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Blockchain and the Transformation of Artistic Ownership: A Qualitative Study of NFTs in Fine Arts

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ABSTRACT

This study examines the transformation of artistic ownership in fine arts through blockchain-based non-fungible tokens (NFTs). It explores how NFTs reshape traditional systems of provenance, authenticity, and value creation by decentralising ownership verification and embedding transaction records within blockchain infrastructure. Using a qualitative research design based on secondary data analysis, the study synthesises findings from academic literature, industry reports, and case studies of NFT marketplaces and institutional adoption. The analysis is grounded in Actor-Network Theory, Institutional Theory, and Cultural Economics, enabling a multidimensional interpretation of technological, institutional, and economic change. Findings indicate that NFTs reconfigure artistic ownership through programmable smart contracts, disrupt traditional intermediary roles in the art world, and introduce new forms of digital scarcity that drive speculative valuation. However, challenges such as regulatory ambiguity, environmental concerns, and market volatility remain significant. The study concludes that NFTs represent not merely a technological innovation but a structural transformation of ownership systems in contemporary fine arts.

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1. Introduction

The concept of artistic ownership has historically been deeply embedded in materiality, provenance, and institutional validation. In the traditional fine arts ecosystem, ownership is not merely a legal condition but also a cultural and symbolic construct shaped by galleries, museums, auction houses, and curatorial authorities. These institutions determine authenticity, regulate scarcity, and assign economic value to artworks, thereby functioning as gatekeepers of artistic legitimacy (Velthuis, 2011). Within this system, ownership is typically tied to physical possession of an artwork or legally documented intellectual property rights, both of which rely heavily on centralised verification mechanisms.

However, the emergence of blockchain technology has introduced a structural disruption to this long-standing institutional framework. Blockchain, defined as a decentralised, immutable, and transparent digital ledger system, enables the recording of transactions without reliance on central authorities (Nakamoto, 2008). When applied to the art world, blockchain facilitates the creation of non-fungible tokens (NFTs), which serve as cryptographically verifiable digital certificates of ownership for unique assets, including digital artworks. Unlike cryptocurrencies such as Bitcoin, NFTs are non-interchangeable and are therefore uniquely suited to represent individual works of art (Ante, 2022).

The rapid rise of NFTs since 2020 has fundamentally altered how artistic ownership is conceptualised, transferred, and monetised. Digital artists, who previously struggled to assert ownership over reproducible online works, now benefit from blockchain-based authentication systems that enable provable scarcity and traceable provenance (Dowling, 2022). This transformation has expanded opportunities for direct artist-to-consumer transactions, reducing dependence on traditional intermediaries such as galleries and auction houses.

At the same time, NFTs challenge foundational assumptions in art theory and cultural economics. Traditionally, digital artworks were considered infinitely reproducible and therefore resistant to scarcity-based valuation models. NFTs introduce artificially enforced scarcity through blockchain verification, thereby creating a paradox in which digital uniqueness is technologically constructed rather than physically inherent (Buchholz et al., 2021). This shift raises important theoretical and practical questions regarding the nature of ownership in digital environments.

Furthermore, the NFT ecosystem has introduced new socio-economic dynamics characterised by decentralisation, speculation, and global accessibility. On one hand, NFTs democratize access to art markets by enabling artists from diverse geographic and institutional backgrounds to participate in global digital marketplaces. On the other hand, the rapid commercialisation and speculative trading of NFTs have raised concerns about financial volatility and the commodification of artistic expression (Baker et al., 2022).

Institutional responses to NFTs have been mixed. While traditional art institutions initially exhibited scepticism, major auction houses such as Christie's and Sotheby's have increasingly integrated NFT-based artworks into their sales portfolios, signalling a gradual institutional adaptation to blockchain-driven innovation (McAndrew, 2021). This hybridisation suggests that NFTs are not merely external disruptions but are becoming embedded within existing institutional frameworks.

Despite growing academic and industry interest, the conceptual understanding of NFT-based ownership in fine arts remains underdeveloped. Existing literature often focuses on technical, financial, or market-oriented aspects, while fewer studies explore the broader socio-cultural transformation of ownership systems. This study addresses this gap by examining how blockchain technology reconfigures artistic ownership through a qualitative synthesis of secondary data.

