

Research on the Application of the Principle of Exhaustion of Distribution Rights in Network Environment

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Abstract: For digital works, the legality of a purchaser reselling the copy or original of the digital work they acquired hinges on whether the doctrine of exhaustion of the distribution right can be applied in the online environment. Currently, legislation does not explicitly stipulate whether the exhaustion doctrine applies to the online resale of digital works, and significant controversy persists in both theoretical discourse and judicial practice. This paper argues that the doctrine of exhaustion should apply to the online environment. Firstly, based on the definition of the distribution right, it is clear that "making available the original or a copy of the work" constitutes its core element. Therefore, downloading a work online enables the circulation of a copy to the purchaser, who thereby obtains a copy of the work. This essence aligns with the core element of the distribution right—"making available the original or a copy"—and should fall within its scope of regulation, rather than that of the right of communication through information networks. Secondly, addressing the difficulty of transferring the original medium in digital resales, the paper proposes utilizing an "upload-and-delete" technological mechanism to control the number of copies, ensuring the quantity of works remains constant during resale and balancing the interests between rights holders and consumers. Alternatively, blockchain technology can be employed to achieve specificity and ownership transparency for digital works, enabling unique identification and effectively simulating the tangible medium resale process, thereby providing technological support for digital work resales.

Keywords: Distribution Right; Doctrine of Exhaustion; Digital Works

1. Introduction

In today's rapidly evolving information technology landscape, digital works have become an indispensable component of the cultural and creative industries. Digital works refer to creative works that exist in digital form and can be accessed via electronic devices, including e-books, digital music, digital images, software, and various other formats. These digital works are profoundly altering cultural consumption patterns and creative models at an unprecedented pace.

The secondary resale of works is a common market practice in the realm of traditional physical works, referring to the act where a purchaser, having legitimately acquired ownership of a work, sells it again. This behavior is considered legal in traditional markets because it adheres to the principle of exhaustion of distribution rights (also known as the first sale doctrine). The traditional principle of exhaustion of distribution rights originated in the era of physical media. Its core tenet is that the copyright holder loses control over a particular copy after its first sale; the consumer can then freely resell or dispose of that specific copy. The rationale is that the copyright holder has already received appropriate remuneration from the first sale, and subsequent resales do not cause direct economic loss to the copyright holder.

However, when this concept is extended to the domain of digital works, the situation becomes considerably more complex. Applying the principle of exhaustion of distribution rights to digital works would mean allowing a purchaser who has legitimately acquired a digital work to resell or transfer it to a third party. In the online environment, the dissemination of works no longer relies on physical carriers, and the cost of replication approaches zero. This fundamental difference creates significant controversy regarding the application of the traditional principle: direct application might unduly weaken the control rights of copyright holders, while complete exclusion could potentially harm consumer rights and hinder the development of a digital secondary market.

2. The Dilemma of Applying the Exhaustion Doctrine to the Resale of Digital Works

2.1 Controversy over the Legal Nature of Digital Work Resale: Does it Constitute an Act Controlled by the Distribution Right

China's Copyright Law, unlike the U.S. Copyright Act, stipulates both a distribution right and a right of communication through information networks, a approach similar to the EU Copyright Directive. Consequently, some scholars argue that the distinction between the distribution right and the right of communication through information networks is clear, positing that these are two separate exclusive rights. Traditional copyright law theory, based on differences in physical carriers and modes of dissemination, strictly distinguishes between the distribution right and the right of communication through information networks. The core of the distribution right lies in the "transfer of ownership of a tangible carrier." Its legal basis can be found in Article 10(6) of China's Copyright Law: the right to provide the original or copies of a work to the public by selling or gifting them, and it follows the principle of "exhaustion after first sale." In contrast, the right of communication through information networks originates from the interactive dissemination demands of the digital age. It is explicitly defined in Article 10(12) of the Copyright Law as the right to provide a work to the public by wire or wireless means, enabling the public to access it from a place and at a time individually chosen by them. Its essence lies in "interactivity" and "non-reliance on a physical carrier." If the act of reselling digital works online were subsumed under the distribution right, it would lead to a partial overlap in the scope regulated by the distribution right and the right of communication through information networks. This is because the process of reselling digital works often involves downloading the work. Regarding the act of downloading a work online, from the perspective of online distribution, downloading is a means of obtaining a copy of the work. For the right of communication through information networks, downloading is a subsequent extension of providing the work to an unspecified public. Therefore, some scholars contend that an insurmountable boundary exists between communicating works online and distribution acts in the network environment: any act of communicating a work to the public via the network cannot constitute a distribution act in the sense of China's Copyright Law and is unrelated to the distribution right.^[1]

