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Original Research

The Role of Legal Frameworks in Protecting Digital Artifacts: Artists' and Collectors' Perspectives

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This article aims to explore the role of legal frameworks in protecting digital artifacts, focusing on the perspectives of artists and collectors. It seeks to identify the main legal challenges, understand the viewpoints of creators and collectors, and suggest directions for future legal reforms and technological advancements to better safeguard digital creations. A qualitative research design was utilized, employing semi-structured interviews with 21 participants, including digital artists and collectors. The study focused on collecting rich, detailed insights into the experiences and opinions regarding the current state of legal protections for digital art. Data analysis was conducted through thematic coding, aiming for theoretical saturation to ensure comprehensive coverage of the topic. Four main themes emerged from the analysis: Legal Challenges and Limitations; Artists' Perspectives; Collectors' Perspectives; and Advocacy and Reform. Each theme encapsulated various categories and concepts, highlighting issues such as copyright and ownership challenges, the impact of digital rights management (DRM), the necessity of certification and preservation of digital artworks, and the critical role of legal awareness and education. Insights into the economic value of digital art, market dynamics, and the significance of authenticity and provenance were also uncovered. The study underscores the complexity of legal challenges facing the digital art ecosystem and the varied perspectives of artists and collectors navigating these issues. It calls for a collaborative approach to legal reform, emphasizing the need for adaptable, responsive legal frameworks that can protect digital artifacts in an evolving digital landscape. Additionally, the findings highlight the importance of technological advancements and increased legal literacy within the digital art community to support the creation, distribution, and preservation of digital art.

Keywords: *Digital Art, Legal Frameworks, Copyright, Digital Rights Management, Artistic Creation, Digital Preservation, Legal Reform, Blockchain.*

How to cite this article:

1. Introduction

The progress of digital technologies has revolutionized the art sector, enabling artists to push the boundaries of creativity and innovation (D'Amico et al., 2021). Nambisan (2017) highlights the transformative potential of digital technology in entrepreneurship, underpinning the shift towards a digital-centric approach in various industries, including the arts. This digital transition has not only democratized art creation and distribution but also introduced novel legal and ethical dilemmas that demand attention (Nambisan, 2017). As Centobelli et al. (2022) observe, the digital behavior of innovative startups, including those in

the art sector, underscores the urgency for a taxonomy of digital innovation strategies that can support sustainable digital engagement while addressing legal and ethical considerations (Centobelli et al., 2022).

Digital art, encompassing a wide range of practices from digital painting to interactive installations, presents unique challenges in terms of copyright, ownership, and preservation. Mielczarek and Hopkins (2020) examine the intricate copyright issues surrounding internet memes, shedding light on the broader challenges digital artists face in protecting their intellectual property (Mielczarek & Hopkins, 2020). This underscores the need for legal frameworks that can adapt to the nuances of digital creativity and the transient nature of digital artifacts.

Preservation and certification of digital artworks further complicate the legal landscape. Damiani (2022) addresses the crucial issue of preserving artworks in digital environments, emphasizing the importance of certification mechanisms that can authenticate and safeguard digital pieces over time (Damiani, 2022). Similarly, Martynovich (2023) advocates for an extended metadata standard for digital art, highlighting the role of comprehensive documentation in enhancing the durability and legality of digital artifacts (Martynovich, 2023). Such technological advancements are instrumental in ensuring that digital artworks are not only preserved but also protected within the legal domain.

Despite the potential of digital technologies to enhance artistic expression, they also expose artists and collectors to vulnerabilities such as the decoy effect, where digital literacy becomes a crucial protective tool (Cahyani et al., 2022). The digital art ecosystem is thus at a crossroads, where the empowerment offered by digital tools must be balanced with legal safeguards that protect creators and owners from exploitation and loss.

This study's findings, drawn from interviews with artists and collectors, reveal a landscape marked by legal challenges and limitations, including copyright and ownership disputes, digital rights management issues, and jurisdictional complexities. These challenges underscore the need for legal frameworks that are not only robust but also flexible enough to adapt to the digital art context. Participants' perspectives highlighted the critical role of legal awareness and education in navigating these challenges, pointing to a significant gap in current practices and knowledge.

Furthermore, the viewpoints of collectors shed light on concerns related to the collection, preservation, and authenticity of digital art, illustrating the market dynamics and the speculative nature of digital art investments. The insights from this research thus underscore the multifaceted role of legal frameworks in protecting digital artifacts, emphasizing the need for an integrated approach that encompasses legal reforms, technological advancements, and community collaboration. Therefore, the study aimed to explore the influence of legal status on mental health outcomes among immigrants, seeking to identify the main themes that characterize the interplay between legal precarity and psychological well-being.