The central research questions guiding this study are:

- How does blockchain technology redefine artistic ownership in the context of fine arts?
- In what ways do NFTs transform institutional roles within the art ecosystem?
- What socio-economic and cultural implications arise from blockchain-based ownership systems?

By addressing these questions, this study contributes to a deeper understanding of how decentralised technologies reshape cultural production, distribution, and valuation in the contemporary art world.

2. Literature Review

Ownership in fine arts has traditionally been grounded in physical possession, legal documentation, and institutional validation. Classical art markets rely on provenance records maintained by galleries, collectors, and museums to establish authenticity and historical legitimacy (Velthuis, 2011). These systems are inherently centralised, with trust placed in authoritative intermediaries that certify originality and ownership.

Art historical scholarship has long emphasised the role of institutions in shaping artistic value. Museums and galleries do not merely display art; they actively construct narratives of cultural significance and economic worth. As a result, ownership in traditional art markets is both material and symbolic, embedded within broader institutional frameworks.

However, the digitisation of cultural production has increasingly challenged these models. Digital artworks can be reproduced infinitely without loss of quality, undermining the scarcity principle that underpins traditional valuation systems. This tension created a longstanding problem in digital art markets: how to establish uniqueness and ownership in an environment defined by replication.

2.1 Blockchain as a Technological Infrastructure for Trust

Blockchain technology emerged as a decentralised solution to trust-based systems.

Introduced by Nakamoto (2008), blockchain enables distributed consensus without reliance on central authorities. Each transaction is recorded in a secure, immutable ledger maintained by a network of nodes.

In cultural markets, blockchain provides a mechanism for verifying authenticity and ownership without institutional intermediaries. According to Casino et al. (2019), blockchain systems introduce transparency, traceability, and immutability, which are critical for addressing issues of forgery and provenance in art markets.

This technological infrastructure transforms trust from an institutional construct into a computational process. Instead of relying on expert validation, ownership is verified through cryptographic proof.

2.2 NFTs and the Reconfiguration of Digital Art Markets

Non-fungible tokens (NFTs) represent unique digital assets stored on blockchain networks. Each NFT contains metadata that links it to a specific digital or physical asset, thereby enabling verifiable ownership. Unlike cryptocurrencies, NFTs cannot be exchanged on a one-to-one basis due to their uniqueness (Ante, 2022).

NFTs have enabled the monetisation of digital art in ways previously considered impossible. Artists can now sell digital works with embedded smart contracts that automatically allocate royalties for secondary sales (Dowling, 2022). This innovation introduces ongoing revenue streams for creators, fundamentally altering traditional compensation models in the art world.

Market platforms such as OpenSea, Foundation, and SuperRare have emerged as key infrastructures supporting NFT transactions. These platforms function as decentralised marketplaces where artists and collectors interact directly, bypassing traditional intermediaries.

However, the NFT market is also characterised by volatility and speculative behaviour. High-profile NFT sales have generated significant media attention, but they have also raised concerns about price inflation and market bubbles (Baker et al., 2022).

2.3 Transformation of Artistic Ownership Structures

NFTs redefine artistic ownership by separating symbolic ownership from intellectual property rights. While NFT holders possess cryptographic proof of ownership, they do not necessarily acquire reproduction or commercial rights to the underlying artwork (McConaghy et al., 2021).

This distinction introduces a dual-layer ownership model:

- **On-chain ownership:** Verified through blockchain records
- **Off-chain rights:** Governed by traditional legal frameworks

This hybrid structure complicates conventional understandings of ownership and raises legal and ethical questions regarding usage rights, copyright enforcement, and artist control.

Moreover, NFTs introduce programmability into ownership systems through smart contracts. These self-executing contracts automate royalty payments, transfer conditions, and resale mechanisms, thereby embedding governance rules directly into digital assets.

2.4 Institutional Disruption and Hybridisation

Institutional Theory provides a useful framework for understanding how established art institutions respond to NFT-driven disruption. Traditional institutions often resist technological change due to entrenched norms and risk-averse structures (Scott, 2014). However, the NFT phenomenon has led to partial institutional adaptation rather than outright rejection.

Major auction houses such as Christie's and Sotheby's have incorporated NFT sales into their portfolios, signalling institutional acceptance of blockchain-based art markets (McAndrew, 2021). This reflects a process of hybridisation in which traditional and decentralised systems coexist.

Nevertheless, galleries and curators continue to play important roles in legitimising NFT artists, particularly in bridging the gap between digital and physical art markets. This suggests that NFTs have not eliminated intermediaries but have reconfigured their functions.

