.5 percent want/have gaming NFTs usable in the metaverse. In response to the open-ended question on NFT types, one respondent would prefer gaining more understanding of NFTs before ownership.

Which of these describes your interest in Non-Fungible Tokens (NFT)?
21 responses

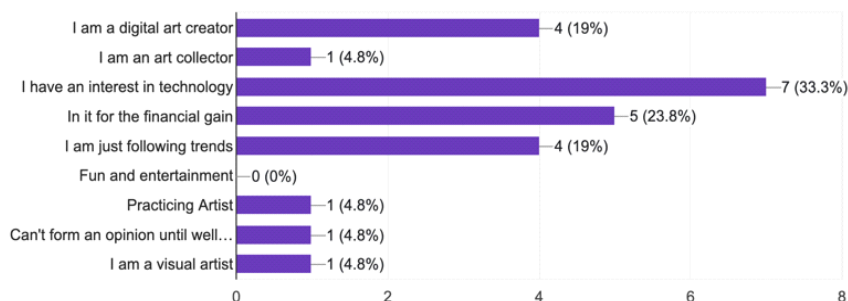


Figure 4: Bar chart describing the level of NFT interest among GPFAN Artists.

However, when probed with open-ended questions about the interest in NFTs, a majority of 33.3 percent are interested due to their fascination for technology and innovation. As shown in Chart 4, 23.8 percent are into NFTs for financial gain, while 19 percent respectively are just following trends or using NFT marketplaces to showcase artworks. The marketplace known or used by the respondents

includes Binance (19%), Rarible (4.8%), Open Sea (9.5%) and Block Party (4.8%), while 76 percent use none of these marketplaces. Out of these NFTs owners amongst the BPFAN artists, 9.5 percent own six or more NFTs, 14.3 percent own less than five NFTs, while 9.5 percent own less than three NFTs.

In other findings using the Likert scale, 42.9 percent agree that NFTs are confusing to understand compared to 33.3 percent who were neutral in response and 23.8 percent who disagree. In determining the perception of NFTs and blockchain for art visibility, 28.3 percent of the respondents strongly agree, 33.3 percent agree with the notion, while another 33.3 percent remain neutral. Only 4.8 percent of the respondents disagree with NFTs marketplace provision of visibility to art pieces.

Finally, in determining the perception of NFTs and blockchain for IP protection, 47.6 percent of the respondents are neutral, 38.1 percent agree, while 9.5 percent disagree. Only 4.8 percent of the respondents strongly agree that NFTs can be utilised for IP rights protection. Therefore, in discussing the findings, it is important to drill down into the diffusion of innovations and media and the economic motivations behind this digital asset.

Figure 1.

Information of focus group discussion participants.

FGD Participant	Location	Sex	Age	NFT Participation	NFT Type
1 FGD Participant A	Abuja	M	31	Fine Artist/ NFT Collector	Land, Art
2 FGD Participant B	Lagos	F	27	Digital Artist/ NFT Creator	Art
3 FGD Participant C	Lagos	M	22	NFT Collector	Digital Land, Collectibles
4 FGD Participant D	Edo	M	25	NFT Collector	Art
5 FGD Participant E	Lagos	M	29	Digital Artist/ NFT Flipper	Gaming, Art

8. Results from Focus Group Discussions

In addition to the quantitative data, FGDs were conducted to focus on the perception of NFTs among art stakeholders. This was important to get deep insight into stakeholders' personal opinions on NFT creation, purchase and sale. All five discussants participated via a Whatsapp group call; proper consent forms were endorsed to allow conversation recordings. The group was representative with purposive consideration of gender and geopolitical location, as shown in Table 1. Also, because the demographic data within the quantitative portion favoured all men 34 years and older, the discussants were 34 years and younger. All discussants were NFT owners and creators. Audio recordings of all the discussions were transcribed by the researcher using Microsoft Word for effortless coding and subsequently uploaded to Nvivo for further coding and analysis. The coding process resulted in several themes (nodes) and sub-themes. Some of the emerging themes that may be positive or negative include tradition, respect and family.