2. Methods and Materials

2.1. Study Design and Participants

This study employed a qualitative research design, focusing on semi-structured interviews to explore the perspectives of artists and collectors regarding the role of legal frameworks in protecting digital artifacts. This approach allowed for in-depth discussions, providing rich, detailed insights into the complex issues surrounding copyright, ownership, and preservation in the digital realm.

Participants were selected using a purposive sampling method, targeting individuals with a direct stake in the creation, collection, and protection of digital art. This included digital artists, collectors, and professionals within the legal and art sectors who possess significant experience or insight into the challenges and opportunities presented by current legal frameworks. The selection aimed to achieve a diverse representation of viewpoints and experiences, enhancing the study's depth and relevance.

The study was designed to reach theoretical saturation, a point at which no new themes or insights emerged from the data. This was achieved after conducting interviews with a predetermined range of participants, ensuring that the research findings were comprehensive and reflective of the varied experiences and viewpoints within the digital art community. The process involved continuous comparison of data across interviews, refining the coding scheme, and confirming that the

collected data sufficiently addressed the research questions.

2.2. Measures

2.2.1. Semi-Structured Interview

Data were collected through semi-structured interviews, designed to encourage open-ended responses and facilitate a natural, conversational flow. The interview guide was developed based on a comprehensive review of existing literature, identifying key themes and gaps in the field. Interviews were conducted remotely, using video conferencing tools, to accommodate participants from various geographical locations. Each session lasted approximately 60 to 90 minutes, was recorded with consent, and subsequently transcribed for analysis.

The interview questions focused on several core areas: the perceived effectiveness of current legal protections for digital art, the challenges and limitations faced by artists and collectors, and suggestions for improving legal frameworks to better support the digital art ecosystem.

2.3. Data Analysis

Data analysis followed an iterative process, beginning with a preliminary review of transcripts to identify recurring themes and patterns. This was followed by a more detailed coding process, using both deductive (based on predefined themes from the literature review) and inductive (emerging from the data) approaches. The analysis aimed to understand the nuanced perspectives of participants and generate insights into the complexities of protecting digital artifacts legally.

3. Findings and Results

In this study, a total of 21 participants were interviewed to explore their perspectives on the role of legal frameworks in protecting digital artifacts. The demographic composition of the participant pool was diverse, aiming to capture a wide range of experiences and insights. Of the participants, 12 identified as digital artists, reflecting a variety of genres and mediums within the digital art world. The remaining 9 participants were collectors, some of whom also had professional experiences in galleries or as art curators, providing a rich insight into the collection and preservation of digital art. Gender representation among the participants was relatively balanced, with 11 identifying as male, 9 as female, and 1 preferring not to specify. The age range of participants spanned from 25 to 54, ensuring generational diversity in perspectives.

Table 1

The Summary of Qualitative Analysis Results

Categories	Subcategories	Concepts
Legal Challenges and Limitations	Copyright and Ownership	- Misuse of digital artwork - Lack of clear copyright ownership - Copyright infringement online
	Digital Rights Management (DRM)	- DRM restrictions - Circumvention of DRM - Technological obsolescence
	Jurisdictional Issues	- International copyright laws - Enforcement across borders - Variability of legal protection
	Blockchain and Smart Contracts	- Verifying ownership - Automation of royalties - Legal recognition issues
	Licensing Agreements	- Complexity of licenses - Standardization needs - Creative Commons licenses
Artists' Perspectives	Creation and Distribution	- Digital creation tools - Platforms for distribution - Impact of social media
	Economic Value	- Monetization of digital art - NFT markets - Revenue sharing models
	Legal Awareness and Education	- Knowledge of copyright laws - Access to legal resources - Importance of legal advice
Collectors' Perspectives	Collection and Preservation	- Digital archiving - Longevity of digital formats - Preservation technologies
	Authenticity and Provenance	- Blockchain verification - Provenance tracking - Forgery concerns
	Market Dynamics	- Speculation in digital art market - Market accessibility - Investment in digital art
Advocacy and Reform	Legal Framework Improvements	- Reform of copyright laws - Enhanced legal protections - Global copyright standards
	Technological Advancements	- Blockchain evolution - DRM improvements - Preservation technologies
	Community and Collaboration	- Artist and collector forums - Legal advocacy groups - Collaborative platforms

Education and Awareness	- Legal education for artists - Workshops and seminars - Online resources

3.1. Legal Challenges and Limitations

The legal landscape for digital art is fraught with challenges. Copyright and Ownership concerns are paramount, with artists expressing frustrations over the "misuse of digital artwork" and the "lack of clear copyright ownership." One artist lamented, "Even when you think you've covered all bases, someone finds a new way to exploit your work without consent." Digital Rights Management (DRM) also presents a complex issue, with restrictions sometimes preventing legitimate use, leading one collector to argue that "DRM often does more to hinder than to protect."