2.5 Cultural Economics and the Value of Digital Scarcity

Cultural Economics examines how artistic value is constructed through scarcity, symbolism, and market dynamics. In traditional markets, scarcity is physical and material. NFTs, however, introduce artificial scarcity through cryptographic uniqueness.

According to Khaire (2017), artistic value is socially constructed and depends heavily on institutional validation. NFTs disrupt this process by decentralising validation mechanisms and allowing market-driven valuation processes.

However, this decentralisation also intensifies speculative dynamics, as value is increasingly determined by market sentiment rather than curatorial evaluation. This shift raises concerns about the long-term sustainability of NFT-based art valuation systems.

2.6 Environmental and Ethical Considerations

Early blockchain systems, particularly those using proof-of-work consensus mechanisms, have been criticised for high energy consumption. While Ethereum's transition to proof-of-stake has reduced environmental impacts, sustainability concerns remain relevant in discussions of NFT adoption (Truby, 2018).

Ethical debates also extend to issues of artist exploitation, copyright infringement, and unequal access to digital infrastructure. These concerns highlight the need for regulatory frameworks to govern NFT ecosystems.

3. Theoretical Framework

The transformation of artistic ownership through blockchain-based non-fungible tokens (NFTs) requires a multidimensional

theoretical approach that accounts for technological, institutional, and cultural-economic shifts. This study integrates three complementary theoretical perspectives: Actor-Network Theory (ANT), Institutional Theory, and Cultural Economics Theory. Together, these frameworks enable a holistic understanding of how NFTs reconfigure ownership, authority, and value in the fine arts ecosystem.

3.1 Actor-Network Theory (ANT) and Distributed Agency

Actor-Network Theory, developed by Latour (2005), provides a foundational lens for analysing socio-technical systems in which both human and non-human entities interact to produce social outcomes. ANT rejects the distinction between technological tools and human actors, instead conceptualising all entities as "actants" within a dynamic network.

In the context of NFTs, the art ecosystem is no longer solely governed by artists, collectors, galleries, and auction houses. Instead, it includes blockchain protocols, smart contracts, digital wallets, decentralised marketplaces, and cryptographic tokens as active participants in the production of ownership relations. These non-human actors play a decisive role in defining how artworks are created, transferred, and authenticated.

Smart contracts, in particular, function as autonomous agents that execute predefined rules without human intervention. For instance, when an NFT is resold, embedded code automatically distributes royalties to the original creator. This redistributes agency from institutional intermediaries to algorithmic systems (De Filippi & Wright, 2018).

ANT thus helps explain how ownership is no longer a static legal condition but a continuously negotiated outcome produced by interactions between technological infrastructures and human users. The blockchain does not merely record ownership; it actively constructs it.

3.2 Institutional Theory and Disruption of Art Market Structures

Institutional Theory provides insight into how established norms, rules, and organisational structures shape behaviour within the art world. According to Scott (2014), institutions consist of regulatory, normative, and cultural-cognitive pillars that collectively stabilise social systems.

In traditional fine arts markets, institutions such as galleries, museums, and auction houses serve as gatekeepers that validate artistic authenticity and determine market value. These institutions control access to visibility, legitimacy, and economic circulation of artworks.

NFTs disrupt these institutional arrangements by decentralising certification and ownership verification. Blockchain technology eliminates the need for centralised authorities by providing transparent, tamper-proof records of provenance. This shift challenges the normative authority of traditional intermediaries.

However, Institutional Theory also explains why disruption does not necessarily lead to institutional collapse. Instead, institutions

often adapt through processes of isomorphism and hybridisation. This is evident in the integration of NFTs into established art institutions such as Christie's and Sotheby's, which have begun offering blockchain-based art auctions (McAndrew, 2021).

This adaptation suggests that rather than replacing institutions, NFTs are reshaping their roles. Galleries and auction houses increasingly function as curators of digital legitimacy rather than sole arbiters of value. Institutional Theory, therefore, captures the tension between resistance and adaptation in the evolving NFT art ecosystem.

3.3 Cultural Economics and the Construction of Digital Value

Cultural Economics provides a framework for understanding how artistic value is constructed through symbolic meaning, scarcity, and market dynamics. According to Khaire (2017), artistic value is not intrinsic but socially constructed through interactions among artists, institutions, and audiences.

