

Research on the Copyright Risk of the Red Museum's Digital Collections

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Abstract

With the introduction of the concept of NFT abroad and the rise of digital collections in China, the multiple advantages of digital collections make the Red Museums see the possibility of using more intelligent innovative ways to revitalize Red Resources. Many Chinese Red museums are eager to build digital collections and have even put it into practice. However, after several years of development and precipitation, the copyright risks faced by the Red Museum in the field of digital collections gradually emerged. In order to solve such problems, this paper puts forward corresponding countermeasures from the perspective of "adding substantive review procedures, clarifying works authorization links, and improving platform supervision and management mechanism", so as to help the Red Museum avoid copyright risks in the creation and development of digital collections, form a benign ecology, and promote the innovative development and creative transformation of Chinese Red Culture.

Keywords

The Red Museum, Digital collections, DTC, Copyright protection, Digital intelligence, Chinese Red Culture.

1. Overview of Digital Collections

1.1. Concept

Digital collections(hereinafter referred to as DTC) refer to the unique digital voucher generated based on blockchain technology corresponding to specific cultural works, artworks, etc. On the basis of protecting their digital copyright, it can realize authentic digital issuance, purchase, collection and use [1].

1.2. Characteristics

DTC have the characteristics of uniqueness, verifiability, immutability and permanent storage. Its uniqueness is reflected in the fact that each DTC is identified by a unique digital code behind it; Verifiability is reflected in the publicly verifiable metadata and ownership [2]; It is extremely difficult to modify the information of the DTC on the blockchain, and the cost is extremely high, resulting in its immutability. On the DTC trading platform, the technology used by the DTC creation and trading platform will record every creation and ownership of DTC and save it permanently.

1.3. Distinction between concepts

In real life, part of the public who lack awareness of DTC will confuse DTC with digital pictures. In fact, digital pictures refer to the pictures that have been digitally processed, which mainly includes two categories: one is the digital presentation of realistic scenes, and the other is the final presentation in the form of pictures on the digital platform relying on digital technology. Although DTC have the form of pictures, they are significantly different from ordinary digital pictures. Ordinary digital pictures generally have no unique digital code, and often can realize

repeated transactions. Moreover, ordinary digital pictures have more intellectual property rights infringement risks than DTC.

In China, when referring to DTC, the concept of "NFT" is often inseparable. NFT is a non-fungible token with the property of a digital dictionary collection. The DTC in China is reflected as a branch of NFT, which has the main attributes and connotation of NFT, but is different from the main forms of virtual currency in foreign countries [3]. The prevailing view in China is that DTC are equivalent to Sinicized NFT works. Compared with the international society, which emphasizes and pursues the financial attribute of NFT, China emphasizes its collection value more. And the sale of DTC still relies on the NFT trading platform.

1.4. Current situation of development

At present, China's DTC industry is still in the initial stage of development. Since the launch of China's first DTC platform in 2021, the development of DTC in China has begun. Meanwhile, under the guidance of China's 14th Five-Year Plan for Cultural Development, Red Museum began to participate in the development of DTC, which have become an important embodiment of the development of digital intelligence of red cultural resources in Red Museum. However, in the process of DTC development, the interests of multiple subjects are constantly highlighted, and the problems of copyright ownership emerge in an endless stream.

China has made some progress in protecting the copyright of the DTC of the Red Museum. It is clear from the relevant normative documents such as the Digital Cultural and Creative Convention issued by the National organization in 2022 and the Digital Cultural and Creative Industry Self-discipline Convention jointly issued by the National Copyright Trading Center Alliance, China Academy of Art, Hunan Provincial Museum and Ant Group in 2021 that China adopts the mode of "development + protection" for the development of DTC. The same should be true of the Red Museum's DTC development.

However, there is still a long way to go in the copyright protection of DTC of the Red Museum in China. The author believes that when China develops the DTC of the Red Museum, the copyright protection of DTC should not be attributed to the responsibility after the development is mature. It is necessary to form a benign ecology to realize the parallel development of DTC and copyright protection, vigorously promote the development of digital copyright protection in museums, and highlight the value of cultural protection and communication in museums.

