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**| RESEARCH ARTICLE**

## **The Impact of Digital Technology on Contemporary Art Practices**

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**| ABSTRACT**

The integration of digital technology into contemporary art practices has radically transformed both the production and consumption of art. Digital tools and platforms have expanded artistic possibilities, allowing for new forms of expression that blur traditional boundaries between genres, media, and artistic disciplines. This review examines the diverse ways in which digital technology has influenced contemporary art, focusing on digital media, virtual reality, artificial intelligence, and interactive installations. By enabling artists to explore novel materials, techniques, and collaborative processes, digital technology has facilitated an era of unprecedented experimentation in the visual arts. The impact of digital technology is particularly evident in the realm of digital media art, where software, algorithms, and video manipulation tools have become integral to artistic creation. Similarly, the rise of virtual reality (VR) and augmented reality (AR) has opened up immersive environments where viewers can engage with art in dynamic, participatory ways. Artificial intelligence (AI) and machine learning have also introduced new creative possibilities, challenging conventional notions of authorship and creativity by allowing machines to generate and influence artistic outcomes. This review also addresses the challenges posed by the digital age, including concerns over copyright, the preservation of digital works, and the growing commercialization of art through online platforms. Additionally, it explores the democratization of art, as digital technology enables artists from diverse backgrounds to reach global audiences and engage with interactive, decentralized forms of exhibition. Ultimately, the evolving relationship between digital technology and contemporary art invites further investigation into its role in shaping cultural narratives and the future of artistic practice.

**| KEYWORDS**

Digital Art, Contemporary Art, Virtual Reality (VR), Augmented Reality (AR), Artificial Intelligence (AI) in Art, NFTs and Blockchain, Interactive Art

**| ARTICLE INFORMATION**

**ACCEPTED:** 28 September 2025

**PUBLISHED:** 30 November 2025

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### **1. Introduction**

The rapid advancement of digital technology over the past several decades has fundamentally reshaped the landscape of contemporary art, redefining how art is created, experienced, and disseminated (Lovejoy, 2004; Gronlund, 2016). As society continues to integrate digital tools into everyday life, artists have increasingly embraced these innovations to explore new modes of expression beyond the limits of traditional media (Samdanis, 2016; Kraynak, 2020). From early computer-generated imagery to sophisticated applications of artificial intelligence and immersive technologies, digital tools have profoundly transformed artistic practice (Lughi, 2014; Yuhan et al., 2024).

One of the most significant impacts of digital technology is its expansion of the material and conceptual vocabulary of art. Artists now operate within hybrid physical–virtual environments that allow for flexible manipulation of images, sounds, and forms (Lovejoy, 2004; Gronlund, 2016). Software such as digital painting programs and 3D modeling platforms enables non-linear and generative creative processes that were previously impossible (Samdanis, 2016; Tykhoniuk et al., 2024). As a result, boundaries between visual arts, design, performance, and media studies are increasingly blurred (Lughi, 2014; Kraynak, 2020).

Digital technology has also redefined the relationship between artists and audiences. Interactive installations and immersive virtual environments now engage viewers as active participants rather than passive observers (Harding et al., 2019; Yuhan et al., 2024). Digital platforms such as online galleries and social media further expand audience reach and cross-cultural artistic exchange (Blume, 2017; Kraynak, 2020). This democratization of access broadens artistic participation and allows emerging artists to bypass traditional institutional gatekeepers (Blume, 2017).

At the same time, the integration of digital technology raises challenges surrounding ownership, authenticity, and preservation (Phelan, 1984; Aland, 2004). The rapid obsolescence of digital formats complicates long-term archiving of artworks (Lovejoy, 2004), while blockchain-based systems introduce new economic and ethical issues in digital art markets (Stoliarchuk et al., 2024). Despite these challenges, digital technology remains a transformative force in contemporary art, reshaping creative practices and cultural engagement worldwide (Gronlund, 2016; Kraynak, 2020).

## **2. Literature Review**

### ***2.1 Evolution of Digital Art***

Digital technology has transformed artistic production since the late 20th century, evolving from early computer graphics to multimedia and interactive installations (Lovejoy, 2004; Lughi, 2014). Scholars emphasize that digital tools expand creative possibilities by shifting art from physical materials to virtual and algorithmic environments (Aland, 2004; Samdanis, 2016). This evolution has significantly altered artistic methodologies and aesthetic frameworks (Gronlund, 2016).

### ***2.2 Virtual and Augmented Reality in Art***

Virtual reality (VR) and augmented reality (AR) enable immersive, participatory art experiences that redefine the role of the viewer (Harding et al., 2019; Yuhan et al., 2024). Research shows that VR and AR transform spectatorship into interactive engagement by allowing users to navigate and influence digital environments (Tykhoniuk et al., 2024). These technologies introduce new modes of narrative, spatial perception, and emotional immersion (Kraynak, 2020).

### ***2.3 Artificial Intelligence and Generative Art***

Artificial intelligence and machine learning increasingly function as creative collaborators in contemporary art (Tykhoniuk et al., 2024; Yuhan et al., 2024). Studies highlight how algorithmic systems generate artworks based on data-driven rules, challenging traditional ideas of authorship and creative intentionality (Samdanis, 2016; Kraynak, 2020). This shift raises critical philosophical debates about human versus machine creativity (Lovejoy, 2004).

### ***2.4 Digital Platforms and Global Accessibility***

Online platforms and social media have revolutionized art distribution and audience interaction (Blume, 2017; Harding et al., 2019). Digital spaces enable global visibility for artists without reliance on conventional galleries and museums (Kraynak, 2020). Scholars note that virtual exhibitions and online curatorial projects enhance collaboration, inclusivity, and transnational cultural exchange (Blume, 2017; Stoliarchuk et al., 2024).