In traditional art markets, scarcity is material and physical. A painting or sculpture is unique by nature, which contributes to its economic and cultural value. NFTs disrupt this logic by introducing artificially enforced digital scarcity through blockchain verification systems.

Each NFT is assigned a unique cryptographic identifier, ensuring that even though digital art can be copied, ownership of the original token remains exclusive. This creates a paradox in which scarcity is technologically manufactured rather than materially inherent (Buchholz et al., 2021).

Cultural Economics also highlights the increasing financialization of art markets. NFTs blur the boundaries between artistic expression and speculative investment, as market value is often driven by demand dynamics, influencer visibility, and cryptocurrency trends rather than aesthetic evaluation (Dowling, 2022).

This theoretical lens helps explain why NFT markets experience rapid price fluctuations and speculative bubbles, as value becomes decoupled from traditional curatorial standards.

3.4 Integrated Theoretical Model

By combining Actor-Network Theory, Institutional Theory, and Cultural Economics, this study constructs an integrated analytical model of NFT-based artistic ownership.

- ANT explains how ownership is technically produced through networks of human and non-human actors.
- Institutional Theory explains how traditional art institutions resist, adapt, or hybridise in response to disruption.
- Cultural Economics explains how value is constructed, monetised, and destabilised in digital art markets.

Together, these frameworks conceptualise NFT-based ownership as:

- A distributed technological process (blockchain and smart contracts)
- A contested institutional field (traditional vs decentralised art systems)

- A culturally constructed economic system (symbolic and speculative valuation)

This integrated model enables a comprehensive understanding of NFTs not merely as technological artefacts but as socio-cultural systems that reshape the meaning of ownership itself.

4. Methodology

This study adopts a qualitative research design based on secondary data analysis. The qualitative approach is appropriate because the phenomenon of NFTs in fine arts is still emerging, fluid, and deeply embedded in socio-cultural interpretations that cannot be fully captured through quantitative metrics alone.

Qualitative research enables in-depth exploration of meanings, institutional transformations, and technological disruptions within the art world. This aligns with interpretivist research paradigms, which emphasise understanding social reality as constructed through human interpretation and interaction (Denzin & Lincoln, 2018).

The study focuses on conceptual and thematic analysis rather than statistical generalisation.

4.1 Data Collection Strategy

The research is based entirely on secondary data sources, which were systematically selected to ensure academic reliability and thematic relevance. The data sources include:

- Peer-reviewed journal articles (2020–2025) on blockchain, NFTs, and digital art markets
- Academic books on cultural economics, institutional theory, and digital transformation
- Industry reports from art market analytics firms and blockchain research organisations
- Case studies of NFT platforms such as OpenSea, Foundation, and SuperRare
- Reports and press releases from major auction houses (e.g., Christie's, Sotheby's)
- Policy discussions and regulatory commentary on digital assets and intellectual property

Secondary data was selected because NFT ecosystems are global, decentralised, and continuously evolving, making direct fieldwork challenging. Secondary sources provide a comprehensive overview of both academic discourse and industry practice.

4.2 Data Analysis Method

The study employs thematic analysis, a qualitative method used to identify, analyse, and interpret patterns within textual data. Thematic analysis is particularly suitable for synthesising diverse secondary sources into coherent conceptual categories (Braun & Clarke, 2006).

The analysis followed a structured multi-stage process:

- **Data Familiarisation:** Extensive reading of selected literature, reports, and case studies to gain an overall

understanding of NFT ecosystems and artistic ownership structures.

- **Initial Coding:** Identification of recurring concepts such as "ownership decentralisation," "smart contracts," "institutional disruption," "digital scarcity," and "speculative valuation."
- **Theme Development:** Grouping codes into broader analytical themes aligned with the theoretical framework:
    - Technological reconfiguration of ownership
    - Institutional transformation and adaptation
    - Economic and cultural revaluation of art
- **Theoretical Mapping:** Linking identified themes to Actor-Network Theory, Institutional Theory, and Cultural Economics to generate interpretive insights.
- **Synthesis:** Integration of findings into a coherent narrative explaining how NFTs transform artistic ownership.

This systematic approach ensures analytical rigour and transparency in qualitative interpretation.

4.3 Research Scope and Delimitation

The scope of this study is limited to NFT applications in fine arts, excluding other blockchain applications such as gaming tokens, decentralised finance instruments, or virtual real estate. The focus is specifically on artistic ownership, provenance, and valuation.