2. Copyright Risks of The Red Museum's Digital Collections

2.1. The risk of digital collections being pre-empted registered intensifies, and the prior right confirmation review of the platforms is absent

Right confirmation is the first step of DTC copyright value confirmation. The core value of DTC based on blockchain technology and based on the metaverse as the application scenario lies in the capitalizing of digital content and the "empowerment" function of providing proof of rights and interests for digital assets [4], which is exactly the unique advantage of DTC. Generally speaking, that is, each DTC has a unique blockchain number and the DTC based on blockchain technology is immutable and traceable, which allows us to truly own "exclusive" content in the digital age. However, it can only ensure that the content of the linked works will not be tampered with twice and the identity of the author will not be arbitrarily erased. If the rights of the linked works exist before the link, the DTC will be wrongly fixed from the beginning, which will lead to unpredictable and uncontrollable consequences in the subsequent copyright transaction and other links. For example, if the Red Museum has developed corresponding digital works relying on its own collections, but has not yet connected the link, and someone has connected the digital works first, then there will be a situation that the link holder of the

DTC does not correspond to the copyright holder, which will lead to the unclear ownership of the rights of the DTC. Furthermore, the legal rights of the original copyright owner, the Red Museum mentioned in the above case, will be damaged. On the other hand, the original authors of DTC cannot guarantee that their artworks will not be traded on other blockchain platforms, which will undoubtedly cause the destruction of scarcity of DTC. For example, the Red Museum's DTC are traded on affiliate chains of other platforms.

The reasons for the risk of DTC registration are diversified. First of all, in the background of domestic policy, only the DTC platform in the relevant DTC transactions. The platforms in verifying the source of rights of the collection, usually need to use the "copyright registration certificate", but the rights recorded in the certificate only passed the formal examination. Substantive examination of rights is still absent [5]. In a word, the conversion process from physical works to DTC lacks the intermediate auditing link, that is, the substantive auditing link (that is, check the original physical works and the works to be linked one by one, to ensure that the works to be linked have no copyright disputes). The intermediate auditing link is like a safety valve, the absence of which will lead to the destruction of the sand, resulting in the frequent linking of some DTC with copyright disputes. Thus, the risk of copyright confirmation is generated. Of course, the DTC itself may be original works without corresponding original physical works. In this case, it only needs to check the legality of the content of the works, the mutual exclusion of the ownership of the works and the correctness of the authorship.

2.2. The Issues of Digital Collections' Authorization Are Various, And the Long-term Development of The Red Museum Is Hindered

The DTC related to Chinese Red Culture are mainly divided into three categories: self-casting by the Red Museum, co-casting with the platform, and self-casting by the platform. Therefore, in terms of DTC authorization, there are mainly problems such as irregular authorization process, no authorization, and authorization.

2.2.1 The authorization process is not standardized, and the risk of disputes in the later stage is expanded. The licensing contract is a top priority in the licensing process, The content of the authorization contract shall include the basic information of the licensor and the licensee, the specific name of the work authorized to be used, the scope and method of authorized use, the period of authorization, the price or remuneration for authorized use, the method of distribution of benefits, liability for breach of contract, methods for resolving disputes, etc. In practice, there are also irregular authorization processes in the DTC trading market. For example, the way of profit distribution, liability for breach of contract, and the way of dispute resolution are not reflected in the authorization contract. In this case, the DTC on the chain are easy to violate the legitimate rights of the right holders.

2.2.2 Beyond the scope of authorization, the museum has no right to authorize. The creation mode of DTC is generally divided into direct casting into DTC on the chain and casting into DTC on an adapted basis [6]. The acquisition of Red Cultural works in Red Museums can be divided into two kinds: original acquisition and subsequent acquisition. In the case of original works, the ownership of copyright is generally relatively clear. However, for subsequent works, if the Red Museum has not agreed on the copyright transfer with the original author or the relevant right holder through the contract when acquiring artworks through purchase or donation, the Red Museum generally only enjoys the ownership of the red culture works, but does not enjoy the copyright of the works. In this case, if the Red Museum wants to license the platform and create a DTC, it must seek permission from the copyright holder, or it is overstepping its mandate.

2.2.3 Without authorization, the foundry has no right to develop the original works. In the process of DTC, authorization is required for the original works within the copyright protection period, whether they are directly cast into DTC or cast into digital collection on the basis of

adaptation. The parties concerned shall apply for authorization to the original copyright owner, conduct consultations on the premise of respecting the original copyright owner's wishes, and agree on the use mode and form according to the application. However, in practice, there is a fundamental problem of unauthorized authorization, and the authorized person often regards the request to obtain the authorization of the original copyright owner and the adaptation right owner as informing the original copyright owner and the adaptation right owner. Even if the original copyright owner and the adaptation owner do not agree to the authorization, the authorized person will use their works without authorization. For example, some users cast and linked the "Gong" silver dollar DTC created by Jinggangshan Revolutionary Museum on the DTC trading platform, and the result was pointed out that the work was pirated, not the original work of the link holder. In the view of copyright law, the nature of the infringement is unauthorized.

