

A study on decentralization and intellectual property rights(IP) construction strategies in NFT art: Focusing on the Chinese case

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Contents

1. Introduction
2. The Emergence and Development of NFT art
 - 1) The emergence of NFT art
 - 2) The development and impact of NFT art on a global scale
3. The current state of the NFT market
 - 1) The global market situation
 - 2) An overview of the Chinese NFT art market
4. Web-based personal art IP development in China
5. China's Internet Personal Art IP: Case Study
 - 1) Emphasis on authenticity and personal characteristics
 - 2) The importance of continuity and stability.
 - 3) Innovation and formal media
 - 4) User-centered thinking
6. Conclusion

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Abstract

In a rapidly growing digital economic environment, NFT has emerged as a hot topic in the art field. However, in China, NFT art is developing slowly due to constraints related to China's political economy and socio-cultural situation. Due to strict management and control, the circulation of cryptocurrency is limited, and the level of public awareness and acceptance of NFT art and market maturity are still low. Despite these limitations, this paper predicts that Chinese art creators and market participants can build an online personal art IP model that suits the characteristics of the Chinese market and explores the current status and possibilities.

Keywords

Digital economy, Non-Fungible Token, Decentralization, Business, Personal art, Intellectual Property Rights

1. Introduction

In April 2021, at a Christie's auction, American digital artist Mike Winkelmann, known as Beeple, sold his work "Everydays: The First 5000 Days" for \$69.3 million¹. This sale catapulted Beeple to international acclaim as the first NFT artist of renown, and the creation and transaction of NFT artworks began to attract global attention. Subsequently, Cai Guoqiang, the Chinese artist famous for his gunpowder art, with the support of Amber Group, a global crypto-finance intelligence service provider, collaborated with the pioneering platform TR Lab and the Rockbund Art Museum in Shanghai to create his first NFT art project "Transient Eternity—101 Ignitions of Gunpowder Paintings," which sold for \$2.5 million at a charity auction². The high transaction prices turned NFT art into a fleeting trend within the realms of art and finance. Despite the concept and relationship of digital collectibles still being relatively vague in China, this has not deterred the enthusiastic participation of newcomers.

Researching a wide variety of news related to NFT art has led us to conclude that a crucial component of NFT art's success is the novelty of the transactional avenues it offers artists. It is important to note that NFT art embodies uniqueness and technological innovation, signaling revolutionary changes in digitalization and copyright protection. As well as

¹ Christie's Online Auction 20447 BEEPLE|THE FIRST 5000 DAYS, <https://onlineonly.christies.com/s/beeple-first-5000-days/beeple-b-1981-1/112924> (Accessed November 2023)

² Number 7: Eternity of Moments, the first NFT project in honor of Cai, available on TRLab platform, https://mirror.xyz/trlab-chinese.eth/CV_93mLCyTBwugPzeJScRv8rA-LUmBz1zMUql0MySi0 (Accessed November 2023)

comprehensive marketing and promotion by multiple parties, successful NFT artworks often require substantial capital investments. Therefore, the probability of an artist being selected and promoted by capital influences the success of their work to some extent. In an interview with Bloomberg, artist Beeple stated, "I absolutely believe it's a bubble."³ Additionally, NFT art development in China is posing its own difficulties. However, public acceptance of NFT art is still in its infancy due to the strict regulatory environment's control over cryptocurrencies. On the other hand, the regulatory environment's strict control over cryptocurrencies limits their application in art transactions. As a result of these factors, Chinese NFT art is still being explored and developed in terms of acceptance and maturation. This combination leads to a development path for NFT art in China that differs from Western markets, with greater limitations. A minority of artists can make a living solely from their art on the contemporary art market, with most creators having to engage in other activities as well. As a result of examining the technological foundations and marketing mechanisms of NFT art, especially in light of China's predominance of the web2.0 internet model, this paper proposes that Chinese artists who are not favored by the capital market (including students and economically disadvantaged artists) may be able to develop their own individual art brands using social networking platforms. Several personal art IP models can be explored to align with the characteristics of the Chinese market, including incorporating local cultural elements

³ NFTs Absolutely in a Bubble, Says Beeple, <https://cryptopotato.com/nfts-absolutely-in-a-bubble-says-beeple-following-the-record-69-million-sale/> (Accessed November 2023)

with digital art innovations. As a result, they are not only able to exhibit and develop their work, but also contribute to the diversification and digital transformation of China's art market with new ideas and possibilities. In this way, the formation of individual artistic styles and the development of personalized artistic expression can be promoted, bringing new vitality and innovative momentum to the Chinese art market.

2. The Emergence and Development of NFT art

The initial development of the network that eventually became the Internet occurred in the 1960s, originating as a military communication project by the United States' defense sector. The ARPANET network created for military communications by the U.S. Defense Research Projects Agency (ARPA). However, when referring to "Internet" in the Chinese context, most of us refer to the "World Wide Web". The World Wide Web (WWW or Web for short) was developed based on the Internet. The emergence of the World Wide Web has completely changed the way people obtain and transmit information. Each iteration of Internet technology, from Web 1.0 to Web 3.0, has fundamentally changed our interactions with the network, enabling global information sharing and promoting the dissemination and exchange of knowledge.

1) The emergence of NFT art

In the early 1990s, Tim Berners-Lee launched the world's first web browser and web server, making information retrieval and

browsing more intuitive and user-friendly. This marked the beginning of the web 1.0 era, characterized by static web pages using HTML technology, which provided basic contact information such as email, addresses, phone numbers, and fax. During this period, the interactivity of the Internet was very limited, with users primarily acting as content recipients. The network environment emphasized one-way information dissemination, with little space for user participation or content creation.