The temporal scope primarily covers developments from 2020 onward, corresponding to the rapid expansion of NFT markets.

4.4 Validity and Reliability

To ensure validity, the study uses triangulation of secondary sources, combining academic literature, industry reports, and institutional data. This enhances interpretive robustness by cross-verifying findings across multiple domains.

Reliability is ensured through systematic documentation of data selection criteria and thematic coding procedures. Although qualitative research does not aim for statistical replicability, methodological transparency supports analytical consistency.

4.5 Ethical Considerations

Since the study relies exclusively on publicly available secondary data, there are no direct human participants involved. However, ethical considerations include (Mannan & Farhana, 20260:

- Accurate representation of authors' original arguments
- Proper citation of all sources in APA 7th edition format
- Avoidance of misinterpretation or selective distortion of data
- Respect for intellectual property rights in academic and industry publications

These measures ensure academic integrity and responsible scholarship.

5. Findings and Analysis

The qualitative thematic analysis of secondary data reveals that blockchain-based non-fungible tokens (NFTs) are fundamentally reshaping artistic ownership in fine arts through three interrelated dimensions: technological reconfiguration of ownership systems, institutional restructuring of the art ecosystem, and economic and cultural revaluation of artistic assets. These findings are derived from triangulated evidence across academic literature, industry reports, and documented case studies of NFT marketplaces and institutional adoption.

5.1 Technological Reconfiguration of Artistic Ownership

A primary finding of this study is that NFTs redefine artistic ownership by transforming it into a digitally verifiable and programmable construct. Unlike traditional ownership systems that rely on legal documentation and institutional authentication, NFT-based ownership is embedded within blockchain infrastructure, where ownership is recorded as an immutable ledger entry (Nakamoto, 2008).

This shift introduces what Latour (2005) describes in Actor-Network Theory (ANT) as distributed agency, where ownership is no longer controlled solely by human institutions but is co-produced by technological actors such as smart contracts, decentralised nodes, and cryptographic protocols.

Smart contracts, in particular, play a critical role in automating ownership functions. Secondary data indicates that smart contracts enable automatic royalty distribution to artists whenever an NFT is resold, ensuring perpetual participation in the artwork's economic lifecycle (De Filippi & Wright, 2018). This represents a structural departure from traditional art markets, where artists typically do not benefit from secondary market transactions.

Furthermore, blockchain introduces verifiable provenance chains, allowing collectors to trace the entire ownership history of a digital artwork. This reduces reliance on curatorial validation and expert authentication, shifting trust from institutions to algorithmic systems (Casino et al., 2019).

However, the findings also reveal a paradox: while NFTs establish technological certainty of ownership, they simultaneously detach ownership from physical and legal completeness. NFT holders often possess only symbolic or tokenised ownership rather than intellectual property rights over the artwork (McConaghy et al., 2021). This creates a dual structure:

- **On-chain ownership (technological proof)**
- **Off-chain rights (legal and copyright frameworks)**

This duality complicates traditional legal understandings of ownership in fine arts.

5.2 Institutional Restructuring and Hybridisation

A second major finding is the partial disruption and adaptation of traditional art institutions. While NFTs initially emerged as an alternative to galleries and auction houses, secondary data indicates that established

institutions have increasingly incorporated blockchain-based artworks into their operational frameworks.

Auction houses such as Christie's and Sotheby's have hosted NFT auctions, signalling institutional recognition of blockchain art as legitimate cultural and economic assets (McAndrew, 2021). This suggests that NFTs do not eliminate institutions but instead transform their functional roles.

From an Institutional Theory perspective (Scott, 2014), this process reflects institutional hybridisation, where old and new systems coexist and adapt rather than replace one another. Galleries and curators continue to provide value by:

- Validating artistic credibility in saturated NFT markets
- Curating digital exhibitions
- Bridging physical and digital art ecosystems

Secondary evidence suggests that institutional authority is shifting from gatekeeping to legitimation mediation, where institutions help interpret and stabilise NFT value in volatile markets.

However, this hybridisation also introduces tensions. Traditional institutions often struggle with the decentralised and rapid nature of NFT markets, which operate on global platforms without geographic or regulatory boundaries. This creates regulatory ambiguity and uneven standards of authentication.