2.3. Sharply increasing risk of digital collections infringement, hard for the Red Museum to protect copyrights

The underlying technology of DTC is blockchain technology, which can guarantee the authenticity, uniqueness and permanence of digital assets and effectively solve the problems of rights confirmation, anti-counterfeiting and traceability of on-chain assets [7]. However, based on multiple factors, the infringement risk in the field DTC increases sharply. Based on this, it is difficult for Red Museum to avoid the corresponding infringement risks when developing digital collections, and the road of safeguarding rights is even more difficult.

The actual factors that lead to the infringement risk of DTC are the relatively convenient generation of DTC, and the large-scale use of DTC leads to widespread infringement. With the gradual progress and maturity of artificial intelligence and algorithm technologies, the threshold for creating DTC is gradually being lowered. Ordinary users may use simple creation methods such as picture stitching and flipping, or use artificial intelligence to create works [8]. In this process, users may use the elements of others' works to generate works or form imitation products, and the infringement concerns of theft and imitation of Red Museum's DTC will arise. In addition, as the policy of DTC platform does not require the founders or issuers of collections to verify that they are the relevant right holders of digital works when casting or issuing DTC, the infringement risk of DTC of Red Museum also increases correspondingly.

In addition to the above realistic factors, the DTC platform supervision of the platform is a major factor that leads to the sharp increase of infringement risk. First of all, at present, domestic DTC trading platforms have not established a complete intellectual property risk prevention system. In accordance with the relevant provisions of tort liability in Chinese law, major DTC platforms only have passive "notice-deletion" obligations. That is, the DCT platform shall immediately take necessary measures against the infringing DTC after receiving the notice on the infringing works issued by the right holder such as deleting, shielding or disconnecting the link. However, due to the immutable nature of blockchain, it will be more technical difficult to implement necessary measures such as shielding, so it may be difficult to limit the expansion of infringement consequences. Secondly, digital trading platforms may abuse the "safe haven principle" as a defense of tort liability. In practice, the "haven rule" is easy to become the "safe harbor" of online service platforms, and evolve into a shield for some platforms to bear tort compensation liability, forming the "Prior infringement, later notice, no notice or responsibility, there is a passive infringement processing mode of notice, removal and disclaimer, while the platform lacks a strong supervision mode of active intervention and substantive review procedure to prevent infringement in advance. All these factors make Red Museum face double the risk of infringement when developing and trading DTC.

However, based on the decentralized rights protection mechanism, DTC lack legal compulsory protection means, and due to the anonymity of blockchain accounts and digital wallets, once

the DTC on the chain are infringed, it is difficult for Red Museum to locate the specific infringer, the object of infringement as the starting point of rights protection cannot be determined, and it is difficult to achieve storage and collection evidence. Secondly, due to the large number of DTC and the complex and diverse forms of infringement and embezzlement, Red Museums may find it difficult to find that their DTC have been infringed, and there is no way to protect their rights. Thirdly, the infringement cost of DTC is relatively low, while the cost of rights protection is relatively high. If it is infringed, the right protection of Red Museum will be hindered in reality. In addition, the nature of the DTC platform is similar to the automatic access and automatic transmission service providers stipulated in Article 20 of the Regulations on the Protection of the Right of Information Network Transmission. Even if there is any infringement, it can be exempted from compensation. But it is also tricky to distinguish between the pure passivity and indiscriminate technology of service behavior [9]. All of the above factors lead to the difficulties of protecting the rights of DTC of Red Museum in judicial practice.

