

ETHICAL IMPLICATIONS OF AI IN GRAPHIC DESIGN: EXAMINING AUTHORSHIP, OWNERSHIP, AND RESPONSIBILITY IN NIGERIAN AND AFRICAN CONTEXTS

Danjuma, G.¹, Abdullahi A.M.¹, Abdullahi I.M.¹, Abubakar S.¹

1. Department of Industrial Design, Ahmadu Bello University, Zaria

Corresponding Author: Danjuma Godwin

Email: godwindanjuma667@gmail.com

Abstract

The implementation of artificial intelligence (AI) tools in the field of graphic design is transforming the conception, creation, and distribution of visual content. Since the integration of generative image systems, AI usage has been incorporated into professional design procedures. Although the technologies broaden the creative opportunities and accelerate the production process, they also carry with them a tremendous ethical conflict involving authorship, ownership, and being a responsible professional. The paper discusses the ways in which AI-mediated design practices reduce existing conceptions of creative agency and intellectual property, especially within the context of developing African design ecosystems, where regulatory frameworks and ethical practices are in the formative stages. The question of who should be recognised as the author of AI-assisted works? What is the correct ownership in the case of algorithmic generation of outputs? And what happens to the question of responsibility when the design created by AI is the cause of ethical or legal damage? The analysis argues that AI systems are computational tools shaped by human prompts, training data, and institutional governance rather than autonomous creative agents. Therefore, moral responsibility should not be disconnected from human designers, organisations and regulating bodies. To foster transparency, accountability, and equitable creative practice in AI-assisted graphic design, the paper suggests developing context-sensitive AI-driven governance models to be implemented on Nigerian and African policy grounds that would integrate global AI ethics principles with the policy realities of the context.

Keywords: Artificial intelligence, graphic design ethics, authorship, intellectual property, professional accountability, African design governance

Introduction

The use of artificial intelligence (AI) in graphic design has ceased to be an experimental practice and is now a common practice in the profession. Image generation systems, automatic branding, and prompt-based visual generation tools have become part of daily design processes. DALL.E, Midjourney, and Adobe Firefly, among others, allow creators to create intricate visual images in a few seconds, transforming the creative process and production cycles. AI systems in creative industries are ceasing to be merely more automation of routine tasks; more and more, they are involved in the production of ideas, in synthesis of style, and in experimentation with visuals as well.

This revolution has consequences beyond technical efficiency. Historically, graphic design has been based on human willfulness, interpretative excellence and social accountability. Designers do not just learn to make aesthetically mind-grabbing work but think about audience impact, cultural sensitivity and ethical communication. Generative AI undermines these

foundations by relying on algorithmic systems trained on vast, often opaque datasets whose origins, biases, and licensing raise serious ethical concerns.

Recent studies on AI governance stress that the work of generative systems is based on statistical pattern recognition, not the innovative, creative thinking of a human, but the results are often just as innovative and expressive as the ones created by a human (Bommasani et al., 2021; Crawford, 2021). These systems are changing the conventional views of who is an author, who owns AI-assisted outputs, and who is responsible when harm occurs as they are integrated into design practice.

The issues are even more critical in the up-and-coming African creative economies. The adoption of AI in the digital and creative industries in Nigeria is still developing, but the regulatory and institutional landscape is changing. With the implementation of the Nigerian Data Protection Act, there are now more standards on how to regulate the data, yet there is no particular information regarding AI-generated creative works. Equally, the National Information Technology Development Agency has published national AI-related frameworks and strategies to focus on innovation and ethical development, yet sector-specific considerations of design education and professional practice need to be redefined. The African Union at the continental level has gone a notch higher to facilitate AI governance discourse to enhance responsible innovation within the member countries.

In this respect, the ethical implications of AI in graphic design require systematic academic consideration. Authorship, ownership and responsibility issues are not just hypothetical; however, they impact contracts, intellectual property claims, professional standing and trust. Particularly, these concerns are crucial to the assurance that AI helps in promoting creative practice without compromising accountability in Nigerian and other African design contexts or ethical values.

2. Statement of the Problem

Although AI tools are increasingly adopted in the field of graphic design at a faster rate, they have not been accompanied by corresponding ethical and legal clarity. The intellectual property regimes in most jurisdictions today, including Nigeria, are human authorship-based. In the case of visual outputs produced by prompt-based AI systems that have been trained on masses of data, it is unclear who created the work. There are uncertainty on whether the credit for the creativity should be attributed to the designer who offers prompts, the developers who created the system, the platform where the model will be hosted, or a combination of the actors.