9. Predominant Themes

9.1 Visibility

The focus group discussants were engaged on their current purpose of NFT ownership. According to the discussants:

“Initially, it was tough getting my NFTs noticeable on Open sea. People barely-viewed it. Then I realised you needed to market it to the community of collectors. Since that enlightening moment, I have created and sold 8 NFTs” – Discussant E, focus group interviews (2022).

Respondents claim that the NFT marketplaces exhibit a dynamism that aids the showcase of artworks. Apart from visibility, NFTs are considered assets that appreciate in price and are held for profit.

“I create NFTs because it helps me easily publicise, auction and sell my artworks on Rarible.” - Discussant A, focus group interviews (2022).

“I have been able to sell many of my own minted artworks. However, the ones I bought on Binance, I have received bids to resell. But I am holding it for future investment” - Discussant C, focus group interviews (2022).

9.2 Ownership

The young artists’ and collectors' interviews showed an adventurous and high-risk appetite for exploring new technologies. This has led to the ownership of highly valued asses.

“All the NFTs I own, I created them. I have been able to sell two minted ones but currently receiving bids for others” - Discussant B, focus group interviews (2022).

“I bought 850 pieces of virtual land; I am using this for my gaming community on Robot Wars, playing with my land earns me money per hour” – Discussant C, focus group interviews (2022).

“I bought two Bored ape NFTs as an investment opportunity. The price appreciated, and I sold one for 200 percent more than I bought both. However, the one remaining in my wallet has dropped in price due to the market crash” - Discussant D, focus group interviews (2022).

9.3 Challenges

The FGD respondents are not oblivious to the challenges encountered on the NFT and blockchain network.

“The main challenge is the difficulty of changing crypto to dollars or Naira. The government has banned volatile cryptocurrencies, which restricts us a little.” - Discussant B, focus group interviews (2022).

“My major challenge is that I have not sold any NFTs since the first one I sold. The market is saturated; it’s not that easy.” - Discussant E, focus group interviews (2022).

“Before I learned to use cold wallets... I was hacked and lost two valuable NFTs worth \$4200” - Discussant C, focus group interviews (2022).

“It took me time to understand. It is a very complex marketplace, and one needs to take your time to understand it” - Discussant B, focus group interviews (2022).

The themes and nodes emanating from the FGDs reveal an in-depth view of the visibility, ownership and resultant challenges that digital natives face in utilising NFTs for visibility and IP rights protection.

Table 2.

NCC Participants in the in-depth interviews.

	Participant Pseudonym	Employer	Designation
1	Director A	NCC	Director
2	Director B	NCC	Director

10. Results from in-depth interviews

The interviews with Directors from the Nigerian Copyright Commission generated several comments on the policy challenges of copyright and IP rights in the current era and the possible policy innovations as blockchain and digital technologies evolve.

11. Predominant themes

11.1 Policy

The respondents expressed several dimensions to express the current policy situation in the Nigeria copyrights ecosystem and other issues plaguing the Nigerian arts ecosystem.

“So, there were up to 18 countries that requested WIPO offices. WIPO agreed by consensus that Nigeria and Algeria should host the WIPO offices in Africa. The essence of the WIPO office is to bring services closer to member countries. Creating awareness, promotional activities, and bridging the gap between the countries and WIPO.” – Director B, personal communication, July 2022.

“Not much of art auctions are going on in Nigeria. I have heard artists saying, in order to boost the commercialisation of arts, for government to create a policy that every public building must be adorned with indigenous artefacts.” – Director A, personal communication, July 2022.

“There’s what we call the right to resale... When art resales happen, the law gives the artist the right to share the proceeds of subsequent auctioning or selling that piece globally. The original artist is entitled to a percentage of the proceeds of that sale which is usually not above 12%.” – Director A, personal communication, July 2022.