3. Coping Strategies for Copyright Risks of Digital Collections of the Red Museum

3.1. Clarify the copyright confirmation system and add a substantive review procedure

The key to the risk of DTC copyright confirmation lies in the absence of intermediate audit link. The imperfect authorization verification system leads to frequent chaos. The most direct and effective solution to the copyright traceability problem is to add a substantial intermediate audit procedure during the conversion from physical works to digital collections, which should involve the audit subject, audit content, audit method and audit results, etc [10]. The specific content of the procedure is as follows:

First, clear audit subject. DTC platforms are often both the provider of the underlying alliance chain and the issuer of DTC, which conforms to the definition of blockchain information service provider. Therefore, platforms should assume the responsibility of intermediate review of DTC. In addition, third parties can also be introduced, such as copyright industry associations to carry out relevant work and issue copyright certificates [11]; Other qualified subjects shall enjoy the right of intermediate review within a certain scope. For example, the platforms shall actively invite the authors of the works to be added to the chain to participate in the content review, and other buyers can exercise the right of review through suggestions, reports and other means.

Second, stipulate the content of audit. The content of review shall include the existence of the corresponding physical work, the correctness of the signature of the work, the correctness and legality of the content of the work and so on. The audit process needs to compare the original physical works with the works to be added to the chain item by item. This link can compare the "repetition rate" of the two works with the help of the automatic audit mechanism of the smart contract, and after automatic screening, the works with abnormal ratio are handed over to manual review for a second time.

Third, determine the audit method. This procedure adopts automatic and manual audit, covers three stages before, during and after the event. Both automatic and manual content review methods. Only the works that pass the review at the same time have the chain qualification. Before the event, during the event and after the event, the whole process of the DTC is reviewed. Even if the DTC has entered the circulation link, the legality of the content of the DTC still needs to be reviewed regularly. In the prior stage, administrative authorities should make it clear that platforms should undertake higher copyright review obligations and require platforms to form an effective copyright filtering mechanism relying on blockchain technology. In the middle stage, the copyright administrative authority should take the initiative to review the DTC

involved in copyright infringement, put forward the review requirements to the platforms, and require the platforms to actively undertake the obligation of cooperation, and do a good job of information disclosure of the suspected infringer. In the post-event stage, if there is infringement, platforms should fulfill the obligation of effective suppression to effectively prevent the expansion of infringement results, and the copyright administrative authority must take the initiative to supervise the platform to implement such behavior and guarantee the actual effect of such behavior.

Fourth, publish the audit results. This is the last procedure before the link, which requires the platform to actively publicize the authorization documents and vouchers, and timely publish the audit results on the official website of the DTC platforms. For the works that have passed the audit or have not passed the audit, other interested parties are allowed to raise objections within a certain period. Platforms provide an objection handling mechanism and publicizes the result. For the works without copyright disputes or after the objection period, platforms will formally cast into DTC and issue them. In addition to active publicity, platforms such as industry self-discipline associations and consumer associations are also encouraged to intervene to protect the rights and interests of collectors and Red Museums.

3.2. Relying on the Internal and External Forces of The Platform, Clarify the Licensing Links of Works

Based on the background that most Red Museums seldom independently develop DTC at present, for DTC with original copyright properties, the standardization of authorization process directly affects the subsequent risk prediction and prevention of DTC. The subject of intellectual property authorization link of standardized DTC should be successively: copyright owner, authorized agent, authorized foundry, Red Museum or selling platform, end user, etc.

Specifically, there is no doubt that the copyright owner is the starting point of the DTC licensing link. In the process of authorization, Red Museum and relevant copyright owners can directly contact and cooperate with the authorized foundry party, namely the DTC foundry enterprise; licensing can also be done through an authorized agent, and this is recommended. The benefits of an authorized agent are that the agent can help protect the rights and interests of the copyright owner to the greatest extent. At the same time, they will also supervise the production, sales and other behaviors of the authorized enterprises on behalf of the copyright owners to ensure that they comply with the licensing contract. The third main body of the authorization link -- the authorization foundry, mainly refers to the enterprise casting DTC. After obtaining the authorization of the copyright owner of the artistic works, it can digitize the works according to the authorization contract and link the digital works to become the DTC with the unique digital certificate, and sell and promote the DTC. In this process, the authorized enterprise needs to pay the licensing fee to the copyright owner and strictly abide the provisions of the licensing contract. After the completion of DTC casting, the trading link is mainly museum or DTC selling platform. No matter on which platform to sell, the authorized enterprise needs to sign a contract with copyright holder, and provide support and assistance to him, and through the contract to regulate the sale behavior. The last segment of the authorization link is the end user, the consumer of the DTC, who experiences the value of the DTC and the significance of Red Culture through purchase and use of the DTC.

