



The Legal Characterization of NFT Digital Artwork Transactions in Civil Law

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Abstract. As a novel form of digital asset generated through digital means such as blockchain technology and smart contracts, NFT digital artworks play a significant strategic role in driving the development of the digital economy and unleashing the potential of digital consumption. With the continuous evolution of digital technology, the trading of NFT digital artworks has gradually emerged as a new market form. To effectively grasp this digital development trend, it is urgent to conduct in-depth research on the legal characterization of NFT digital artwork transactions, so as to profoundly understand their unique functions in carrying economic and cultural values. In civil law, there are mainly several viewpoints on the legal characterization of NFT digital artworks transactions, including the theory of property rights transfer, the theory of creditor's rights transfer, and the theory of transfer of new types of virtual property. The emergence of new things is always accompanied by many uncertainties. While the rapid rise of NFTs has brought substantial economic benefits, it also entails numerous legal risks. Researching the civil law characterization of NFT digital artwork transactions is the basis for assessing their transactional risks, which in turn helps to further regulate these risks.

Keywords: NFT; Transactions; Characterization; Civil Law

1 Introduction

When digital art enters the circulation field as a commodity for sale, the same object is both a work and a commodity. On this object, there is both the copyright as a work and the property rights as a commodity. In theory, for the transaction of a work, it is both a legal relationship with the copyright itself as the content of the transaction and a legal relationship with the work carrier as the content of the transaction.

2 Property Transfer Theory: The Collision of Characteristic Advantages and Definitional Dilemmas

The property transfer theory posits that NFT digital art can be regarded as an asset with property rights attributes, and its transaction is a process of property rights

transfer. ^[1]NFT purchasers acquire exclusive dominion over specific digital works. An important premise of this view is that NFT transactions are automatically completed through smart contracts, a process similar to the delivery of property rights in traditional goods. ^[2]The transaction records on the NFT blockchain can provide clear proof of ownership, which reinforces its property rights attributes. Therefore, NFT holders have strong control and dominion over NFT assets. The use of NFTs is essentially the use and consumption of the "thing" related to the specific digital content, and its digital form has expanded the connotation of "thing." At the same time, NFT holders can dominate the NFT absolutely, exclusively, and against the world by holding the "private key," which is in line with the legal principle of "one thing, one right," and the requirement of property rights' dominion. ^[3]

The basis of the property transfer theory lies in the immutability and uniqueness of NFT digital art. In legal practice, property rights usually refer to the dominion over tangible movables or immovables. However, there are no clear legal provisions to include NFT digital art within the scope of property rights. Although the uniqueness of NFTs technically makes it possible to be the object of property rights, whether it conforms to the legal positivism of property rights is still controversial.

Adopting the property theory for NFT digital art is debatable. Although the immutability and traceability of NFTs provide technical protection for the rights of digital assets, their stability and immutability may face challenges in cross-platform or chain-on-chain and chain-off-chain interaction scenarios. For example, different blockchain platforms (such as Ethereum, Flow, Polygon, etc.) adopt different technical standards (such as ERC-721, ERC-1155, etc.), leading to technical compatibility issues when NFTs are transferred across chains, which in turn affects the integrity of their ownership and transaction records. ^[4]In addition, the current international and domestic legal frameworks have many gaps in the continuous effectiveness and cross-border enforcement of NFT rights. For example, Article 127 of the Civil Code recognizes the legal status of network virtual property, but does not clarify the specific legal attributes of NFTs, resulting in uncertainty in the process of their property rights. At the international level, although the EU's Market in Crypto-assets Regulation (MiCA) attempts to include NFTs in the regulatory framework of virtual assets, its legal characterization of NFTs is still unclear, especially lacking specific provisions in cross-border transactions and rights enforcement. ^[5]These legal and technical shortcomings make the rights protection of NFTs in cross-platform and cross-border applications face significant challenges, and it is urgent to fill the relevant gaps through improved legislation and technical standards.

