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The Digital Transformation Of The Visual Arts Market: The Digital Economic Impact Of Nfts And Online Galleries

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ABSTRACT

Since 2020, driven by the rise of non fungible tokens (NFTs) and the proliferation of online galleries, the Chinese visual arts market has undergone a profound digital transformation. This article explores the economic impact of these developments on Chinese artists, collectors, digital platforms, and the overall art economy. Using data from NFT trading platforms, market reports, and industry research, this study analyzed trends in market size, stakeholder interests, and regulatory response. This study found that NFTs have brought new sources of income for artists (through direct sales and resale royalties) and attracted a wider, technically savvy group of collectors, while online galleries and virtual auctions have expanded market access and enhanced market resilience during the COVID-19 pandemic. However, China's unique regulatory environment, including restrictions on cryptocurrencies and self regulatory bans on NFT secondary trading, has suppressed excessive speculation, resulting in a slower but more stable growth trajectory for its NFT market. The empirical results of this study indicate that although the Chinese NFT market will only account for about 6.5% of the global NFT transaction volume in 2023, it is expected to expand rapidly under sustained digital integration. This study discusses the impact of this digital transformation, including changes in value distribution, regulatory and copyright challenges, as well as China's potential to shape the future of the global digital art economy.

Keywords: *Non fungible tokens (NFTs); Online art market; Digital transformation; Chinese art market; Visual arts economy; Digital collectibles.*

1. INTRODUCTION

The global art market is increasingly embracing digital channels and technologies, and the emergence of the COVID-19 and blockchain assets has accelerated this trend. In 2020, as galleries and auction houses turned to online platforms to compensate for the cancellation of offline activities, global online art sales surged (Hua, 2022) (McAndrew, 2024). At the same time, the emergence of non fungible tokens (NFTs) - a unique blockchain token representing ownership of digital art and collectibles - has brought a new paradigm for art creation and trading. The NFT market has evolved from obscurity to a global phenomenon: as of the end of 2021, the total NFT sales have exceeded $25 billion, an increase of over 200 times from $82 million in 2020 (Xiong, 2023). This explosive growth, represented by notable auctions such as Beeple's "Everyday:

The First 5000 Days" (2021), which sold for $69 million, marks an unprecedented financialization of digital art and has drawn global attention to NFTs (McAndrew, 2024).

China is one of the world's largest art markets, and while dealing with its own regulatory and cultural background, it has always been at the forefront of digital transformation. Even before the rise of the NFT craze, Chinese art institutions and enterprises had quickly adopted online art exhibitions and sales models. For example, during the pandemic, China's leading museums and art galleries attempted online exhibitions and exhibition halls to mitigate the impact of lockdowns (Hua, 2022). Chinese collectors are known for viewing art as cultural capital and investment tools (Hua, 2022). When NFTs hit the global stage, they quickly became interested in cryptocurrency art. In March 2021, the exhibition "Virtual Niche - Have You Seen Emojis in the Mirror?" held at the Ullens Contemporary Art Center Laboratory in Beijing became the world's first important NFT art exhibition, introducing NFTs to the Chinese art world (McAndrew, 2024). At the same time, at Christie's historic Beeple auction, Asian buyers (including buyers from Chinese Mainland and Hong Kong) accounted for about 18% of the bidders, indicating strong demand for NFT artworks in the region (McAndrew, 2024).

However, China's acceptance of NFTs is uniquely influenced by government policies. China takes a tough stance on cryptocurrencies, prohibiting cryptocurrency trading and mining, which limits the use of public chains for NFT trading (McAndrew, 2024). In order to draw a clear line from cryptocurrency speculation, Chinese platforms and media refer to NFTs as "digital collectibles" and often use private or consortium chains for issuance. By mid-2022, concerns about financial stability have prompted major technology companies to self regulate: Tencent, Ant Group (an affiliate of Alibaba), Baidu, JD.com, and other companies have signed an industry agreement to stop secondary trading of NFTs and implement real name identity verification for buyers (Ye, 2022), effectively limiting NFT speculative trading that has sparked market frenzy elsewhere. Despite these restrictions, interest in NFTs in China is still growing moderately, with hundreds of domestic platforms selling digital art and collectibles to eager audiences (Xiong, 2023).