2.2 Difficulty in Transferring the Original Carrier During Digital Work Resale

Traditional copyright theory holds that the foundation of the distribution right lies in the dissemination of works being dependent on the transfer of material carriers. The formation of this theory is inextricably linked to the technological characteristics of the print publication era. In the age dominated by printing technology, the dissemination of works necessarily relied on tangible carriers such as books, records, and discs. Each circulation of a work was accompanied by the physical transfer of its material carrier. This transfer not only facilitated the dissemination of the work but also accomplished the transfer of ownership of that particular copy. The transfer of the material carrier constituted both the technical basis for the work's dissemination and the foundation for a dual protection system of copyright and rights in rem: the copyright holder enjoys the copyright in the work, while the owner of the carrier enjoys the property right in the carrier itself. The principle of exhaustion of the distribution right serves as the linchpin of this dual system, preventing copyright holders from overreaching into the rights concerning the physical object embodying the work.

However, the rapid development of digital technology has fundamentally altered this traditional framework. In the network environment, the transmission of works has been completely liberated from the constraints of material carriers. The transmission of digital works online no longer requires a specific material carrier as an intermediary; works are disseminated directly through the network in digital form. Furthermore, the process of transmitting a digital work does not result in the reduction or destruction of the original copy; instead, it generates a new copy. Consequently, the recipient obtains a brand new digital copy, not the transferred original carrier.

This technological shift poses a fundamental challenge to the traditional distribution right regime. In online transmissions, the inherent duality of copyright and property rights present in traditional modes of work circulation ceases to exist.^[2] Since the transfer of a material carrier is no longer involved, the basis for property right protection vanishes, and the dissemination of works falls entirely within the realm of copyright regulation. This change directly undermines the foundation for applying the exhaustion doctrine. The principle of exhaustion in traditional copyright theory is built upon the transfer of a material carrier. Yet, in the network environment, each transmission generates a new copy. The transaction process does not involve the circulation of the original specific copy, representing a

world of difference compared to the transaction model for works on traditional physical carriers. Therefore, the prerequisite for applying the exhaustion doctrine is lost.

3. Analysis of the Rationality of Applying the Exhaustion Doctrine in the Network Environment

3.1 Determination that Digital Work Resale Falls under the Purview of the Distribution Right

3.1.1 Providing the "Original or Copies" of a Work is the Core Element of the Distribution Right

Traditional copyright law theory, based on differences between physical carriers and modes of dissemination, strictly distinguishes the distribution right from the right of communication through information networks. However, this can be seen as a one-sided interpretation of legal provisions. China's Copyright Law does not explicitly limit the distribution right to tangible carriers, nor do judicial interpretations impose such a restriction. Therefore, this legislative approach retains some interpretive space regarding the specific scope of application of the distribution right. China's Copyright Law neither strictly limits the object of the distribution right to the "tangible carrier of the work" like the EU Copyright Directive, nor does it adopt the US legislative model which merges communication through information networks and dissemination via tangible carriers into a single concept. Consequently, within China's legal framework, one cannot simply copy the US model by fully subsuming "communication through information networks" under the "distribution" category, nor is it advisable to completely adopt the EU model which starkly separates "acts of distribution" and "acts of communication through information networks." The conceptual definition of the object of "distribution" in Article 10 of China's Copyright Law is "providing the original or copies of a work." With the advent of the digital age, this concept should evolve. The original or copies of a work are no longer confined to traditional tangible carriers but should be expanded to include various forms, including digital carriers. This expansive interpretation not only aligns with the developmental needs of the digital era but also corresponds with the legislative spirit of China's Copyright Law. ^[3]Works are dependent and must "reside" on a carrier. However, the range of carriers is diverse and constantly changing, from ancient knotted cords, oracle bones, pottery, and bronze ware, to the ink and paper of the "print age," and the records, films, discs, and even electronic pulses of the "digital age." ^[4]Therefore, for the distribution right, its core element is not whether the carrier the work resides on is tangible or intangible, as the types of carriers will continue to diversify with societal development. Regardless of how the work's carrier changes, the core element of the distribution right remains the act of being able to provide the "original or copies" of the work. The process of reselling digital works online also necessarily involves the transfer of the "original or copies" of the work. The resale act is essentially a form of "re-distribution," merely providing the public with a channel to obtain a copy of the work. ^[5]Therefore, the act of reselling digital works online should rightly fall within the regulatory scope of the distribution right.