The static content model of Web 1.0 has gradually evolved into a dynamic, interactive platform, marking the Internet's entry into the Web 2.0 era. Web 2.0, considered the read-write network, emphasizes participation, collaboration, and the sharing of information, encompassing user-generated content sites like blogs, games, social media, and videos. The Internet transitioned from a one-way information distribution channel to a two-way interactive platform, with users becoming creators, editors, and sharers of content. The proliferation of cloud services and the rise of smartphones have made the Internet ubiquitous, fueling the rapid growth of social networking and the formation of online communities. The Web 2.0 era democratized content creation, shifting power from a few large-scale content providers to a broad base of ordinary users and shaping today's digital lifestyle.

Nevertheless, in the Web 2.0 world, user information and platform-generated data are harnessed by major Internet companies. Users lack autonomy over their personal data, despite the freedom to create content. Web3.0, as the next evolutionary stage of the Internet, aims to address issues of resource monopolization, privacy leaks, and unbalanced data

benefits seen in Web2.0. As a new distributed computing paradigm built on blockchain technology, it integrates consensus algorithms, smart contracts, and identity cryptography, fostering a user-centered approach that empowers individuals to control their own data. The ethos of Web3.0 is encapsulated by the slogan "everything you create online is all yours."⁴

The inception of blockchain technology is closely linked to the creation of Bitcoin, represents a cryptocurrency not issued or regulated by a centralized authority but operates on a decentralized, trustless system. It is maintained by network users who reach a consensus automatically via the Internet. Bitcoin utilizes a public ledger, known as the blockchain, for transactions, addressing the need for secure and transparent financial activities without central oversight. The essence of blockchain's security and integrity lies in its decentralized structure and resistance to alteration, making it a cornerstone for trust in digital transactions. Bitcoin's protocol, detailing asset transfer on the blockchain, has revolutionized global finance and digital transactions. Author Melanie Swan, Founder of the Institute for Blockchain Studies, explains that the blockchain is essentially a public ledger with potential as a worldwide, decentralized record for the registration, inventory, and transfer of all assets—not just finances, but property and intangible assets such as votes, software, health data, and ideas. In contrast to cryptocurrencies, which are fungible, Non-Fungible Tokens (NFTs) facilitate the creation and exchange of unique digital assets with certified authenticity and

⁴ Chen Xi. Web 3.0 era: everything you create online, all yours[N]. Science and Technology Daily, 2022-04-11: 006.

ownership on Ethereum's decentralized platform. These tokens represent singular, irreplaceable values and are traded on virtual platforms. A Non-Fungible Token (NFT) is a permanent and certifiable online record that connects a digital artwork, often called cryptoart, to its owner. NFTs enable the sale of digital files, such as artwork, game characters, and music, as unique tokens on a digital ledger, with the potential for resale using cryptocurrencies. While the digital files are infinitely replicable, the blockchain-tracked tokens confer proof of ownership. The advent of NFT Art has altered not only the collection and trade of artworks but also their creation, display, and copyright management, providing artists with a new digital platform and broadening the avenues for recognizing and monetizing the value of digital artwork.

2) The development and impact of NFT art on a global scale

The prosperity of global trade has fostered the development of art transactions. According to the outbreak of COVID -19 epidemic, the physical art market such as galleries and auction houses has been struggling. Various industries around the world are gradually transforming from traditional entities to the digital art market. For example, Christie's auction house, which has a leading position in the global art market, has private sales totaling 1.2 billion US dollar in 2020, and total sales have declined 25%. However, the total transaction volume of " ONE: Contemporary Global Joint Night Sale" held in July of the same year reached 420,941,042 US dollar, and the online proportion reached 8 %⁵. The virtual auction, spanning across Hong Kong,

⁵ Christie's Reports 25 Percent Drop in Sales for 2020

Paris, London, and New York, successfully gathered a global array of buyers through the power of the internet, thus transcending geographical and temporal boundaries in the art trading process.

However, as an intermediary between artists and buyers, auction houses cannot completely solve the problems of preservation, maintenance, transportation and ownership of artworks during their circulation. At the Christie's auction in March 2021, the NFT art work "The First 500 Days" by artist Beeple, was sold for an astonishing US\$69.3 million⁶. This is the first NFT work auctioned by Christie's, and the first time the auction house has adopted cryptocurrency as a payment method. As a non-fungible token, NFT uniquely possesses the characteristics of being irreplaceable, indivisible and non-tamperable, so that in art transactions, NFT provides true digital ownership of the art, and the relevant requirements are clearly stipulated in the purchase process. Copyright and Usage Rights. This auction of NFT art provides a strong certification for digital art in the traditional art market.

Reflecting on the evolution of art, technology and innovation are the forces to drive the evolution of art. The invention of printing during the Renaissance changed the way words were transmitted and made art reproduction possible, allowing artworks to be mass-produced and widely disseminated. The emergence of photography provided artists with a new means of capturing and presenting reality, gave birth to the art of

<https://www.artnews.com/art-news/market/christies-2020-sales-drop-forecasts-1234579528/> (Accessed November 2023)

⁶ Christie's Online Auction 2 0447 BEEPLE|THE FIRST 5000 DAYS
<https://onlineonly.christies.com/s/beeple-first-5000-days/beeple-b-1981-1/112924> (Accessed November 2023)

photography and had a profound impact on painting. Nowadays, the emergence of NFT allows artists to display their works digitally and realize transactions to win profits, and makes art works no longer limited to traditional forms of expression. For example, the work "First supper" by London-based encryption artist Xcopy is a programmable artwork composed of 22 layers⁷. The work was jointly launched by the crypto art platform AsyncMarket and thirteen crypto artists. All layers are uniquely created by their respective artists, and each is given specific immutable rights by its creator, including status, rotation, scale, XY position, visibility, opacity, tint and RGB. It is the unique prerogative of each token holder to modify the value of these rights and form a new image when they so wish. It embodies the cooperation, creation and interaction between artists, collectors and art collectors, and is one of the works recognized as having the spirit of the crypto community.