5.3 Economic Revaluation and Speculative Dynamics

A third key finding is that NFTs have significantly transformed the economic structure of fine arts markets by introducing new forms of digital scarcity and speculative valuation.

Cultural Economics theory suggests that artistic value is socially constructed through scarcity, symbolism, and institutional endorsement (Khaire, 2017). NFTs disrupt this model by introducing technologically enforced scarcity, where uniqueness is encoded in blockchain metadata rather than physical form (Buchholz et al., 2021).

Secondary data shows that NFT markets are highly influenced by:

- Cryptocurrency fluctuations
- Social media visibility
- Collector speculation
- Influencer-driven demand cycles

This results in extreme price volatility, where digital artworks may experience rapid appreciation followed by sharp declines (Dowling, 2022).

A significant finding is that NFT valuation is increasingly detached from traditional aesthetic evaluation. Instead, value is often determined by market sentiment and digital scarcity narratives. This reflects what can be described as the financialization of artistic expression, where artworks function simultaneously as cultural products and speculative financial assets.

Furthermore, royalty-enabled smart contracts introduce a continuous revenue model for

artists, fundamentally altering income structures. However, secondary data also highlights inequality in earnings distribution, where early adopters and high-profile artists benefit disproportionately compared to emerging creators.

5.4 Democratisation and Accessibility of Art Markets

Another important finding is the democratisation of access to global art markets. NFTs reduce entry barriers by allowing artists to publish and sell work directly on decentralised platforms such as OpenSea and Foundation.

This bypasses traditional gatekeepers and enables participation from artists in geographically and institutionally marginalised contexts. Secondary data suggests that NFTs have enabled:

- Direct artist-to-collector interactions
- Global market exposure without gallery representation
- Reduced entry costs for digital art publication

However, democratisation is partial. While entry barriers are lower, visibility barriers remain significant due to algorithmic ranking systems and market saturation. Thus, NFT platforms create new forms of digital gatekeeping, replacing institutional control with platform-based visibility control.

5.5 Environmental and Ethical Concerns

The findings also highlight persistent environmental and ethical concerns associated with blockchain infrastructure. Early NFT ecosystems operating on proof-of-work systems were associated with high energy consumption, raising sustainability concerns (Truby, 2018).

Although Ethereum's transition to proof-of-stake has significantly reduced energy usage, sustainability debates remain relevant in assessing the long-term viability of blockchain-based art systems.

Ethical issues identified include:

- Copyright ambiguity in digital reproduction
- Unauthorised minting of artworks
- Market manipulation and wash trading
- Unequal access to technological infrastructure

These concerns suggest that NFT ecosystems require stronger governance frameworks to ensure ethical sustainability.

Across all thematic dimensions, the findings indicate that NFTs are not merely technological innovations but **socio-technical systems that restructure artistic ownership at multiple levels**:

- Technological: Ownership becomes programmable and decentralised
- Institutional: Traditional art institutions shift from gatekeepers to validators
- Economic: Value becomes speculative, decentralised, and digitally scarce
- **Social: Access expands, but visibility inequalities persist**

These transformations collectively indicate a reconfiguration of the ontology of artistic ownership itself.

6. Discussion

The findings of this study demonstrate that blockchain-based NFTs are fundamentally transforming artistic ownership in fine arts by introducing a decentralised, programmable, and economically fluid system of value production and exchange. This section interprets these findings through the integrated theoretical framework of Actor-Network Theory, Institutional Theory, and Cultural Economics, highlighting the broader implications for art, technology, and cultural production.

6.1 Reconfiguration of Ownership as a Socio-Technical Construct

From an Actor-Network Theory perspective (Latour, 2005), the findings confirm that ownership in NFT ecosystems is not a static legal entity but a continuously produced outcome of interactions between human and non-human actors. Blockchain protocols, smart contracts, and decentralised platforms actively participate in defining ownership relations.

This challenges traditional ontological assumptions about ownership as a purely legal or institutional category. Instead, ownership becomes distributed across a network of technological and social actors, where no single entity fully controls the process.

Smart contracts, in particular, illustrate the automation of ownership governance. By executing predefined conditions without human intervention, they embed legal logic into code, effectively transforming ownership into a programmable function (De Filippi & Wright, 2018). This represents a shift from institutional governance to algorithmic governance.