3.1.2 The Regulations on Distribution Right and Right of Communication Through Information Networks Are Not Inherently Conflicting

Against the backdrop of digital technology profoundly transforming how works are disseminated, the issue of overlapping regulations between the distribution right and the right of communication through information networks has become an obstacle to applying the distribution right in the online environment. This phenomenon stems from both the collision between traditional rights systems and emerging dissemination models, and the lag in judicial interpretation caused by rapid technological advancement.

Traditional copyright law theory subsumes all acts of providing works to the public via networks under the right of communication through information networks. This approach evidently employs a formal criterion to distinguish the distribution right from the right of communication through information networks, thereby excluding all online provision of works from the scope of the distribution right. However, judging by a substantive standard, according to the definition of the distribution right, any act that provides the public with the original or a copy of the work—i.e., provides the public with a carrier of the work—should fall within the normative scope of the distribution right. This standard is the core distinction between the two rights. Therefore, different acts of providing works to the public should be subject to regulation by different rights based on their specific modes of operation. For instance, the act of a copyright holder uploading a work online for users to download and obtain a digital carrier of the work should fall within the scope of providing the "original or copies of the work" under the distribution right, not the right of communication through

information networks. This is because this act results in the circulation of the work's carrier to the user. Once the user downloads the work, it is stored on an electronic device like a computer or phone, accessible anytime, anywhere, even without an internet connection—much like owning a work on a tangible carrier. Its essence is no different from the transfer of a tangible carrier. Conversely, interactive communication acts, such as uploading a digital work for users to browse and appreciate at any chosen time but not download, should be regulated by the right of communication through information networks. In this scenario, the user does not actually acquire the carrier of the work; they can only browse it online. Once disconnected from the internet or if the URL/application is deactivated, the work can no longer be accessed. The carrier of the work is never essentially obtained by the user, who cannot exercise control over the work.

The continuous expansion of economic rights in copyright, while superficially driven by technological progress, has a deeper cause: technological advancement brings new modes of exploiting works. If a new mode of exploitation only differs superficially from previous modes, it should rightly be adjusted by the original rights.^[6] For digital works, their nature remains that of a work, merely with expanded forms of expression due to IT development. The type of right regulating an act should not be determined solely by the form in which the work exists. The distribution right and the right of communication through information network regulate acts of providing works. The criterion for judgment should be distinguished by the mode of providing the work, not by the form of the work's expression. It is conceivable that in the future, with further technological development and evolving human concepts, new forms of work expression will emerge. Must a new right be legislated each time to regulate them? Therefore, the scope of the distribution right should be defined based on the substantive nature of the act of obtaining the work: any act that provides the public with the original or a copy of the work should be included within the scope of the distribution right.

3.2 Methods of Transferring Work Carriers in the Digital Context

Addressing the scholar's objection that the exhaustion doctrine cannot apply online because the resale process often creates new copies, increasing the number of digital works without transferring the original, can be resolved by ensuring the quantity of digital works remains unchanged during resale.

3.2.1 Upload+Delete Technology Ensures a Constant Number of Works

Upload+Delete technology is a digital rights management (DRM) technical solution. Its core idea is to effectively manage the dissemination and use of digital works by controlling the upload and deletion processes. The basic principle is: when a user purchases a digital work, the system generates a unique encrypted copy and uploads it to the user's device or cloud storage. Simultaneously, the system records the authorization information for this copy and binds it to the user's identity. When the user decides to resell or transfer the digital work, the system requires the user to delete the copy from their device and generates a new encrypted copy for the purchaser.