In April 2021, Sotheby's CEO Charles Stewart announced a partnership with the enigmatic artist Pak to launch Sotheby's inaugural NFT auction. This partnership led to the creation of 'The Fungible,' an open edition that generated sales of \$16.8 million through 6,156 NFTs over two days⁸. In December 2021, Pak initiated the sale of 'Merge' on the renowned NFT trading platform Nifty Gateway, which garnered a total sales volume of \$91,806,519⁹. 'Merge' introduced a concept of 'dynamic

⁷ Master Artwork -First Supper

<https://async.market/art/master/0xb6dae651468e9593e4581705a09c10a76ac1e0c8-0> (Accessed November 2023)

⁸ Digital Creator Pak Sotheby's first NFT auction achieves \$17 million

<https://www.sothebys.com/en/articles/17-million-realized-in-sothebys-first-nft-sale-with-digital-creator-pak?locale=zh-CN> (Accessed November 2023)

⁹ Merge _ by Pak, <https://www.niftygateway.com/collections/pakmerge>

ownership' where each NFT represents a 'Mass.' The appearance of the artwork changes based on the quantity owned by the buyer, as the owned quantities merge into a larger mass. These masses dynamically interact with the buyer's purchasing actions, altering the volume, shape, and color of the ball during the merging process. After the sale, each buyer's collection becomes unique due to these quantity differences. Through 'Merge,' Pak employs blockchain technology to challenge traditional notions of 'value' and the relationship between scarcity and value. The project, with many collectors contributing to its creation, showcases the fluidity and interactivity of digital art, underscoring the vast possibilities that the digital art world has to offer.

3. The current state of the NFT market

1) The global market situation

2021 marked a pivotal year for the NFT market, as NFTs entered the public domain for the first time. As a form of digital artwork, NFTs garnered the attention of art enthusiasts who engaged in trading on specialized online platforms such as OpenSea, Rarible, SuperRare, and NiftyGateway. Beyond mere trading, platforms like Twitter played a crucial role in amplifying the global impact of NFT art by facilitating information dissemination and user engagement. OpenSea's data indicates that over 70% of its traffic originates from Twitter¹⁰, underscoring the platform's significance in NFT

(Accessed November 2023)

transactions. NFTs' uniqueness and provenance mechanisms not only allow users to showcase their distinct identities but also foster a sense of belonging within specific communities. These social platforms have become hubs for exchanging and discussing community culture. By continuously interacting and distributing high-quality content, artists enhance their online presence, thereby boosting the collector value of NFT art. The social prestige and self-satisfaction that collectors derive from sharing their NFT artworks on social platforms, along with the artworks' inherent value as items of ownership, enjoyment, and investment, contribute to the "herd effect". This phenomenon has resulted in a 450% increase in NFT buyers from 2020 to 2021, surging from 10,000 to 40,000 buyers monthly. This period is often referred to as the "NFT bull market". In 2022, the buyer-to-seller ratio was 1.3 to 1¹¹, indicating a market dominated by buyers, a sign of strong demand. NFT trading volumes reached their zenith in the first half of 2022, with a record \$1.3 billion in weekly transactions in April¹². Major brands like Starbucks, Instagram, Nike, Reddit, Burberry, Gucci, Louis Vuitton, Dolce & Gabbana, and Salvatore Ferragamo all launched their own NFT art initiatives that year. The NFT market experienced its peak during the initial hype cycle but

¹⁰ KAPOOR A, GUHATHAKURTA D, MATHUR M, et al. TweetBoost: Influence of Social Media on NFT Valuation[C/OL]//Companion Proceedings of the Web Conference 2022. New York, NY, USA: Association for Computing Machinery, 2022: 621-629 [2023-11-17]. <https://doi.org/10.1145/3487553.3524642>. DOI:10.1145/3487553.3524642.

¹¹ NFT market- statistics 2021-2023, <https://metav.rs/blog/nft-market-statistics-2021-2023/>

¹² NFT 2022 Year-End Review, <https://www.forbes.com/sites/leeorshimron/2022/12/21/nft-2022-year-end-review/?sh=2223ca035c14> (Accessed January 2024)

subsequently witnessed a sharp decline in volume and asset prices. This decline led to a reduction in the number of buyers compared to sellers throughout 2023, with NFT holder numbers plummeting to their lowest in 12 months by April 19, 2023. While some blue-chip NFTs demonstrated strong performance, the overall profitability markedly declined, reflecting a downturn in the NFT art trading market.