3 Creditor's Rights Transfer Theory: The Controversy between Transaction Characteristics and Practical Dilemmas

In the legal characterization of NFT transactions, the creditor's rights transfer theory is an important and academically controversial view. This view mainly holds that in the process of NFT digital art transactions, the rights obtained by the purchaser of NFTs are more similar to the right to request specific benefits.

The theoretical foundation of the creditor's rights transfer mechanism in NFT transactions stems from the unique technological characteristics of blockchain and practical transaction patterns. First, it must be emphasized that NFT transactions fundamentally differ from traditional copyright transfers. Under standard copyright law frameworks, the act of selling an NFT-embedded digital artwork does not inherently transfer any copyright property rights (such as reproduction rights or public communication rights) unless explicitly contracted. This preserves the original creator's exclusive rights while allowing digital asset circulation. Second, the transaction mechanism consciously diverges from tangible property transfers. Unlike physical art transactions involving material carriers like oil paintings on canvas or bronze sculptures, NFT transactions operate in purely digital realms where no physical "original" exists in the traditional sense, thus precluding conventional ownership concepts. Third, judicial interpretations (as seen in China's landmark NFT case) have clarified that purchasers acquire not copyright interests nor physical possession, but rather a unique bundle of digital entitlements. These include authenticated ownership records on blockchain, exclusive control over the specific NFT instance, and rights to subsequent transfers – essentially creating a new category of digital property rights. Crucially, the technological architecture reveals that NFTs constitute executable smart contracts encoding access permissions rather than representing direct ownership of underlying content. This structure aligns more closely with creditor's rights (right in personam) than property rights (right in rem), as holders possess claims against platform operators for specific performances (like content access and transfer validation) rather than absolute control over digital assets. The blockchain's immutable ledger creates enforceable expectations about digital object management, making NFT transactions functionally equivalent to contractual rights transfers mediated through decentralized technological protocols rather than traditional legal property frameworks.

The creditor's rights transfer theory believes that the establishment and transfer of creditor's rights can better fit the actual NFT transaction process. Under the current technical and legal frameworks, NFT buyers usually do not enjoy the copyright or other related intellectual property rights of the file itself, but only obtain specific rights to access or use the file. These rights cannot exist independently of the provider, even if they are written into smart contracts. Their essence is a right to request the services provided by the platform or the original issuer, which further supports the view that they are creditor's rights.

For example, according to the relevant provisions of the Contract Law of the People's Republic of China and the Civil Code on creditor's rights, the parties have the right to request the other party to perform certain actions (such as providing works, fulfilling contract agreements, etc.) based on the contractual relationship, which is very consistent with the rights of the buyer in NFT transactions to require the seller to deliver and enjoy the connotations of the NFT. Under this view, the buyer does not have direct control over the NFT digital art, but requires the NFT content issuer to fulfill its delivery promise, which precisely reflects the characteristics of creditor's rights.

While the creditor's rights transfer theory offers a novel framework for understanding NFT transactions, its practical implementation faces unresolved challenges

requiring interdisciplinary analysis. First, the inherent fragility of creditor's rights (rights in personam) in decentralized ecosystems undermines transactional security. Unlike property rights (rights in rem) that grant direct control over assets, NFT holders under this model depend entirely on counterparties' performance—platforms maintaining metadata integrity, creators honoring embedded licenses, or blockchain networks ensuring protocol stability.^[6] A single failure point—such as a platform shutting down servers hosting linked digital content, a smart contract coding error nullifying royalty mechanisms, or a creator revoking access permissions—could render the creditor's rights illusory, with current liability frameworks inadequately addressing such cascading risks. Second, the theory struggles to accommodate NFTs' multidimensional utility in hybrid ecosystems. Modern NFT applications—from fractionalized art ownership pools to metaverse land leases embedding revenue-sharing clauses—create layered rights structures involving licensors, DAO governance bodies, liquidity providers, and end-users. These interdependent relationships transcend traditional bilateral creditor-debtor dynamics, necessitating adaptive legal constructs that recognize conditional rights, third-party beneficiaries, and automated obligation triggers. Third, jurisdictional fragmentation compounds these challenges. Cross-chain NFT transfers or metaverse interoperability initiatives expose conflicts between incompatible smart contract standards, contradictory national regulations on digital asset classification, and uneven enforcement mechanisms. A creditor's rights claim valid on Ethereum-based platforms might become unenforceable when NFTs migrate to alternative chains with distinct consensus rules or jurisdictions rejecting blockchain evidence. Finally, the technical-legal interface remains unstable. While blockchain immutability theoretically ensures auditability, critical gaps persist—such as the lack of standardized methods to legally associate wallet addresses with identifiable entities, or the absence of unified protocols for overriding smart contract terms in cases of proven fraud or systemic errors. Smart contracts' deterministic execution, though efficient, risks institutionalizing injustices when code logic clashes with evolving legal principles like consumer protection or fair use. Resolving these issues demands coordinated advancements in modular contract design, cross-border regulatory harmonization, and dispute resolution mechanisms tailored to blockchain's programmability—a multidimensional undertaking yet to materialize at scale.