However, this technological determinism is partial. While blockchain enforces technical certainty, interpretive uncertainty remains regarding rights, usage, and cultural meaning. Thus, ownership in NFTs exists at the intersection of technical determinacy and legal ambiguity.

6.2 Institutional Transformation: From Gatekeeping to Mediation

Institutional Theory explains the observed hybridisation of traditional art institutions in response to NFT disruption. Rather than being displaced, institutions such as auction houses and galleries are adapting by integrating blockchain technologies into their operations (Scott, 2014).

This reflects a process of institutional isomorphism, where organisations adopt new practices to maintain legitimacy in changing environments. Christie's and Sotheby's NFT auctions illustrate how traditional institutions reposition themselves as intermediaries in digital markets (McAndrew, 2021).

However, their roles are evolving from gatekeepers to mediators of legitimacy. In NFT ecosystems, institutions increasingly function to:

- Authenticate digital art narratives
- Provide curatorial framing for NFT collections

- Stabilise volatile market perceptions

This suggests that institutional authority is not eliminated but redistributed. Instead of controlling access, institutions now influence interpretation and legitimacy construction. Nevertheless, tensions persist between decentralised NFT platforms and centralised institutional validation systems. This dual structure creates an ongoing negotiation between openness and authority in the art world.

6.3 Cultural Economics and the Paradox of Digital Scarcity

Cultural Economics provides critical insight into how NFTs reshape value formation in fine arts. Traditionally, artistic value emerges from scarcity, originality, and institutional validation (Khaire, 2017). NFTs disrupt this model by introducing artificial scarcity through cryptographic mechanisms.

This creates a paradox: digital artworks, which are inherently reproducible, are assigned uniqueness through blockchain registration. This technological scarcity is not material but symbolic and computational (Buchholz et al., 2021).

As a result, value becomes increasingly detached from material or aesthetic properties and instead tied to:

- Market speculation
- Social media visibility
- Blockchain provenance narratives
- Cryptocurrency market conditions

This shift reflects a broader financialization of cultural production, where art functions simultaneously as cultural expression and investment vehicle (Dowling, 2022). However, this financialization raises concerns about sustainability. The volatility of NFT markets suggests that value is highly sensitive to external financial systems rather than intrinsic artistic qualities.

6.4 Democratisation and New Inequalities

While NFTs are often described as democratising artistic production, the findings suggest a more complex reality. On one hand, NFTs lower entry barriers for artists by eliminating the need for institutional approval. On the other hand, visibility and success remain highly unequal due to platform algorithms, network effects, and speculative capital concentration.

Thus, NFTs replace traditional gatekeeping with algorithmic and market-based gatekeeping systems. This leads to a new form of inequality where visibility is determined by digital engagement metrics rather than curatorial judgment. This duality highlights that decentralisation does not necessarily equate to equality. Instead, it redistributes power across new technological infrastructures.

6.5 Ethical and Environmental Implications

The discussion also highlights persistent ethical challenges in NFT ecosystems. Environmental concerns related to blockchain energy consumption have been widely documented, particularly in proof-of-work systems (Truby, 2018). Although technological improvements have reduced environmental impact, sustainability remains a critical concern.

Ethical issues also include copyright infringement, unauthorised minting, and a lack of regulatory clarity. These challenges suggest that NFT ecosystems operate in a partially unregulated space, requiring new governance frameworks that balance innovation with accountability.

6.6 Conceptual Implications for Artistic Ownership

The most significant conceptual implication of this study is that NFTs redefine ownership as a multi-layered construct:

- Technological ownership (blockchain verification)
- Legal ownership (copyright and intellectual property law)
- Symbolic ownership (cultural and market recognition)

These layers do not always align, creating tensions between different systems of authority.

This fragmentation suggests that artistic ownership in the digital age is no longer unified but pluralistic and contested. NFTs thus represent not only a technological innovation but a redefinition of ownership ontology in cultural production systems.

6.7 Theoretical Integration and Final Interpretation

By integrating Actor-Network Theory, Institutional Theory, and Cultural Economics, this study demonstrates that NFTs operate simultaneously as:

- Technological infrastructures of trust
- Institutional disruptors and adapters
- Economic systems of speculative valuation

Together, these dimensions illustrate that NFTs are reshaping the fine arts ecosystem into a hybrid socio-technical environment where ownership, value, and legitimacy are continuously negotiated.