The period from 2021 to 2023 is a cyclical change in the NFT market from initial hype to maturity and stabilization. However, the fact that the market is at risk of fraud should not be underestimated. Due to the novelty of the technology and the lack of market oversight, it is often subject to fraudulent activities by scammers selling counterfeit or pirated artwork, fake investment opportunities, and various phishing schemes. 2022 was a period of extreme turbulence, with the collapse of several important institutions such as Celsius, Three Arrows Capital, and FTX, some of which are even facing fraud charges. In 2023, the cryptocurrency industry faced disruption and numerous challenges. Ian Andrews¹³ and Kim Grauer¹⁴ mentioned that the year saw a return of the trend across the industry including asset price volatility, increased crackdowns on crypto-crime by government agencies, ransomware attacks, and an increase in cases of pig slaughter and investment love scams. This has seen sophisticated phishing schemes, cryptocurrency-related fentanyl trade crackdowns, threats from North Korean hackers, and increased use of stablecoins in unstable currency regions. In addition, according to the statistics of the Chainalysis¹⁵ platform proves that, in spite of

¹³ Chief Marketing Officer, Chainalysis

¹⁴ Director of Research, Chainalysis

so many crises and risks NFT industry is still active.

Therefore, from the development of the NFT market, investors and participants must remain vigilant and fully aware of potential risks and fraud. However, for artists, the NFT art market has often marginalized the artists themselves and their artistic creations under the strong involvement of capital and platforms. Market attention is focused more on commercial value and investment potential than on the true artistic value and creative significance of artworks. This phenomenon may lead to the neglect of artistic creation, while the profit-seeking behavior of the market and capital becomes dominant. In such an environment, artists face the challenge of maintaining creative independence and artistic purity.

2) An overview of the Chinese NFT art market

Since its introduction, blockchain technology has been widely used in several industries in China. Nevertheless, it faces hurdles in technological refinement, transaction processing capacity, big data storage, privacy, and regulatory compliance. Notably, since late 2013, Chinese regulators have warned about Bitcoin's risks, declaring it a virtual commodity without legal currency status, thereby constraining the circulation of digital artifacts. Despite legal ambiguities, digital artwork has gained immense popularity in recent years. Mainstream Chinese auction houses like Guardian, Yongle, and Poly, alongside internet giants such as ByteDance, Tencent, and JD, have entered the NFT art market. However, challenges persist, including a mix of platform qualifications, instances of platforms defaulting,

¹⁵ Chainalysis is the blockchain data platform. <https://www.chainalysis.com/>

copyright disputes, and uninformed trading leading to chaos. On April 13, 2022, China's Internet Finance Association, Banking Association, and Securities Association jointly issued a notice aimed at 'Preventing NFT-related Financial Risks.' This notice emphasizes curbing the financial securitization trend of NFTs and vigilantly guarding against illegal financial activities, underlining the need for clear regulatory norms¹⁶:

NFTs should not include financial assets such as securities, insurance, credit, precious metals, etc., in their underlying goods, to avoid the disguised issuance and trading of financial products.

The non-fungible characteristic of NFTs should not be undermined by dividing ownership or bulk creation, to prevent disguised token issuance and financing (ICO).

Services such as centralized trading (centralized bidding, electronic matching, anonymous trading, market makers, etc.), continuous listing, and standardized contract trading should not be provided for NFTs, to avoid the illicit establishment of trading venues.

Virtual currencies like Bitcoin, Ethereum, Tether, etc., should not be used as the pricing and settlement tools in the issuance and trading of NFTs.

Real-name verification should be conducted for entities issuing, selling, and purchasing, with proper records of customer identity and transaction details maintained, actively cooperating in anti-money laundering efforts.

Direct or indirect investment in NFTs should be avoided, and

¹⁶ China Internet Finance Association, China Banking Association, China Securities Association, Discussion on Preventing NFT-related Financial Risks <https://www.china-cba.net/Index/show/catid/14/id/40730.html> (Accessed December 2023)

financial support for investing in NFTs should not be provided. Because the issuance of relevant regulations restricts the circulation of NFT artworks in China, technically, unlike the completely open public chain issuance model used abroad, China uses a private chain or alliance chain controlled by a small number of entities to issue digital artworks, and most NFTs on the market appear in the form of "digital collectibles". According to "Return to Value, Compliance, and Prosperity: Research Report on the Innovation of Mainstream Platforms for Digital Collectibles in China", as of January 4, 2023, China's digital collectibles platforms have reached 2,449, of which the number of new platforms in the second half of 2022 accounted for 56.1% of the annual ratio, China's digital collectibles industry is in the stage of rapid development¹⁷.

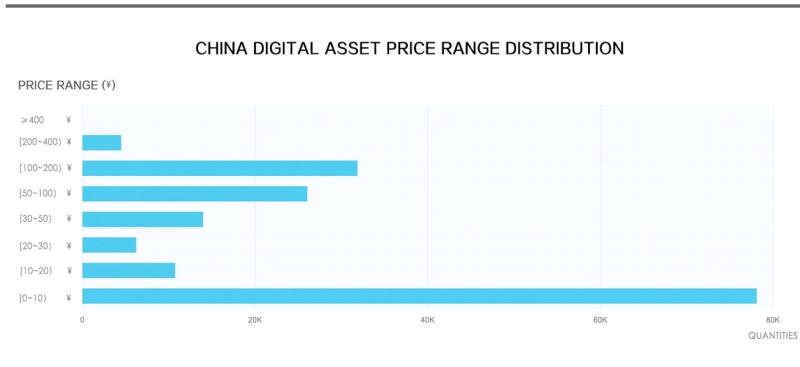


Figure 1 | Data source: China Digital Assets Network

¹⁷ Launched by the New Media Research Institute of Communication University of China and Sina AI Media Research Institute, it was released on January 12, 2023. This research report explores the domestic digital collection value assessment framework and compliance development path, and provides insights to grasp the future dynamics of the industry's innovation breakthroughs. <https://weibo.com/ttarticle/p/show?id=2309404857118712004832> (Accessed December 2023)

Analysis of the international market shows that the long-term value of NFT art still relies on the high maintenance quality of the works combined with technological art. NFT art and digital collectibles, as innovative applications, still face a lack of public recognition in China. China Digital Asset's analysis of pricing in China's digital art market shows that artworks priced between RMB 0 and RMB 10 dominate the market, totaling about 80,000 pieces. Artworks priced between RMB 100 and RMB 200 are the second largest category. In contrast, works priced above \$400 are scarce, and there is a significant gap between them and the higher valuations in the international NFT market. As the Chinese new media artist Lin Juntin puts it, "A digital collection that sells is called NFT, but one that doesn't sell is called a JPG¹⁸."