“The way right of resale and other copyright laws are implemented in other climes is by artists forming collective management society to monitor the global art market and be able to also liaise across the world network... we are working towards dialogue with Nigerian Artists societies.” – Director A, personal communication, July 2022.

11.2 Blockchain

Furthermore, the respondent’s expressive viewpoint is discussed in the discussion of utilising NFTs for IP rights protection and sale. Some of the challenges expressed include:

“Blockchain technology is not exactly a direct issue on intellectual property, but there is a bearing. A bearing in the sense that what blockchain assists people in doing is to create an effective, credible database that is exchanged across the network... There is limited protection of a database in the copyright system. But copyright itself does not protect data per se. What copyright protects is the unique arrangement of ordinary data in a way that it becomes original creation.” – Director B, personal communication, July 2022.

“But of course, you also would know that blockchains are like computer software products. Software is protected under copyright as literary works. However, there is no clear stand-alone policy for blockchain for the protection for intellectual property.” – Director B, personal communication, July 2022.

Finally, discussing the possibilities of using NFTs for IP protection, the responses acknowledge the gaps and explain the complexities.

“There is an ongoing discussion about technology, emerging technologies and other intellectual property, including artificial intelligence and blockchain. When issues crystallise to a situation where there has to be some norm-setting, it is at that point that there will be some international direction, but not now.” – Director A, personal communication, July 2022.

“You know, to save guard artworks for distribution, it is a rights management mechanism. Blockchain is a hybrid of the Internet; however, the medium does not define their rights; it’s the law that establishes the right.” – Director B, personal communication, July 2022.

12. Discussion of findings

Utilising the diffusion of innovation and media economics theory, this section discusses the study results in alignment with the research questions.

Research Question One: What is the perception of Nigerian visual arts stakeholders on NFTs for visibility and copyright protection?

The perception by humans of the world around them often draws from what is already known to interpret new information. Top-down theories (Reiner, 2019) are driven by postulations and stress the importance of higher mental processes such as expectations, beliefs, values and social influences. The findings show that 81 percent of the GPFAN artists are aware of NFTs, and all seven of the FGD and interview participants also have knowledge of the subject. However, on the level of understanding, 71.4 percent of GPFAN artists have a basic or good understanding, while all participants in the qualitative part of the study possess in-depth knowledge. Most have learnt about NFTs from social influences like word of mouth and social media.

Considering the perception of NFTs for visibility by visual artists, the media economics theory utilised with the diffusion of innovation theory plays an integral role in providing explanatory power. Noam (2009) posits that the financial elements, markets, and strategies have shaped media economies with vast influence on the public. GPFAN artists, who are all men, with 90.4 percent between 45-64 years old, have a positive perception of NFTs for the visibility of their artworks. 28.3 percent of the GPFAN respondents have a strong perception, 33.3 percent agree with the notion, while another 33.3 percent remain neutral. Only 4.8 percent of the respondents disagree with NFTs marketplace provision of visibility to art pieces. This means that despite having no expert knowledge of the blockchain

network, these artists perceive NFTs as a viable marketplace for trading creative assets. Their level of adoption of this technology is influenced by technological interests (33%), financial gain (23.8), digital skills (19%) and trendspotting (19%).

However, the GPFAN artists are not as optimistic about NFTs and blockchain networks for IP rights protection of their art pieces. 47.6 percent of the respondents were neutral, 38.1 percent agreed, while 9.5 percent disagreed that NFTs can be utilised for IP rights protection. This notion might be due to 19 percent of the artists having no knowledge of NFTs and 42.9 percent who think that NFT technology is difficult to understand. In addition, 52.4 percent have a basic understanding of the asset, 19 percent have a good understanding, and 28.6 percent have no understanding. The sizable lack of knowledge and perceived difficulty level has led to scepticism, particularly among men 45 years or older.

Nevertheless, amongst the other respondents surveyed qualitatively and chose purposively, there is a high understanding of NFTs. This is because the NCC Directors interviewed are IP rights experts, while the FGD groups are young digital natives. Both groups can be classified as early adopters as posited under the diffusion of innovation theory and serve as opinion leaders. Therefore the statement made under the visibility theme includes:

"I create NFTs because it helps me easily publicise, auction and sell my artworks on Rarible." - Discussant A, focus group interviews (2022).