In digital copyright management, Upload+Delete technology enables the effective deletion of digital works, preventing the same copy from being resold or disseminated multiple times. It can effectively control the dissemination scope of digital works, ensuring each legal copy has a clear owner. Moreover, this technology can trace the transaction history of digital works, providing necessary transaction information to copyright holders. These characteristics of Upload+Delete technology provide technical support for addressing the implementation challenges of the exhaustion doctrine in the digital environment. Through this technology, a process analogous to trading traditional tangible works can be achieved, transferring the work without altering its quantity, thereby providing a controllable environment for the legal transaction and dissemination of digital works. This technology has already been practically applied. Patents obtained by Amazon (US8364595 B1, Jan 29, 2013) and Apple (US20130060616 A1, Mar 7, 2013) provide technical foundations for building a secondary market for digital works. According to the specifications of these patents, they are designed to manage the convenient and quick transfer of digital works—including electronic images, e-books, digital music, movies, and computer applications—between different users. The patents address the problem of low-cost, high-fidelity illegal copying in the digital environment through technology, allowing users who have legitimately obtained access to transfer purchased digital works to another user.^[7]

However, this technology raises another concern: during the transfer process, it is not the original copy of the resold work that is transferred, but a new copy is created, which might potentially infringe the copyright holder's reproduction right. The U.S. case *ReDigi Inc.* is a landmark example. *ReDigi* operated a platform for reselling used digital music, allowing users to resell digital music legally

purchased from platforms like iTunes. Users had to verify the music's legitimacy through proprietary software, then upload the file to ReDigi's servers and delete the local copy, ensuring "uniqueness." Record companies, led by Capitol Records, sued ReDigi, alleging that its platform involved unauthorized reproduction during resale, infringing copyright holders' reproduction and distribution rights. ReDigi argued its technical design ensured "transfer of ownership" rather than reproduction, that users deleted the original file, and that it fell under the first sale doctrine, requiring no copyright holder authorization. The New York Federal District Court ruled against ReDigi, finding its resale act constituted infringement. The court held that even with local file deletion, the process of transmitting the digital file from the user's device to the cloud server necessitated creating a new copy, constituting an unauthorized reproduction that infringed the reproduction right.

From a technical detail perspective, although the digital work resale ultimately transfers not the original specific copy but a brand new copy generated by digital technology, solving the problem of digital work resale need not strictly adhere to the logic of traditional work protection. Reproduction is inevitable during network transmission of digital works; overemphasizing the transfer process risks missing the main point. For the resale of online works, the process should not be overly scrutinized; instead, the outcome should be prioritized. The key lies in whether the constant quantity of digital works can be guaranteed.^[8] Sometimes, excessive focus on the form of the transaction overlooks its true purpose. The essence of a transaction is that after mutual agreement, the reseller loses the digital copy, and the second-hand buyer acquires it. Traditional work transactions involve the transfer of a material carrier, but digital works themselves are transferred not via material carriers but through data flow. Therefore, for the unique online environment, it is unnecessary to overemphasize whether it is the transfer of the original copy, nor can the transaction model for traditional physical carrier works be copied verbatim, as the transaction environments are fundamentally different. New types of product transactions should not be constrained by traditional models. For digital work transactions, greater emphasis should be placed on the result: as long as the reseller transfers the work, i.e., permanently deletes their own digital copy in an irrecoverable manner, losing any ability to manipulate it, while the acquirer obtains the work; the attributes of what is gained and lost are consistent for both parties; and the entire resale process achieves control over the work quantity equivalent to the result of trading traditional physical carrier works, ensuring the uniqueness and competitiveness of the digital work in the resale act.

Regarding infringement of the reproduction right, the norm itself aims to prevent others from reproducing works without the copyright holder's permission, creating new copies and increasing the number of digital works. Digital works themselves do not suffer physical wear and tear. Using this technology to upload a digital work inevitably creates a new copy, but this outcome does not harm the interests of the copyright holder. It is merely a specific pathway for transfer and transmission in the network environment; it does not increase the number of digital works. Furthermore, since digital works lack physical wear and tear the attributes of the new copy are identical to the original. This differs from reproducing traditional physical carrier works, which creates a brand new work carrier, while the original physical carrier degrades over time, making it less competitive than a new copy. Even destroying the original carrier to maintain quantity could still harm the copyright holder's interests. This is a significant distinction between digital and physical carrier works. Reproduction followed by deletion, based on this characteristic of digital works, does not infringe the copyright holder's interests. If a reproductive act does not cause harm to interests, it need not be overly restricted, especially when its purpose is to facilitate the transfer of the work during the transaction, not to create entirely new copies and increase the work count for infringement. Only reproductive acts that exceed the authorized quantity should be regulated by the reproduction right. Copyright protects the market behind the work. Without considering the dissemination of works within the market, even technically defined acts of reproduction hold no significance under copyright law. ^[9]The true purpose of copyright law in regulating and restricting reproduction is not the superficial act itself, but the potential harm to interests behind it. Therefore, for any act, greater attention should be paid to its essence and consequences rather than merely its form. The law ultimately protects the interests among various parties. When an act does not cause an imbalance of interests among the subjects, excessive focus on the form of the act loses the practical meaning of legal norms.