Jurisdictional Issues further complicate enforcement, as the digital art market transcends traditional borders. "The variability of legal protection across countries makes it a nightmare to pursue infringements," mentioned a legal expert. The advent of Blockchain and Smart Contracts has introduced new ways to verify ownership and automate royalties, yet there is a consensus that "legal recognition issues remain a significant barrier." Licensing Agreements are similarly fraught with complexity, with calls for "standardization" to mitigate the "complexity of licenses."

3.2. Artists' Perspectives

From the artists' viewpoint, Creation and Distribution are significantly influenced by digital tools and platforms, with social media playing a crucial role in visibility. However, the Economic Value of digital art is a pressing concern. The emergence of NFT markets has introduced new revenue streams, yet as one artist pointed out, "The hype doesn't always translate to sustainable income." Legal Awareness and Education emerged as critical, with many artists admitting a lack of knowledge about copyright laws. "I knew nothing about protecting my work legally until it was too late," shared an artist, underscoring the need for better resources.

3.3. Collectors' Perspectives

Collectors focused on Collection and Preservation, highlighting the importance of digital archiving and the challenges of format longevity. Authenticity and Provenance are central, with blockchain seen as a valuable tool for verification. "The ability to definitively prove an artwork's history changes the game," a collector stated. However, Market Dynamics, including speculation and accessibility, present challenges. "The market's volatility makes it exciting but risky," noted another participant.

3.4. Advocacy and Reform

In addressing these challenges, there's a strong call for Legal Framework Improvements. "We need a reform of copyright laws that keeps pace with digital innovations," advocated a legal expert. Technological Advancements, particularly in blockchain and DRM, are seen as part of the solution. The role of Community and Collaboration is highlighted as essential for driving change, with artists and collectors alike calling for more "collaborative platforms." Education and Awareness remain pivotal, with initiatives aimed at both artists and the broader community to enhance understanding of digital rights.

4. Discussion and Conclusion

The qualitative analysis of semi-structured interviews with artists and collectors in the study revealed four main themes that are crucial for understanding the role of legal frameworks in protecting digital artifacts. These themes include Legal Challenges and Limitations, Artists' Perspectives, Collectors' Perspectives, and Advocacy and Reform. Each main theme comprised several categories, offering a structured insight into the diverse and complex views held by participants regarding the intersection of digital art, law, and technology.

This theme encapsulated the myriad legal hurdles faced by stakeholders within the digital art ecosystem. Categories under this theme highlighted the multifaceted nature of legal challenges, including Copyright and Ownership, Digital Rights Management (DRM), Jurisdictional Issues, Blockchain and Smart Contracts, and Licensing Agreements. Concepts within these categories covered issues such as the misuse of digital artwork, copyright infringement, DRM restrictions and their circumvention, the complexities of enforcing copyright across different jurisdictions, challenges in legal recognition of blockchain transactions, and the complexity and need for standardization in licensing agreements.

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Focusing on the creators within the digital art world, this theme delved into the views and experiences of artists regarding creation, distribution, economic value, and legal awareness. The categories revealed the tools and platforms that artists utilize, the impact of social media on distribution, the challenges in monetizing digital art including through NFT markets, and the significant gap in artists' knowledge of legal protections. Concepts identified included the use of digital creation tools, platforms for distributing artworks, the influence of social media, revenue sharing models, and the critical need for access to legal resources and advice.

From the viewpoint of those who collect and invest in digital art, this theme explored Collection and Preservation, Authenticity and Provenance, and Market Dynamics. Collectors discussed the importance of digital archiving technologies, challenges related to the longevity of digital formats, methods for verifying authenticity and tracking provenance, concerns about forgery, and the speculative nature of the digital art market. The concepts under this theme underscored the need for reliable preservation technologies, blockchain as a tool for verification, and the impact of market accessibility and investment trends on the collection of digital art.

Highlighting the proactive steps and future directions for better protecting digital artifacts, this theme emphasized Legal Framework Improvements, Technological Advancements, Community and Collaboration, and Education and Awareness. Stakeholders called for reforms in copyright laws, adoption of improved DRM systems, blockchain evolution, and the development of extended metadata standards. Concepts included the necessity of global copyright standards, the role of legal advocacy groups, the importance of collaborative platforms for artists and collectors, and the pivotal role of legal education workshops and online resources for enhancing understanding and navigation of legal frameworks.

The qualitative exploration of artists' and collectors' perspectives on the role of legal frameworks in protecting digital artifacts sheds light on the complexities inherent in the digital art ecosystem. This study's findings underscore significant legal challenges and limitations, while also highlighting the diverse experiences and viewpoints of digital art stakeholders. The insights garnered align with and contribute to the existing body of research, offering nuanced understandings of digital art's legal, creative, and market dimensions.