Also, under the copyrights theme, respondents stated the following:

"Before I learned to use cold wallets... I was hacked and lost two valuable NFTs worth \$4200" - Discussant C, focus group interviews (2022).

"You know, to save guard artworks for distribution, it is a rights management mechanism. Blockchain is a hybrid of the Internet; however, the medium does not define their rights; it's the law that establishes the right." – Director B, personal communication, July 2022.

These results imply that levels of innovation diffusion are based on various factors, particularly opinion leaders who communicate via social media, websites or word of mouth. Therefore, it is evident that Nigerian artists perceive NFTs as tools for the visibility of creative content. However, the newness of the technology and the perceived complexity currently mitigate the perception of NFTs for IP rights protection.

Research Question Two: What is the extent of NFT adoption among Nigerian visual art stakeholders?

The extent of technological adoption can be examined from different viewpoints in this study. According to Maramarosy (2020), the core visual art industry stakeholders include visual artists, auction/gallery houses, collectors, IP regulators, and critics. However, the findings of this study show that with the infusion of technology into art distribution and protection via blockchain, a new set of stakeholders has emerged. These new stakeholders include marketplaces like Binance, Rarible and Opensea; metaverse gaming companies, sports clubs, NFT collectors who trade on these marketplaces and the community of unconventional creatives who could decide to mint contemporary art pieces or memes.

The first set of samples, mainly (90.4%) practising fine artists between the ages of 45 and 64, have heard (81%) of NFTs, but 66.7 percent of them have yet to adopt NFTs in their operations. Only two people (9.5%) own 6 NFTs or more, and the other five who have adopted NFTs (23.8%) own five NFTs or less. GPFAN artists identified several reasons for the low adoption, which include its volatility, complexity and the artistic media crossover from physical to digital. Based on the diffusion of innovation theory (Rogers, 1995), the knowledge innovation brings permeates across networks and adoption levels seen among GPFAN can be categorised under early adopters, late majority and laggards. The current owners of NFTs among the GPFAN artists are early adopters of the technology. Their influence is seen among their association as 66.7 percent of respondents plan to create or purchase NFTs in the coming year (late majority). In comparison, 28.6 percent are undecided (laggards).

Considering the other samples evaluated, the FGDs purposively involved NFT innovators and early adopters of the technology, who are predominantly youthful Nigerian art stakeholders between 22 and 31 years old. These groups have fully adopted NFTs for art showcase and participation in the marketplace, and participate in the media economy. Also, NFT ownership goes beyond art pieces and

involves collectibles, virtual land, videos, audios, etc. All these assets gave unique identifiers and visual representation.

“I bought 850 pieces of virtual land; I am using this for my gaming community on Robot Wars (Game), playing with my land earns me money per hour” – Discussant C, focus group interviews (2022).

However, the extent cannot be entirely determined empirically due to the qualitative approach used for this group and the lack of data on the total number of young artists.

Furthermore, among art IP rights regulators, the thematic analysis shows a high level of awareness and understanding of the issues among the Directors at the Nigerian Copyrights Commission.

“There is an ongoing discussion about emerging technologies and other intellectual property... and blockchain. When issues crystallise to a situation where there has to be some norm-setting, it is at that point that there will be some international direction, but not now.” – Director A, personal communication, July 2022.

The results provide evidence that there is no current consideration for blockchain as a channel for IP rights enforcement due to the newness of the technology, among other factors.

Research Question Three: What are the current policy challenges confronting the use of blockchain technology for IP protection in the Nigerian creative industry?

The findings show that policy-makers are concerned about the would-be economic impact of the inability to enforce IP rights in the digital age. The concern has evolved into contemplating whether digitisation personifies an unparalleled change in archetype for things copyright laws might be incapable of regulating.