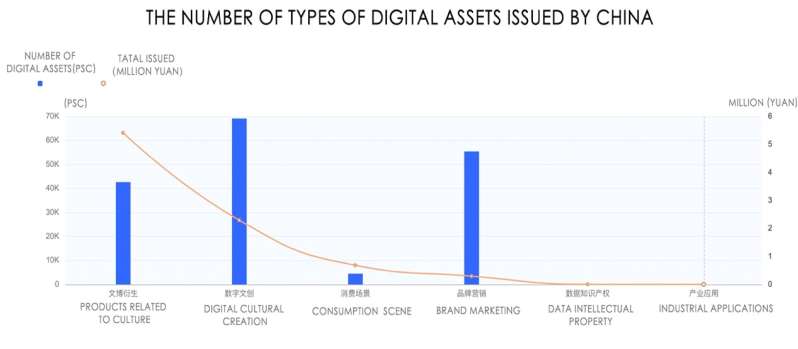


Figure 2 | Data source: China Digital Assets Network

China Digital Asset Network's data, as shown in the figure, indicates that China's digital asset types fall into five main

¹⁸ Interview with new media artist Lin JunTing.

<https://baijiahao.baidu.com/s?id=1750118182768818155&wfr=spider&for=pc>
(Accessed December 2023)

categories: products related to cultural, digital cultural creativity, consumer scene applications, brand marketing, data intellectual property, and industrial applications. Digital cultural creativity is the field with the highest circulation. Innovative fusions of digital technology and cultural creativity characterize the products in this field. As a result, innovative products are created with distinctive characteristics such as digitization, interactivity, customization, scarcity, and cross-border fusion, which provide users with a rich, personalized consumption experience. In the Chinese market, art digitization typically involves direct photography of historical artifacts and uploading them for distribution as digital collectibles, with brand marketing being the second most important distribution method after the direct photography. Many platforms have launched digital collection series based on the Chinese zodiac, horoscopes, etc., which have resulted in a large number of works with design styles that lack artistry and a clear homogenization trend. Considering the lack of intellectual property and industry applications in the distribution data, it would appear that this market segment is largely untapped. There is a majority of products that are static images, while innovative creations that incorporate media such as 3D, audio and video are at an early stage of development, suggesting that these creative areas remain largely untapped.

In 2022, China's digital collectibles market experienced a significant influx of new users, rendering it susceptible to speculative investment and exploitation for profit, amid a backdrop of insufficient legal protections. The Chinese judiciary is proactively investigating the essence of digital collectibles, defining behaviors within the digital collectibles trading model,

and identifying the characteristics of digital art trading platforms. This indicates that the trust ecosystem for digital art transactions remains in its infancy. Moreover, traditional art collectors, who generally favor physical artworks, might struggle to grasp the value of digital collections, particularly when these cannot be exhibited or appreciated in a tangible form. The digitized and intangible nature of these collections encounters hurdles in cultural acceptance. Additionally, the public's limited familiarity with blockchain and cryptocurrencies poses an obstacle to entering the market. China's internet ecosystem continues to operate within the web 2.0 paradigm, marked by centralized internet services and applications, with a technological preference for private and consortium blockchains. These elements suggest that China's internet landscape has yet to fully evolve into the more open and decentralized web 3.0 stage.

On January 1, 2023, the 'China Digital Asset Trading Platform' was officially launched in Beijing. Backed by the state-level China Technology Exchange, this platform was envisioned to enhance the trading of digital assets through a comprehensive trading system, a standardized framework, a methodical trading process, and a robust settlement mechanism. However, the platform's progress has halted, with its official website currently inaccessible. This stagnation illustrates the multifaceted challenges that NFT (Non-Fungible Token) art faces in China, encompassing regulatory, technological, and market readiness aspects. The challenges encountered by the 'China Digital Asset Trading Platform' exemplify the broader issues within the emerging economic model and signify the systemic obstacles that China's NFT art industry must navigate. However, the

market is yet to establish clear standards and regulations, and it faces challenges in technology risks and security. Moreover, the content of China's digital artworks tends to be relatively homogeneous, with the market predominantly featuring static images and modest pricing. More advanced and innovative formats like 3D, audio, and video are still in their early stages. The success of digital collectibles hinges on market reception, as noted by Chinese new media artist Lin Juntin, unsold items are mere digital images, while sold ones gain status as NFTs. From the analysis of the international market, it is clear that the long-term value of NFT art still depends on the high quality of the works and the combination of technology and art.