The issue of ownership is also a challenging issue. AI systems are trained using large image databases, which can contain copyrighted content, and the issue of derivative creation and data permission becomes a matter of concern. Although there are platforms that offer commercial-use licenses, the legal interpretations are still in transition across the world (2021-2026 literature). The intellectual property laws in Nigeria have not yet been specific on the issue of AI-generated works, leaving the people engaged in the commercial practices in the grey.

Ethics is also complicated by responsibility. Visual outputs of AI can recreate the bias in culture, inappropriate images, misinformation or false advertising features. Accountability can be diluted in such situations between designers, software vendors and institutional clients. Ethical responsibility can easily be fractured unless there are well-defined professional standards. No industry-specific ethical codes currently exist for AI-assisted graphic design in Nigeria or most

African countries, creating an urgent need for this research. It needs a strict, current, academic analysis to define conceptual limits, establish areas of governance lapses, and suggest situational-based ethical theories which would be adequate in the context of design practice today.

Concept of Ethics in Creative and Digital Practices

Ethics in creative and digital practice is an issue about the norms that dictate responsible behaviour in the creation, sharing and interpretation of visual information in technologically mediated spaces. The concept of ethical responsibility in graphic design has traditionally been understood as going beyond aesthetics to encompass truthfulness in depiction, sensitivity to intellectual property, awareness of cultural issues, and sensitivity to social implications. With the growing influence of digital infrastructures on the nature of communication systems, designers have been working in highly socio-technical ecosystems in which creative choices can have extensive implications for society.

The fast adoption of artificial intelligence (AI) in the design processes has heightened concerns about designing. Modern generative systems are not just running commands, but actually generate outputs by large-scale pattern recognition used on huge amounts of data. Bommasani et al. (2021) claim that foundation models are trained on masses of data to learn the statistical relation between them, which they then use to produce new content across modalities, such as text and images. As much as these systems broaden the creative potentials, their lack of transparency and reliance on data creates ethical risks of bias reproduction and data provenance, along with derivative outputs.

On the same note, Jobin, Ienca, and Vayena (2021) note that transparency, accountability, fairness, and human oversight are the main normative principles in global AI governance frameworks. When applied to graphic design, transparency implies revealing AI participation in the work of creating a message, especially in commercial or institutional communication. Accountability also needs to identify human players who can take responsibility for outputs produced with the help of AI. Fairness requires attention to the encouragement of stereotypes in the training data, and the involvement of humans is necessary to make the results of the algorithms subject to contextual review instead of blindly accepting them.

These issues are especially relevant in the creative African economies which are emerging. In Nigeria, the regulatory environment has also started dealing with more comprehensive data governance by the Nigeria Data Protection Act, which provides the guidelines for legal data processing. Nevertheless, the Act is silent on the subject of authorship or ownership of AI-created pieces of creative work. In the meantime, the National Information Technology Development Agency has defined strategic intentions in responsible AI development, and the African Union has facilitated policy coordination of AI on the continent. Regardless of these efforts, AI-assisted graphic design does not have sector-specific ethical guidance.

The AI-based design practice thus needs more than technical competence as an ethical practice. Designers need to question critically the manner in which datasets were brought together, the impact of prompts on outputs, and the impact of generated visuals on various audiences. Instead of reducing the moral responsibility, the integration of AI increases the pressure on the professional accountability and governance systems that can handle the emerging risks of African design.

AI and Creative Agency

In the traditional practice of graphic design, the agency has been accredited to human designers whose interpretive judgement, situational awareness and deliberate choice are the determinants of visual communication.

There is a growing challenge to this assumption by the emergence of generative AI systems that are able to generate visually rich outputs based on a small amount of textual input. With the help of DALL·E or Midjourney, one can create images that seem new and stylistically consistent. Nevertheless, as Bommasani et al. (2021) explain, probabilistic inference over training datasets produces such outputs, not despite intentional effort.

The recent AI scholarship debate differentiates between normative and computational creative agency. Ouchchy, Coin, and Dubljevic (2023) claim that even though AI systems can produce artefacts that seem creative, they do not have a moral agent and can not be held responsible in this regard. The moral aspect of creativity is still connected with intentionality, situational awareness, and responsibility, which AI systems lack.

In the context of AI-assisted graphic design, the human designers still set goals, create prompts, choose outputs, and refine compositions, as well as decide in which contexts to implement designs. The evaluative authority is used even when there are initial visuals generated by the generative systems. Agency is therefore technically mediated but not substituted.

It is especially crucial to keep the human creative agency in mind in the Nigerian and African context as a whole, where AI-created works are still being regulated in terms of intellectual property. In the absence of an agency to be assigned to actual human actors, the responsibility will be spread among developers, platforms, and users.