Therefore, it was helpful to deliberate on the policy objectives of copyrights within the laws of Nigeria and in modern policy documents about creative industry IP rights. During the in-depth interviews with the Directors at the Nigerian Copyright Commission (NCC), several policy enactments and implementation challenges were highlighted that created conflicts in the creative media economy. A major challenge is the inability to implement a ‘right of resale’ policy because Nigerian artists do not have functional collective management societies to monitor the global art market and get 12 percent commissions when their artworks are resold.

Other results showed that in conversations with artists, NCC had felt the artists' pulse to act and implement policies to support creative industries.

“... I have heard artists saying, to boost the commercialisation of arts, for government to create a policy that every public building must be adorned with indigenous artefacts.” – Director A, personal communication, July 2022.

As to policy statements, these are too numerous to cite; the Nigerian government has produced policy documents, as have the various supranational and international organisations specifically dealing with IP, such as WIPO, World Trade Organisation (WTO), United Nations Educational, Scientific and Cultural Organization (UNESCO), as well as those organisations concerned with innovation and economic growth, like United Nations Development Programme (UNDP). However, these organisations have multiple objectives to protect their world and media economy domains. None has made major public strides to consider and implement copyright laws aligning to blockchain and NFTs. Many reasons exist for the slow speed confronting the adoption of blockchain technology for IP protection in the global creative industry and, in extension, Nigeria. Many still consider blockchain as an extension of the internet. Results also show ongoing arguments regarding the copyrightability of single data sets.

“... what copyright protects is the unique arrangement of ordinary data in a way that it becomes original creation.” – Director B, personal communication, July 2022.

“... to save guard artworks for distribution, it is a rights management mechanism. Blockchain is a hybrid of the Internet; however, the medium does not define their rights; it's the law that establishes the right.” - Director B, personal communication, July 2022.

Clearly, these multiple objectives are unlikely to be fully satisfied by any single policy or policy instrument, and future copyright laws must be a compromise between the different stakeholders involved, including those operating on the blockchain network.

13. Conclusion and policy implications

Over the years, technologies have influenced media economies, and creative industries have been at the forefront of innovating products, processes and platforms. However, in the media economics theories posited by Albaran et al. (2006), there is an important dimension regarding the structure, conduct, and performance of media industries; the interplay of policy, economics, regulation, and audience behaviours and preferences. This study also has a theoretical fusion with the diffusion of innovations theory. Both theories provide explanatory power towards evaluating NFTs as media technologies and their ability to create visibility and IP protection in the Nigerian visual art industry.

The deep dive into the world of NFTs within the Nigerian visual arts industry has unveiled a fascinating panorama, filled with both potential and challenges. At its core, this investigation revealed an undeniable wave of awareness about NFTs, especially among the surveyed artists. However, this awareness, as underscored by the findings, often doesn't translate into a profound understanding. The data drew a clear line between those well-versed in technology and those merely aware of its existence. The elder artists, mostly aged between 45-64, are a testament to this divide. While many among them acknowledge the transformative power of NFTs in enhancing artwork visibility, there exists a discernible hesitancy, even skepticism, regarding its potential for intellectual property rights protection.

This research also painted a compelling picture of the diverse players now populating the arts ecosystem. The inclusion of novel stakeholders such as NFT marketplaces and metaverse gaming companies, alongside the more traditional ones, indicates a shift in the tectonics of the industry. These emerging actors have a tangible impact, as evidenced by the dynamic, younger artists in the focus groups, who are not just observing the NFT trend but are deeply embedded within it. Their testimonies, juxtaposed with the more cautious approach of older artists, hint at a generational pivot, where digital fluency and adaptability may determine success.

Furthermore, the interactions with key regulators, particularly the directors at the Nigerian Copyright Commission, unveiled a broader policy conundrum. The crux lies in reconciling age-old copyright principles with the burgeoning world of blockchain and NFTs. Their perspectives underscore a terrain rife with uncertainty and hesitancy, but also ripe for innovation. The various sentiments voiced—whether it's the debate on the nature of copyright in the digital age or the potential of blockchain to safeguard artists' rights—point towards an impending evolution. One thing is clear: as the digital and the tangible worlds of art continue to converge, Nigeria stands at a crossroads, with the potential to carve out a niche for itself in this brave new world.