NFT art or digital collections, as an innovative application, still faces a lack of public awareness in China. This situation has led to a market that is vulnerable to exploitation by unscrupulous elements, with speculation and speculation for profit, damaging the ecology of trust in digital art transactions. In addition, traditional art collectors may find it difficult to understand the value of digital collections due to their preference for physical artworks, especially when digital collections cannot be displayed and appreciated in a materialized manner. The digital and dematerialized qualities of NFT art have encountered challenges in terms of culture and acceptance. On the technical level, the public's understanding of blockchain and cryptocurrencies is limited, and the technological threshold has become a barrier to participation in the NFT art market. China's network ecology is still in the web 2.0 stage, characterized by the concentration of Internet services and applications, and a preference for private and federated chains in the application of blockchain technology.

These factors indicate that China's web ecology has not yet fully transitioned to the more open and decentralized web 3.0 stage. In summary, although the NFT art and digital collectibles sector in China is experiencing rapid growth, it concurrently encounters significant challenges in legal frameworks, technological infrastructure, and market development. Addressing these challenges is crucial for fostering a mature and reliable market.

4. Web-based personal art IP development in China

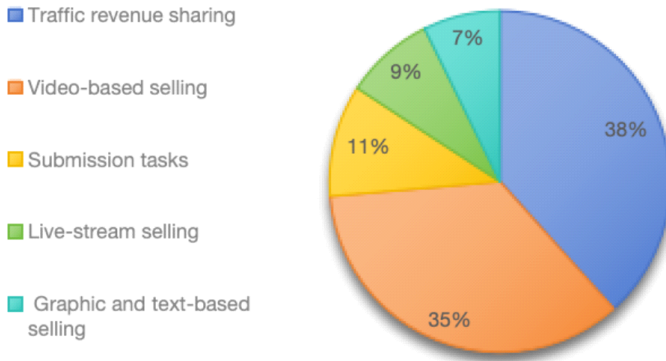
With the widespread proliferation of smartphones and apps, platforms such as Weibo, TikTok, and Little Red Book have risen in China, providing users with an ecosystem characteristic of Web 2.0. The integration of big data and cloud computing technologies enables these platforms to efficiently process and store vast amounts of data, offering real-time, personalized content recommendations to meet the demand for instant information. These developments have fundamentally transformed the way culture is communicated. Starting with the "Year of IP" in 2015, China's "IP Economy" has rapidly grown, showcasing the surge in extracting IP as a cultural resource. In the Chinese context, "IP" is not just traditional Intellectual Property¹⁹; it's considered a "cultural resource"²⁰, a product of

¹⁹ World Intellectual Property Organization: Intellectual property (IP) refers to creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce. Intellectual property (IP) refers to creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce.

²⁰ FAN Tianyu. Analysis of the definition of "IP" in the context of contemporary

creative labor and a commodity that can be traded in the market. This cultural resource, with its ability to build a long-lasting derivative industry chain through fan engagement, signifies more than just a brand or influence centered around an individual in the internet era. It stems from a person's talent, unique skills, charisma, or lifestyle, attracting attention and followers on internet platforms. Personal IP can be monetized through social media influence, content creation, product endorsements, or personal branding, reflecting individual creative expression and market potential. In the streaming era, participating in online social platforms is barrier-free for everyone – from art institutions and audiences to ordinary internet users. Museums and galleries actively use these platforms to promote events, leveraging the power of social media to expand their influence. Artists engage with the public through their social media accounts, leveraging these platforms' media and interactive features. They attract viewers by posting artwork images, sharing videos of their creative process, or live streaming, thus building direct connections with their fans. Artists can also include shopping links or host live sales on their accounts, simplifying the art transaction process and making it more accessible and faster. For collectors, this provides a new avenue to discover and collect art, enabling them to stay updated on new works through artists' social media accounts and participate in online art sales. The blend of art and social media offers a smoother platform for artistic expression and exchange.

An analysis of the primary sources of income for social media accounts based on TIKTOK



| **Figure 3** | Data source: Mega Arithmetic, The Power of Creation 2023²¹

The development of individual art IPs on the Chinese web shares similarities with the process of establishing an artist's brand in the contemporary art world. This involves efforts to enhance an artist's fame and brand impact, both online and in the traditional art sphere. In the traditional art market, Personal reputation is extremely important, generating a very high value for works of art by artists considered stars ... Reputation is built from the information that art historians, critics, curators and art dealers provide; this information results in the creation of the artist's brand²². In China, the success of an artist's IP on social

²¹ The power of 2023 <https://trendinsight.oceanengine.com/arithmetic-report/detail/921> (Accessed January 2024)

²² ZORLONI A, ARDIZZONE A. Celebrity Effect in the Contemporary Art Market[R/OL]. Springer, 2016: 67-79 [2024-01-02]. https://econpapers.repec.org/bookchap/sprmgmchp/978-3-319-24241-5_5f4.htm.

media platforms is closely related to the professional operation and strategic support of MCN organizations. These agencies provide artists with comprehensive support in content production, branding, marketing and commercialization to help them build and maintain their personal brands on social media. The professional teams of MCN agencies optimize their social media strategies through customized promotional plans to increase fan interaction and exposure of their works. In a homogenized social media environment, MCN helps artists create personal IP with uniqueness and diversity to meet the market demand for content. An artist's personal IP not only reflects his/her personal image and creative style, but also spreads his/her artistic practices and ideas. MCN assist artists in commercializing their IP, such as live broadcasting to sell artworks, thus realizing the transformation of commercial value. The increase of personal IP popularity provides the artist with premium space for commercial cooperation and the right to speak in the industry, and at the same time brings the artist a relatively stable income to come. In this process, the artist's personal reputation and marketing strategy play a crucial role, not only affecting the value of the work, but also determining the artist's market position. To summarize, China's Internet ecology is currently in the Web 2.0 era. In this era, the establishment of MCN companies and individual art IPs is developing rapidly. This trend has a special background and advantage in China, where the development of the Internet has provided artists with a broader creative platform and a viable option to cope with the difficult conditions of survival.