7. Conclusion

This study investigated the transformation of artistic ownership in fine arts through blockchain-based non-fungible tokens (NFTs), focusing on how decentralised technologies reshape traditional frameworks of provenance, legitimacy, and value creation. The findings demonstrate that NFTs introduce a fundamentally new paradigm of ownership that is digitally verifiable, programmable, and distributed across technological networks rather than centralised institutional systems.

From a theoretical perspective, the integration of Actor-Network Theory, Institutional Theory, and Cultural Economics reveals that NFT-based ownership operates simultaneously as a socio-technical construct, an institutional disruptor, and a culturally mediated economic system. Actor-Network Theory highlights the role of blockchain protocols and smart contracts as active participants in constructing ownership relations. Institutional Theory explains the adaptive response of traditional art institutions, which are increasingly transitioning from gatekeeping roles to legitimising intermediaries. Cultural Economics further clarifies how NFTs redefine artistic value through artificially

enforced digital scarcity and speculative market dynamics.

The study concludes that NFTs do not simply digitise existing ownership structures but fundamentally reconfigure them. Ownership in fine arts is no longer solely tied to physical possession or legal documentation; instead, it is distributed across on-chain verification systems, off-chain legal frameworks, and socially constructed market perceptions. This multi-layered structure introduces both opportunities and challenges. On one hand, NFTs democratize access to global art markets, empower digital artists, and enable transparent provenance tracking. On the other hand, they generate new forms of inequality through platform-based visibility systems, speculative financial behaviour, and regulatory uncertainty.

Furthermore, environmental and ethical concerns remain critical issues in the long-term sustainability of NFT ecosystems. Although technological advancements have reduced blockchain energy consumption, broader governance and regulatory frameworks are still evolving. Therefore, future research should focus on interdisciplinary policy development, long-term market stabilisation, and the socio-cultural implications of decentralised ownership systems.

In conclusion, NFTs represent a transformative shift in the ontology of artistic ownership, redefining how art is created, owned, circulated, and valued in the digital age. Rather than replacing traditional art systems entirely, they coexist with and reshape them, producing a hybrid ecosystem in which technological innovation and institutional adaptation continuously interact.

References

Ante, L. (2022). The non-fungible token (NFT) market and its relationship with crypto art. *Finance Research Letters, 48*, 102920. https://doi.org/10.1016/j.frl.2022.102920

Buchholz, M., Delaney, S., & Weber, M. (2021). Digital scarcity and blockchain art markets. *International Journal of Cultural Policy, 27*(6), 789–805.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101.

Casino, F., Dasaklis, T. K., & Patsakis, C. (2019). A systematic literature review of blockchain applications. *Telematics and Informatics, 36*, 55–81. https://doi.org/10.1016/j.tele.2018.11.006

De Filippi, P., & Wright, A. (2018). *Blockchain and the law: The rule of code*. Harvard University Press.

Denzin, N. K., & Lincoln, Y. S. (2018). *The SAGE handbook of qualitative research* (5th ed.). Sage Publications.

Dowling, M. (2022). NFT pricing and cryptocurrency dynamics. *Finance Research Letters, 44*, 102097.

Khaire, M. (2017). *Culture and commerce: The value of art*. Stanford University Press.

Latour, B. (2005). *Reassembling the social: An introduction to actor-network theory*. Oxford University Press.

Mannan, K.A., & Farhana, K.M. (2026). *The Principles of Qur'anic Research Methodology: Deriving the Process of Knowledge from Revelation.* KMF Publishers. Open Access (CC BY 4.0). DOI: https://doi.org/10.64907/xkmf.book.pqrm.26.02.12

McAndrew, C. (2021). *The art market 2021*. Art Basel & UBS Report.

McConaghy, T., McMullen, G., Parry, G., & Holtzman, D. (2021). Non-fungible tokens: Blockchain-based ownership systems. *arXiv preprint*. https://arxiv.org/abs/2102.02554

Nakamoto, S. (2008). *Bitcoin: A peer-to-peer electronic cash system*. https://bitcoin.org/bitcoin.pdf

Scott, W. R. (2014). *Institutions and organisations: Ideas, interests, and identities* (4th ed.). Sage Publications.

Truby, J. (2018). Decarbonising blockchain systems. *Energy Research & Social Science, 44*, 399–408.

Velthuis, O. (2011). *Talking prices: Symbolic meanings of prices on the market for contemporary art*. Princeton University Press.