### ***2.5 NFTs and Blockchain in Contemporary Art***

Blockchain and NFTs are reshaping ownership, monetization, and authenticity in digital art markets (Stoliarchuk et al., 2024). Research emphasizes that NFTs enable direct artist compensation and verifiable ownership but also introduce environmental, speculative, and ethical concerns (Kraynak, 2020; Stoliarchuk et al., 2024).

### ***2.6 Challenges and Ethical Considerations***

Despite technological opportunities, scholars identify persistent challenges related to digital preservation, technological dependency, and the erosion of traditional craftsmanship (Aland, 2004; Lovejoy, 2004). Ethical concerns surrounding AI-generated art include labor displacement, originality, and cultural ownership (Yuhan et al., 2024). These challenges highlight the need for evolving ethical frameworks and sustainable digital archiving strategies (Phelan, 1984; Stoliarchuk et al., 2024).

## **3. Methodology**

This short research review employs a qualitative, descriptive approach to examine the impact of digital technology on contemporary art practices. The study involved a systematic review of existing literature published between 2000 and 2025, focusing on peer-reviewed journal articles, books, and credible online sources related to digital art, virtual and augmented reality, artificial intelligence in art, digital platforms, and blockchain/NFTs.

Data collection involved database searches in Google Scholar, JSTOR, Scopus, and Web of Science using keywords such as "digital art," "VR in art," "AI and creativity," "NFTs and contemporary art," and "interactive art." Selected articles were evaluated based on relevance, credibility, and contribution to understanding technological influences on artistic creation, dissemination, and audience engagement.

The review analyzed findings thematically, categorizing literature under key areas: evolution of digital art, immersive technologies, AI-generated art, digital accessibility, NFTs, and ethical challenges. This approach enabled a comprehensive synthesis of current knowledge, highlighting trends, opportunities, and challenges posed by digital technology in contemporary art practices.

#### **4. Results and Discussion**

The findings from the reviewed literature indicate that digital technology has transformed contemporary art primarily through innovation in creative processes, enhanced audience engagement, and expanded dissemination channels (Gronlund, 2016; Kraynak, 2020). Across the studies analyzed, digital tools now function as core components of artistic practice rather than auxiliary instruments (Lovejoy, 2004; Samdanis, 2016).

A major result is the widespread adoption of digitally mediated creative techniques. Artists utilize software for digital drawing, 3D modeling, animation, and generative coding, enabling higher levels of precision and experimentation than traditional methods (Lughi, 2014; Tykhoniuk et al., 2024). Algorithmic and generative art demonstrate how coded rules autonomously produce evolving visual forms, reflecting a broader computational shift in creative thinking (Yuhan et al., 2024).

Another significant finding is the transformation of audience engagement through immersive and interactive media. VR and AR enable participatory experiences where viewers actively shape the meaning of artworks (Harding et al., 2019; Yuhan et al., 2024). Digital platforms amplify this interaction by allowing real-time global audience feedback and cross-cultural engagement (Blume, 2017; Kraynak, 2020).

Digital dissemination has also redefined art circulation. Online exhibitions and virtual galleries expand accessibility and reduce institutional barriers (Blume, 2017). Blockchain and NFT technologies create new models of ownership and monetization but introduce volatility, environmental concerns, and speculative risks (Stoliarchuk et al., 2024).

Despite these benefits, preservation remains a critical issue due to technological obsolescence and unstable digital formats (Aland, 2004; Lovejoy, 2004). Ethical challenges also persist regarding authorship and originality when AI systems play a central creative role (Tykhoniuk et al., 2024; Yuhan et al., 2024). Overall, the findings confirm that digital technology is a transformative cultural force, reshaping artistic production, audience participation, and the global art ecosystem (Gronlund, 2016; Kraynak, 2020).

#### **5. Conclusion**

The rapid integration of digital technology into contemporary art has reshaped the creative landscape in profound and enduring ways. This review has shown that digital tools not only expand the technical and conceptual possibilities available to artists but also redefine the ways in which art is experienced and disseminated. By enabling innovative processes such as algorithmic generation, immersive environments, and interactive installations, digital technology has opened new artistic frontiers that challenge conventional boundaries and encourage interdisciplinary exploration. These advancements highlight a fundamental shift in artistic practice—one that embraces experimentation, hybridity, and the merging of the virtual with the physical.

Moreover, digital technology has transformed the relationship between artists and audiences. Interactive digital platforms and immersive media invite viewers to become co-creators of meaning, fostering deeper engagement and personal interpretation. The rise of online exhibitions and social media has further democratized access to art, allowing diverse voices to contribute to global cultural dialogues and enabling emerging artists to reach international audiences without reliance on traditional institutions. This increased accessibility underscores the role of digital spaces as inclusive, participatory, and dynamic environments for creative exchange.

Despite its many benefits, the digital turn also presents notable challenges. Issues concerning copyright, authorship, preservation, and the commercialization of digital works require ongoing critical reflection and responsible frameworks. As technologies continue to evolve, artists and institutions must address the ethical and practical implications of creating and maintaining digital art in a fast-changing technological environment.

Overall, the impact of digital technology on contemporary art is transformative, multifaceted, and continually evolving. Its influence has broadened creativity, expanded cultural engagement, and fostered new aesthetic experiences. Future research should continue to investigate these developments, ensuring that digital innovation remains both a tool for artistic empowerment and a catalyst for meaningful cultural growth.

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