5. China' s Internet Personal Art IP: Case Study

Becoming an influential person on social media platforms depends on gaining "popularity," which is usually demonstrated by specific metrics such as views, likes, and shares. On China's Internet social platforms, artists have gradually built their own online image and public appeal by opening personal accounts and sharing creative videos. In the strategy of quickly gaining attention, some painting bloggers may adopt simple and direct methods, such as using hot events, good looks, and fast-paced editing techniques to gain the audience's immediate attention. However, deeper user stickiness and sustained attention require in-depth insights into human nature and detailed research on emotional needs. Artists often try to trigger emotional resonance in their audiences by creating moods of varying moods—whether laughter, sadness, surprise, or wonder. In addition, the use of sound and visuals, as well as content that provides skills learning, are effective ways for artists to engage their audiences on social media. Through case studies, it can be found that the creation of an artist's personal IP is a critical and complex task. From successful artist personal IP cases, we can extract valuable experience and profound revelations on how to effectively build and promote personal brands.

1) Emphasis on authenticity and personal characteristics

Authenticity is fundamental to the establishment of personal intellectual property (IP). Artists, in the process of developing their personal IP, should stay true to their distinctive characteristics and remain authentic, ensuring that their public

persona aligns with their true self. Dr. Brené Brown, a research professor at the University of Houston, has emphasized that authentic self-expression is deeply intertwined with our innate need for connection and belonging. Online authenticity encourages the formation of deeper relationships. As Dr. Brown articulates, 'Most of us are attracted to warm, genuine, and honest people, as authenticity is a trait we cherish. We yearn to embody this authenticity in our own lives.' This genuine approach is particularly compelling online, where authentic expressions can provide a counterbalance to the often superficial nature of online interactions, offering solace and a sense of genuineness in content that mirrors real-life experiences and emotions. Over time, such authenticity can prevent discrepancies and foster emotional resonance with the audience. On social platforms, where interactions can sometimes seem distant and detached, content that is heartfelt and authentic serves as a bridge to more substantive connections. It empowers individuals to manifest their true selves, nurturing community spirit and trust. Ultimately, the authenticity and personalization of an artist's IP can enhance the bond between the artist and their audience, heightening mutual understanding and trust.

RayDog released her first music video in May 2020, creatively combining illustration with cross-dressing to establish herself as a painting blogger. By transforming everyday moments into animated illustrations and blending real-life figures with romantic-style paintings, her works are characterized by vibrant colors and imaginative storylines. A graduate in Animation from the San Francisco Art University, RayDog's academic background and passion for painting have bolstered her IP

image, garnering widespread attention. In 2021, she compiled her illustrations into 'Daydreams: RayDog's Personal Collection,' showcasing her artistic talent and providing a platform for fans to collect and appreciate her work. With a total fan base of 11.43 million across various social platforms such as Tiktok, Little Red Book, Weibo, and Bilibili, her significant online presence has attracted numerous commercial brands. These brands have collaborated with her to incorporate products into her illustration-based short videos, creating a unique artistic advertising model.

2) The importance of continuity and stability

Consistent and regular content creation on social platforms is essential for artists to build their personal brand and foster trust with their audience. According to research by Trevor Haynes, a research technician at Harvard Medical School, dopamine—a neurotransmitter linked to the brain's reward system—is released during pleasurable activities. For content creators, this means that their continuous output can engage fans in a dopamine-driven feedback loop, reinforcing the pleasure associated with new content. This can lead to a habitual cycle where fans anticipate and seek out the creator's updates, and creators, in turn, are motivated to maintain regular engagement. Such consistency not only reinforces the bond with the audience but also showcases the artist's dedication and professionalism. This reliability is crucial for building a strong, trustworthy relationship with fans and collectors.

Zhao Xiaoli released an innovative video in October 2019. She used lipstick eclectically instead of traditional brushes and

watercolors to record her unique painting process. This creativity attracted everyone's attention on social media. In subsequent works, Zhao Xiaoli showed how she used painting to transform and recreate the discarded works she collected, giving them new life and meaning. In her videos, the delicate scenes of flowers on the shooting site, the random spraying of colors, and her melancholy and affectionate appearance. These elements, combined with the designed pictures and the editing that perfectly matches the rhythm of the music, stimulate the emotions of the audience and make people feel deeply. resonance. The stable output of works in the past five years has enabled Zhao Xiaoli to attract a total of 11.49 million fans on major social platforms such as Tiktok, Little Red Book, Weibo, and Bilibili. Her artistic influence has also been more widely recognized. The solo exhibition "Extinction·Blooming" will be held at the Hao Art Museum in Shanghai, China, in October 2022. This solo exhibition demonstrates the depth and breadth of her works and also provides the audience with An artistic opportunity to get up close and personal and understand her world.

3) Innovation and formal media

Light-hearted content offers a mental respite from daily stressors, providing a rejuvenating escape from reality. Such engagement aligns with Zillmann's Mood Management Theory, which posits that individuals are hedonistically motivated to select media experiences that amplify positive emotions or alleviate negative ones. Established in the late 1980s, this theory explains the natural inclination towards media that contributes

to emotional well-being. Given the specialized nature of the art sector, creators must innovate and present their work in ways that resonate with broader audiences. In the realm of social media, where users frequently seek entertainment and levity, artists should consider how to adapt their works to be more interactive and recognizable to their audience. This could involve employing a more approachable visual language or tapping into creative expressions that draw on elements of popular culture.