3.2.2 Blockchain Technology Enables the Specification of Digital Works

Compared to the potential reproduction right infringement concerns of the "Upload+Delete" technology, blockchain technology can alleviate these worries. A typical application is blockchain technology in NFT (Non-Fungible Token) digital works. NFT digital works are endowed with a unique on-chain identity; their metadata, copyright information, and transaction records are permanently stored

in encrypted form within blocks, ensuring the authenticity of the work and transparent verifiability of ownership. This transforms digitally works, which are inherently infinitely replicable, into "specified," indivisible, unique assets, granting them uniqueness. Consequently, during resale, they behave like tangible carrier works: no new copy is created; rather, the original NFT digital work is transferred. This effectively simulates the transaction process of traditional tangible copies, enabling the transfer of rights upon resale of the digital work and avoiding infringement risks arising from copying during the resale process.

Blockchain technology is a form of distributed ledger technology whose core features include decentralization, immutability, traceability, and smart contracts. Decentralization means there is no single point of control; all participants maintain the ledger collectively. Immutability ensures that data, once written, cannot be altered. Traceability allows all transaction records to be tracked and verified. Smart contracts enable the execution of automated contract terms on the blockchain.

In digital copyright management, blockchain technology can provide a unique identity for digital works. By recording a work's metadata and copyright information on the blockchain, it ensures the work's authenticity and copyright attribution. This technology can ensure the transfer of rights after the first sale of a digital work. When a digital work is first sold, a smart contract can automatically record the transaction details on the blockchain, completing on-chain notarization, and transferring ownership to the purchaser. This process is transparent and immutable, providing a credible technical foundation for implementing the exhaustion doctrine. Blockchain technology enables effective tracking of digital works, which is key to supporting the exhaustion doctrine. By storing the transaction record of each digital work copy on the blockchain, the circulation process can be clearly traced. When a work is resold, a new transaction record is added, and the access permissions of the previous holder are revoked. This mechanism ensures the uniqueness of the digital work during resale, prevents the same copy from being resold or disseminated multiple times, and simulates the transaction logic of traditional tangible carriers.

Based on this technology, blockchain can effectively balance the interests of copyright holders, users, and the public. For copyright holders, blockchain provides effective tracking and control over the dissemination of digital works, protecting their legitimate rights and interests. For users, smart contracts can ensure they receive corresponding proceeds when reselling digital works, safeguarding consumer rights. For the public, the transparency and traceability of blockchain technology promote the legal circulation of digital works, enhance the credibility of digital work ownership, and benefit cultural dissemination and innovation. It incentivizes user participation in legal circulation, balances copyright protection with market vitality, and ultimately reconstructs the trust system in the digital environment through technological means, promoting compliance and efficiency in the confirmation, transaction, and circulation of digital works.

4. Conclusion

The rapid advancement of digital technology has profoundly reshaped the modes of dissemination and transaction of creative works. The applicability of the doctrine of exhaustion of distribution rights from traditional copyright law in the online environment has become a critical issue in balancing the interests of rights holders and the public.

Looking ahead, as emerging technologies such as the metaverse and artificial intelligence continue to evolve, the forms and transactional scenarios of digital works will further diversify. In this evolving landscape, the doctrine of exhaustion of distribution rights in the digital realm will play a pivotal role in promoting the development of digital culture. By stimulating creative enthusiasm, facilitating knowledge dissemination, and balancing the interests of various stakeholders, this principle provides robust support for the prosperity of digital culture. Although its implementation still faces multifaceted challenges—technological, legal, and market-oriented—addressing how to embed the exhaustion principle into smart contracts and improve the digital copyright management ecosystem will require interdisciplinary collaboration. Nevertheless, its application aligns with the demands of the digital era. Therefore, collective efforts are needed to strike a balance between protecting the rights of creators and consumers, promoting knowledge sharing, and maintaining market order through technological innovation, legal refinement, and business model adaptation. Such efforts will establish a solid foundation for applying the doctrine of exhaustion to the online environment, fully leverage its positive role, foster the healthy development of digital culture, and achieve sustainable growth in the digital cultural industry and knowledge sharing—ultimately enriching human society with more diverse and

vibrant cultural outcomes.

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