Authorship in AI-Assisted Design

Originality, intentional direction and meaningful control over creative decisions have traditionally been the connection between authorship in the field of graphic design. The person who idea-invents the work, who identifies the communicative intention of the work and holds the work accountable to its social and cultural effects is typically perceived to be the author of a design. This understanding is complicated by the fact that the incorporation of generative AI presents the use of algorithmic systems, which do not play an insignificant role in the visual output.

More recent scholarly works in the field of intellectual property acknowledge that generative AI is a disruptive technology to established policies of authorship since the copyright legal framework is organised around human creativity (Gervais, 2022). When a designer uses AI tools to create an image, layout or branding idea, a human prompt and an algorithmic synthesis can influence the result. The question then comes on board: who is the author?

Ouchchy, Coin, and Dubljevic (2023) believe that AI systems do not have moral agency and cannot be identified as the authors in the normative sense since such authorship means responsibility and intent. Although AI systems can produce artefacts that seem novel, they are generated in a manner of probabilistic recombination of training data, as opposed to creative judgment. Therefore, assigning authorship to AI would be taking the creative credit out of the moral obligation.

Furthermore, it is dangerous to overlook AI's contribution to a work of art by assigning sole credit to humans, as this misrepresents the creative reality. To maintain ethical standards, AI's role must be disclosed—especially in institutional and commercial settings where public interests are at stake.

Under Nigeria's Copyright Act (Cap C28 LFN 2004, as amended), authorship is still explicitly tied to human creators. The Nigerian intellectual property laws do not explicitly acknowledge AI as a legal author. This supports the thesis that human designers still have primary authorship in the case of the use of AI tools, as long as there is their meaningful creative control. Authorship with the aid of AI-assisted design must be viewed as a human-led but technology-mediated design, where AI is regarded as an auxiliary tool rather than the designer itself. This stance maintains accountability, promotes professional integrity and aligns authorship recognition with prevailing legal systems and recognises the facts of AI-supported workflows.

Ownership and Intellectual Property Rights

One of the most disputable aspects of AI integration in the creative industries is ownership and intellectual property (IP) rights. Conventional copyright laws stipulate human authorship and provable originality. The problem of generative AI is that it interferes with this paradigm by generating outputs that do not necessarily meet the traditional standards of authorship.

Ginsburg and Budiardjo (2021) note that several jurisdictions are struggling with the issue of whether AI-generated works should be given copyright protection in situations where human intervention is insignificant. Equally, Gervais (2022) observes that generative systems that have been trained on massive data make originality tests challenging since generated content can capture latent effects of copyrighted content incorporated in the training corpora.

Another ethical issue is associated with providing data provenance training. According to Birhane and Prabhu (2021) giant datasets in many cases contain copyrighted or culturally insensitive content unknowingly, without the express permission of their creators. There are concerns of derivative production, unfair enrichment, and distributive justice in creative economies when such datasets are trained on generative models.

These arguments directly relate to Nigerian designers. The Nigerian Data Protection Act has rules on the processing of personal data, but it does not touch on the question of ownership of AI-generated creative works. In addition, the copyright system in Nigeria has not given specific statutory provisions on outputs offered by AI. This regulatory void poses a problem to designers who would like their AI-assisted projects to get commercial protection.

Three ethical principles should then be put to the fore in ethically-grounded IP governance:

- i. The undisputed involvement of human creativity.
- ii. Openness in terms of AI participation.
- iii. Equitable distribution of economic benefits derived from AI-assisted creative production

The process of adaptive IP reform, which is aligned with continental efforts promoted by the African Union, will be required to avoid exploitation, safeguard creative labour, and ensure fair participation in AI-based design economies.

Responsibility and Ethical Accountability

Professional practice of graphic design is based on responsibility and ethical accountability. Designers are conventionally supposed to pre-empt the social implications of their practice and bear responsibility towards communicative consequences. The AI-based design makes this expectation more difficult by bringing in a number of more participants in the production chain, such as developers, platform providers, and data curators.

As stressed by Bommasani et al (2021), the foundation models are socio-technical systems, which are conditioned by the training data, institutional motivation, and deployment settings. Responsibility can be shared in these layers when malicious or biased outputs take place. Further research (Bommasani et al., 2021) shows that to avoid responsibility diffusion, the mechanisms of governance need to specify role-based accountability.

According to Jobin, Ienca, and Vayena (2021), accountability is one of the key concepts of global AI ethics guidelines. In graphic design, one of the principles is to ensure that recognisable human actors are accountable for AI-assisted work. It is ethically unjustifiable to give over accountability to AI systems since they do not have any intentionality or moral judgment abilities.

Practically, the responsibility in AI-assisted graphic design should be distinguished and not watered down:

Before publication, designers have to take a critical look at outputs.