Sun Can, an artist who graduated from the Royal College of Art, calls himself an "absurd real-time sculpture artist of daily necessities" on Little Red Book. He seeks a unique artistic perspective to transform ordinary objects in daily life into humor and absurdity. Sun Can dares to break through conventions and use creative and innovative means to transform and recombine daily objects. This creative style is an innovation in the inherent properties of objects, and a straightforward challenge to one's mental outlook. In his works, an apple peels off its peel and turns it into a decorative "gift"; an ice cube lying in a coffee cup turns into a melting ghost; ice cream erupts with fireworks as a celebration. These small things that are ignored in daily life are injected with new life under Sun Can's skillful hands, showing a kind of resistance and thinking. Since 2021, he has been sharing photos and videos of his works on the Little RED BOOK platform, which has attracted the attention of more than 71,000 fans. His works have not only been widely recognized on social platforms but have also been initially exhibited in Chinese art museums and galleries.

4) User-centered thinking

Artists must adopt user-centered thinking during the creative process, which means that the works must not only express personal connotations, but also consider the feelings and needs of the audience. This requires artists to understand and respect their audience, and through effective communication and interaction, present the work in a form that is loved and easily accepted by the audience.

In the diversified context of Internet social platforms, different from the usual way of working of individual painting bloggers, the student art group from the Central Academy of Fine Arts (CAFA) involves multiple people in the creation and shooting of videos, expanding its influence on social media in a novel way. The group members, including Zhang Yudong East, BINGO Xiang, Bo Shu, etc. They work together to showcase the daily lives and creative processes of art students through their social platform accounts. Using humor and witty narratives, they present the daily performances of art students to the public, thereby demonstrating the enlightenment of art on daily life in an entertaining way. The group's work on social platforms is a collective expression of creativity, turning each account update into an artistic creation. The group not only performed art in daily life, but also demonstrated their ability to grasp Internet hot spots and pop culture sensitivity. In terms of content creation, team members can combine their professional editing and directing abilities with their understanding of social media trends to produce video works that are both in line with artistic aesthetics and cater to the public's aesthetics. Therefore, their respective accounts have attracted many fans on TikTok, Little

Red Book, Weibo, Bilibili and other platforms, and they have opened purchase windows in their social accounts to sell art-related products.

On online social platforms, the content displayed by these artists on social media is not only highly personally identifiable, but also brings a deep visual impression to the audience through their unique style. Its uniqueness may be reflected in the process, content, subject matter or style of the painting. These elements together form an artist's unique persona on social platforms, thereby quickly attracting audiences and increasing the number of fans. These factors together constitute the success of artists in building personal IP on the Internet.

6. Conclusion

Whether it's online art IP or NFT art, artists need the flexibility to utilize current technology and social platforms to build and maintain their business models. Through innovative marketing strategies and online trading platforms, artists can not only expand their audience, but also explore more direct and personalized sales avenues. The operational logics of Art IP and NFT Art show many commonalities in terms of community building, influence expansion, digital asset management, brand personalization, cross-platform strategies, community engagement and business model exploration. By utilizing these marketing strategies, Chinese artists have not only promoted their personal art brands, but also opened new paths for the dissemination and trading of artworks. NFT Art has also revolutionized the artists and the art world, changing the way

artworks are created, sold, collected, and copyright managed. In the context of globalization, artists should make full use of the resources of online platforms and explore more credible business models to adapt to the ever-changing art market and consumer trends.

NFT as a product of web 3.0 decentralized network culture and its art IP developed in China's online environment, these art forms, while not representing all artworks, have had a significant impact on the way contemporary art is created and sold. As the Internet continues to develop and evolve, artists should take full advantage of digital technologies and social platforms to build and expand their artistic reach. By combining traditional methods of art creation with emerging online technologies, artists can find new avenues of expression and business opportunities in the digital age, thus creating a greater impact within and beyond the art world. This convergence not only changes the way art is created and sold, but also provides artists with unprecedented creative freedom and commercial potential. the emergence of NFT Art and Internet Art IPs exemplifies the combination of art and technology and brings new momentum to the art market. This trend has prompted artists to rethink how to remain innovative and relevant in an increasingly digitalized world, while also providing them with new ways to realize their creative vision and commercial success. A new path for artists to adapt to the digital economy.

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초록

NFT 예술의 탈중앙화와 지식재산권 구축 전략에 관한 연구 : 중국 사례를 중심으로

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급성장하는 디지털 경제 환경 속에서 NFT가 예술계 내에서 화제의 중심으로 부상하였다. 그러나 중국에서는 NFT 예술이 중국의 정치경제, 사회문화적 상황과 관련된 제약으로 인해 발전이 더딘 상황이다. 엄격한 관리 및 통제로 인해 암호 화폐의 유통이 제한되어 있고, NFT 예술에 대한 대중의 인식 및 수용 수준, 시장의 성숙도도 아직 낮은 편이다. 이러한 한계에도 불구하고 본 논문에서는 중국 미술 창작자와 시장 참여자가 중국 시장의 특성에 맞는 온라인 개인 미술 IP 모델을 구축할 수 있다고 전망하여 그 현황과 가능성을 모색한다.

Keywords

디지털 경제, 대체 불가능 토큰, 탈중앙화, 비즈니스, 개인 예술, 지식재산권



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