Based on the findings of this research, several policy implications emerge that could reshape the landscape of the Nigerian visual arts sector in relation to NFTs.

First and foremost, there is a pronounced knowledge deficiency surrounding NFTs and blockchain technologies among a majority of the surveyed artists, especially those aged 45-64. Therefore, the importance of a nationwide educational drive cannot be overemphasized. By initiating collaborations between government agencies, tech enthusiasts, and academic bodies, we could orchestrate tailored workshops and programs. Such efforts would arm artists with the requisite knowledge to optimally leverage NFTs for their works' visibility and protection.

Secondly, the existing intellectual property regime in Nigeria appears inadequately equipped to grapple with the complexities introduced by digital art and NFTs. Echoing the sentiments expressed by the Directors at the Nigerian Copyright Commission (NCC), there's an urgent call to imbibe international best practices. By realigning our policies and drawing from global benchmarks, Nigeria can fashion a robust framework that not only safeguards artists' rights but also encourages digital innovation. A special emphasis should be placed on addressing unique challenges like the rights of resale and the vital role of collective management societies, both of which were highlighted during our research.

Furthermore, the practicalities of adopting and maximizing NFTs are rooted in digital infrastructure. The feedback from the research underscores a need for reliable internet services, accessible digital platforms, and secure wallet systems. Engaging in public-private partnerships might be the key to bolstering this infrastructure, creating an environment where artists can effortlessly create and trade in NFTs. Investing in dedicated NFT hubs could serve a dual purpose – acting as knowledge centers and fostering a community of artists keen on diving into the digital realm.

The conversation continues on emerging technologies and their socioeconomic and environmental impact due to their decentralised and personalised nature. Due to the evolution of personal devices, the speed of communication, creation and trade have become instantaneous; therefore, the visibility and intellectual property rights accessible to creatives in the digital world are important. This study has examined the perception of blockchain and Non-Fungible Tokens (NFTs) to visual artists in Nigeria.

There is an evident lack of collaboration, and visual artists are in dire need of art managers who can protect the interest of the creatives as it involves new technology, policy, rights of resale and packaging towards optimal sustainable development for the talents. The government, regulators and members of society also have a role to play in decomplexing NFTs and other emerging technologies. According to Dowling (2021), while the NFTs seem to be a brand-new art asset, they rely on the cryptocurrency market, specifically Ethereum. Crypto trading is currently banned in Nigeria by the monetary regulator and Apex bank – Central Bank of Nigeria citing volatility issues. Such bans create fear and disdain among citizens and other regulators. The ban has limited growth and potential job creation on the blockchain network. The Nigerian regulatory bodies and similarly foreign IP and copyright agencies need to consider the norm-setting of blockchain as they evolve into the future. How self-sufficient will artists become when cryptocurrencies are accepted and NFTs can be traded on social media platforms or e-commerce websites like Jumia or Amazon? There are many possibilities in the future.

A potential limitation of this study and, at the same time, an exciting challenge for future research is gender and data limits. Therefore, future studies must utilise more robust sample sizes to deepen findings and notions about NFTs among Nigerian creatives. Also, the data must consider more females and younger visual artists. Art associations should also consider outreach strategies to register and mentor young artists.

Lastly, given the dynamic nature of technology, a set-it-and-forget-it approach to policymaking is bound to be counterproductive. The conversations with NFT innovators and stakeholders during this study underscore the need for constant engagement and regular policy reviews. Establishing a multidisciplinary task force, composed of artists, tech experts, NFT platform representatives, and IP rights specialists, would ensure Nigeria stays ahead of the curve. This team could continuously monitor global trends, ensuring our policies remain both adaptive and in tune with the ever-evolving world of digital arts.

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