The legal complexities identified in this study, particularly concerning copyright and ownership issues, digital rights management (DRM), and jurisdictional challenges, echo the concerns raised in the broader literature. Cahyani et al. (2022) emphasize the importance of digital literacy in navigating legal protections, a point that resonates with the findings here, where artists' and collectors' awareness and understanding of legal frameworks emerged as a pivotal concern (Cahyani et al., 2022). Similarly, the difficulties surrounding DRM and copyright, as highlighted by Mielczarek and Hopkins (2020), are corroborated by participants' experiences, underlining the need for legal frameworks that are adaptable and responsive to the digital art context (Mielczarek & Hopkins, 2020).

The emphasis on certification and preservation in this study finds support in the work of Damiani (2022), who discusses the critical role of certification mechanisms in digital environments (Damiani, 2022). The call for an extended metadata standard for digital art, as advocated by Martynovich (2023), further aligns with this study's findings, which underscore the necessity of robust documentation and preservation strategies to support the longevity and legal protection of digital artworks (Martynovich, 2023).

The transformative impact of digital technologies on art creation and distribution, as evidenced by the artists' and collectors' narratives, is reflected in the broader discourse on digital innovation and entrepreneurship. Nambisan (2017) discusses the digital technology perspective of entrepreneurship, underscoring the potential of digital tools to redefine traditional industries, including the arts (Nambisan, 2017). This study's findings highlight the dual-edged nature of digital innovation in the art world, where technological advancements offer new opportunities for creativity and market engagement but also introduce legal and ethical challenges that must be navigated.

The importance of community and collaboration, as revealed through the perspectives of artists and collectors, underscores the collective effort required to advocate for and implement legal reforms. This aligns with Centobelli et al. (2022), who identify the need for collaborative approaches in navigating the digital

innovation landscape. The collective action of artists, collectors, legal experts, and policymakers is crucial in shaping legal frameworks that not only protect but also promote the sustainable development of the digital art ecosystem (Centobelli et al., 2022).

This study explored the perspectives of artists and collectors on the role of legal frameworks in protecting digital artifacts, employing qualitative methods to illuminate the complexities and challenges inherent in the digital art ecosystem. The findings reveal significant legal challenges and limitations, including issues related to copyright and ownership, digital rights management (DRM), jurisdictional complexities, and the need for certification and preservation of digital artworks. Furthermore, the study underscores the transformative impact of digital technologies on art creation and distribution, highlighting both opportunities and challenges. The importance of community and collaboration in advocating for legal reforms and the critical role of legal awareness and education among artists and collectors emerged as pivotal themes.

This study contributes to the broader discourse on digital art and legal protection, providing valuable insights into the challenges and opportunities at the intersection of art, technology, and law. By capturing the nuanced perspectives of artists and collectors, the research underscores the urgent need for adaptable, responsive legal frameworks that can effectively protect digital artifacts in an ever-evolving digital landscape. The findings advocate for a multi-stakeholder approach to legal reform, emphasizing the importance of technological advancements, community collaboration, and increased legal literacy within the digital art community.

The study's qualitative nature and the relatively small sample size limit the generalizability of the findings. The focus on specific geographic regions and the digital art market's segments may not fully capture the global diversity of experiences and legal challenges faced by digital artists and collectors. Additionally, the rapidly evolving nature of digital technology and legal practices may outpace the relevance of these findings, necessitating continuous research in this field.

Future research should aim to broaden the scope of investigation, incorporating larger and more geographically diverse samples to enhance the generalizability of the findings. Quantitative studies could provide complementary insights, offering a broader overview of the prevalence and impact of the challenges identified in this study. Furthermore, longitudinal studies could explore the dynamic nature of digital art and legal frameworks, tracking changes over time and providing a deeper understanding of the long-term implications of legal reforms and technological advancements.

The findings from this study highlight the necessity for legal professionals, policymakers, and stakeholders within the digital art ecosystem to engage in collaborative efforts to reform existing legal frameworks. Educators and advocacy groups have a pivotal role to play in enhancing legal literacy among artists and collectors, ensuring that they are equipped to navigate the complexities of copyright and digital rights management. Additionally, the development of standardized certification and preservation practices, supported by technological advancements, is crucial for safeguarding the integrity and longevity of digital artworks. This study underscores the imperative for a holistic approach to legal protection in the digital age, calling for innovation, collaboration, and education to foster a supportive environment for digital art creation and collection.

Authors' Contributions

Authors contributed equally to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

Declaration of Interest

The authors report no conflict of interest.

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According to the authors, this article has no financial support.

Ethical Considerations

In this research, ethical standards including obtaining informed consent, ensuring privacy and confidentiality were observed.

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