Overall, although the creditor's rights transfer theory can reflect some legal characteristics of NFT transactions in certain aspects, further theoretical exploration and empirical research are needed to support it as the only or optimal interpretation model for NFT transactions.

4 The Theory of Transfer of New Virtual Property: the Advantages of Transaction Independence and Security

This paper believes that the transaction of NFT digital art should be characterized as the transfer of new virtual property. This theory holds that traditional property rights transfer or creditor's rights transfer models are not applicable here. The theoretical basis of this view is that NFT digital art should be defined as network virtual property

under Article 127 of the Civil Code in terms of legal attributes. Although there are still differences in the regulation of virtual property by laws of various countries, the transfer of NFT as a new type of virtual property has attracted the attention of the academic community.

Researchers have proposed the theoretical basis for the transfer of new virtual property. According to this theory, the transfer of NFT digital art can be regarded as the transfer of virtual property ownership. This transfer not only reflects the independence and indivisibility of digital works but also achieves the transparency, traceability, and security of the transaction process through the operation of blockchain technology and smart contracts.

First, the theory of transfer of new virtual property emphasizes the independence of NFT digital art as virtual property. Unlike traditional tangible property, NFT digital art exists in digital form, and its value does not depend on physical carriers but is reflected through the uniqueness and scarcity by blockchain technology. Each NFT has a unique identifier, ensuring its independent existence and non-replicability in the digital world. This independence enables NFT digital art to play an important role as a new type of virtual property in the digital economy and art market.

Second, the theory of transfer of new virtual property highlights the indivisibility of NFT digital art. Unlike traditional property transfers, the transfer of NFT digital art is carried out as a whole unit and cannot be divided or partially transferred. This indivisibility not only ensures the integrity of digital works but also provides a clear legal and technical basis for the transfer of ownership.^[7] Through the automated execution of smart contracts, the transfer process of NFTs can be clearly recorded on the blockchain, ensuring the legality and traceability of each transaction, thereby effectively preventing fraud and disputes.

Third, the theory of transfer of new virtual property can also protect the rights and interests obtained by purchasers when buying NFTs. Purchasers not only obtain the ownership of NFT digital art but also enjoy specific rights such as the right to use, display, and distribute the work. For example, purchasers can not only display their owned NFT works in the virtual world or on social media but also realize their economic value through secondary transactions or authorized use. The clarification and diversification of these rights not only enhance the market appeal of NFT digital art but also provide purchasers with more ways to realize value.

5 Conclusion

This paper believes that the transaction of NFT digital art should be characterized as the transfer of new virtual property. The theory of transfer of new virtual property provides important theoretical support for the rights attributes and transfer mechanisms of NFT digital art. By emphasizing the independence and indivisibility of digital works, as well as the key role of smart contracts in transactions, this theory lays a solid foundation for the standardization and sustainable development of the NFT market. With the continuous development of blockchain technology and the gradual

improvement of legal frameworks, the theory of transfer of new virtual property is expected to play a more important role in the digital economy and art fields.

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