These links are interconnected and constitute the intellectual property rights authorization link of DTC. In order to protect the legitimate rights and interests of copyright holders from being infringed, all links need to be in accordance with the law, which is vital significance for the steady development of DTC industry and the innovative development and creative transformation of Red Culture. The specification and implementation of the authorized link can be regulated by the self-discipline compliance standards of the industry, and at the same time,

it depends on the supervision of the copyright administrative authority in the whole process, as well as the self-regulation of each link subject.

3.3. Improve the Platform Supervision and Management Mechanism, And Help the Red Museum Protect Its Rights Efficiently

The underlying technology of DTC, namely the blockchain technology itself, can effectively solve the ownership of DTC rights after the chain, so the copyright issues of DTC mainly focus on the copyright source and authorization process of the original works before the chain. The author believes that it is possible to establish a copyright collective management organization for DTC copyright, encourage museums, original copyright owners and other relevant right holders to join the copyright collective management organization, and carry out unified collection right confirmation and authorization management. For the DTC platform, obtaining the collective authorization from the copyright collective management organization can greatly improve the authorization efficiency and quality, help the platform to strengthen the development of red DTC. For museums, with the help of copyright copyright collective management organizations to confirm rights registration and authorization management, a huge number of collections in the museum can be managed more standardized and efficiently, which is convenient to develop DTC in batches and promote the digital empowerment of red resources.

The convenience and scale of DTC generation are double-edged swords. Based on this, the DTC platforms should formulate a clear copyright infringement system for its users. When substantial duplicate works appear, it should timely feed back to the uploading users and notify them of deletion and modification. For users who ignore the notice and warnings, the necessary measures should be taken in a timely manner, such as putting the digital nodes involved in infringement into black holes to prevent copyright infringement [12].

The key to solving the problem that DTC platforms abuse the "safe haven principle" in order to evade censorship and supervision obligations is to make DTC platforms understand the risks and costs they should bear and have sufficient motivation to undertake the obligations. To be specific, it can be started from the following aspects: First, lighten the onerous proof obligation of the right holder, and urge DTC platform to undertake the pre-examination responsibility with the help of external impetus. Second, strengthen the responsibility of the platform. By means of administrative norms, DTC platforms should pay more attention to copyright. For example, the government has issued corresponding punishment regulations to strictly clarify the protection responsibilities of copyright and other rights on network media, so that DTC platforms dare not exploit the loopholes of the "safe haven principle" without authorization. Third, enhance users' awareness of copyright protection. DTC platforms can embed intellectual property protection education system while publishing DTC, so that end users and visitors can understand the corresponding legal knowledge, so as to enhance the social consensus on copyright protection and effectively prevent the occurrence of infringement, safeguard the rights of Red Museum and relevant copyright holders [13].

The key to improve the platforms supervision and management mechanism is to reduce the cost of platforms supervision, the author believes that smart contract technology(a computer protocol aimed at disseminating, verifying or executing contracts in an informational way)can be used to formulate code management rules to realize copyright protection for museums and other right subjects: "The NFT buyer pays consideration through the digital wallet to trigger the realization conditions of the smart contract, which automatically transfers the ownership of the NFT and records the information of the transaction in the blockchain. This process requires no human intervention and no negotiation between the two parties. The goal set by the code can be realized and produce the legal effect of ownership change [14]." In this process, the smart contract technology is used to directly implement relevant laws and regulations, which can standardize the transaction process to restrict individual behaviors and reduce the

risk of infringement. In addition, laws and regulations can also be directly converted into recognizable computer language. Smart contract technology will directly and strictly implement relevant laws and regulations, restrict the use of relevant copyright works, and eliminate the possibility of human intervention. Based on this, and combined with the characteristics of blockchain, an intelligent dispute resolution mechanism is established. When a dispute occurs in the process of trading and using DTC, Red Museum can automatically execute the smart contract to solve the dispute efficiently and at a low cost. It can effectively solve the problem of long time and high cost in the traditional remedy mode of litigation, and effectively urge the platforms to assume more responsibilities and obligations.

4. Concluding Remarks

It has been the general trend for the Red Museum to develop towards digitalization and intelligence. The development of DTC is an important measure for the Red Museum to adapt to this process and revitalize the Red Resources. However, the Red museum is facing with a series of copyright protection dilemmas in the process of developing DTC. Based on the analysis, it is concluded that there are a series of problems in the copyright protection of the digital collections of the Red Museum. This paper explores countermeasures, so as to form a perfect copyright protection system for the digital collections of the Red Museum, and help the Red Museum better inherit the red Genes through DCT.

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