- It is the work of developers to be transparent about the limitations of the system and the source of data.
- Companies should have in place internal reviewing ethics.
- The regulating authorities have to develop efficient accountability benchmarks.

In Nigeria, institutional organisations like the National Information Technology Development Agency have also focused on the responsible innovation of AI, but there are only a few mechanisms of sector-specific enforcement. It is then necessary to enhance accountability mechanisms in the creative industries. AI does not dilute human responsibility; it would redistribute the complexity of operations, but ethical responsibility based on human agency would remain. Constant monitoring, self-assessment, and adaptive governance will also be essential to the responsible AI-assisted graphic design practice.

Methodology

This study adopts a qualitative conceptual research design based on a systematic literature review of scholarly sources, ethical frameworks, and policy documents published between 2021 and 2025. The review focuses on authorship, ownership, and responsibility in AI-assisted graphic design, with particular attention to implications for Nigerian and African contexts.

Sources were identified through searches on Google Scholar, Scopus, JSTOR, and African Journals Online using keywords: “AI graphic design ethics”, “generative AI authorship”, “AI intellectual property Africa”, “AI governance Nigeria”, “creative agency AI”, combined with Boolean operators. Inclusion criteria: peer-reviewed articles, policy documents, and ethical

guidelines published 2021–2025 in English that directly address generative AI in creative/visual domains or AI governance in Africa.

A total of 42 sources were initially screened; 28 were selected for full analysis after abstract/title screening and relevance assessment. Data were thematically synthesized following Braun and Clarke (2021), identifying recurring themes (agency, authorship, ownership, accountability) and contextual gaps in African regulatory frameworks.

Results

The review revealed four major findings:

1. **Authorship remains human-centered** — Most scholars (Gervais, 2022; Ouchchy et al., 2023) and legal frameworks maintain that meaningful human control (prompt engineering, selection, refinement) establishes authorship, treating AI as a tool rather than co-creator.
2. **Ownership and IP face significant uncertainty** — Generative models trained on potentially copyrighted data create derivative-work risks; current Nigerian copyright law provides no explicit guidance (Ginsburg & Budiardjo, 2021; Birhane & Prabhu, 2021).
3. **Responsibility is distributed but ultimately human** — Accountability cannot be delegated to algorithms; designers, developers, and institutions share layered responsibility (Bommasani et al., 2021; Jobin et al., 2021).
4. **African regulatory gap** — Nigerian and AU frameworks emphasize general AI ethics but lack sector-specific provisions for creative industries, leaving graphic designers without clear guidance.

Discussion

The results of the study demonstrate that the ethical axioms of AI-aided graphic design are related and intertwined with the designers, creative industries, and policymakers.

Implications for Designers

The responsibility of ethical curators who evaluate outputs of AI critically has been taken by designers. The participation of AI needs to be transparent, and the designers should watch over outputs thoroughly to evaluate the bias, misrepresentation, and cultural sensitivity to uphold professional and social responsibility.

What it Implies to the Creative Industry

The implementation of AI in creative processes may lead to deskilling, aesthetic uniformity, and systemic bias within visual culture. Leaders must act ethically to ensure that AI serves to augment rather than replace human creativity—safeguarding the diversity, originality, and professionalism of the industry.

Policy and Regulation Implications

Authorship, ownership, and accountability in AI-assisted works should be well-defined in the policy frameworks. Although Nigerian and African regulatory policies offer a baseline, the implementation and enforcement of the policies are paramount in terms of safeguarding

creative labour, upholding cultural integrity, and ensuring people have confidence in the digital creative economy.

Conclusion

The use of AI in graphic design is changing the modern practice since it has broadened the creative possibilities, but has also brought a new ethical problem. Although AI will help to improve efficiency and experimentation, it breaks traditional conceptions of authorship, ownership, and responsibility.

The conclusion of this paper is that AI must be viewed as a supportive and enhancing medium, and not an independent creative force. Human designers still have key functions in establishing creative purpose, contextualising output and taking ethical responsibility. The moral responsibility cannot be placed in the hands of algorithmic systems; thus, human supervision is still necessary.

The ethical practice of AI-assisted design as a sustainable endeavour needs strong professionalism and dynamic regulatory frameworks that harness creative labour, commit transparency, and affirm accountability throughout the creative ecosystem.

Recommendations

To develop trust and ethical responsibility, designers and organizations need to report on the role played by AI in the design process and the degree to which it is contributing to the design.

The professional organizations of designers ought to develop certain ethical guidelines on the use of AI-based workflows in handling the issues of authorship, ownership, bias mitigation, and human control.

Continuous review of the copyright and intellectual property policies should be conducted by the policymakers to acknowledge human intervention in artificial intelligence-based production, explain ownership, and defend the rights of creators besides encouraging fair play in creativity.

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