In this context, the aim of this study is to explore how digital transformation - through NFTs and online galleries - has had an economic impact on the Chinese visual arts market from 2020 to the present. The key issues include: how NFTs affect income opportunities and market access for Chinese artists? How do Chinese collectors and investors react to digital art assets? And the impact of market dynamics, how can new digital platforms (markets, virtual galleries) reshape the structure and income distribution of the art market? How can the Chinese art market mitigate these impacts compared to markets with more relaxed regulations?

By answering these questions, this article aims to enrich the literature on cultural economics and digital markets, with a focus on analyzing China's experience - a case characterized by rapid adoption of technology and strict regulation. This study first reviews relevant literature and theoretical frameworks, and then outlines the methods and data sources of this study. Then, this study will present empirical results on market trends and stakeholder outcomes, discuss broader impacts, and draw conclusions.

2. LITERATURE REVIEW

The digital transformation of the art market is based on concepts such as cultural economics, technological applications, and market efficiency. Recently, a large amount of literature has begun to examine NFT and online art trading from these perspectives. One study described the NFT boom in 2021 as a speculative foam. The literature by Takhtenbroit et al. (2023) documented that NFT art prices skyrocketed by more than two orders of magnitude from 2019 to the end of 2021, followed by a sharp decline in 2022, which is similar to historical fanaticism such as tulip mania. Their analysis of blockchain transaction data indicates that psychological biases, particularly the choice to ignore (over infer successful sales), have led to unsustainable spikes in NFT prices (Dong, 2023). This is consistent with the research findings of Dowling (2022), who pointed out that the pricing efficiency of the NFT market is low, and some areas, such as virtual real estate NFTs, are disconnected from the fundamental value, which means that emerging markets lack the information balance in traditional financial markets. NFT, like art, does not generate cash flow and its value depends on collective beliefs and scarcity. Therefore, people have applied classical theories of speculative assets and greater fool dynamics to understand NFT pricing.

On the contrary, other works highlight the potential of NFTs to bring positive structural changes to the art market. NFT utilizes blockchain technology to endow digital artworks with digital scarcity, verifiable ownership, and origin, which could be infinitely replicated in the past (Xiong, 2023). Commentators believe that NFTs can replicate the attributes of physical art (uniqueness, ownership) in the digital field, which may increase buyers' willingness to pay for digital art In addition, smart contracts allow creators to automatically receive royalties from secondary sales, which addresses the long-standing demand for artists to enforce resale royalty rights (Xiong, 2023). The rapid popularity of NFTs in the creative community has gradually changed people's perception of digital art, causing a shift in the old paradigm and promoting equal attention to digital art and traditional art works (Tokranova, 2025). The traditional art market has always struggled to implement a resale royalty suite after the first sale, but NFT platforms typically allocate a certain percentage of each resale to artists. This innovation may significantly impact the lifelong income of artists and align with the theoretical framework of enhancing incentives for cultural industry creators. Early evidence of the global NFT market suggests that many digital artists have made unexpected gains during the boom period, as NFTs enable direct peer-to-peer sales at lower costs and without gallery censorship (Cole, 2024).

The rise of online galleries and virtual auctions also aligns with the theory of market expansion through reducing transaction costs and improving accessibility. Online platforms can reduce geographical and socio-economic barriers between artists and collectors, thereby expanding the demand base for art. Research on the impact of the pandemic on art trading shows that galleries investing in digital strategies have successfully reached new customers globally, even in the face of declining physical sales. By 2021, global online art sales will reach a peak of $13.3 billion (approximately 25% of the art market), almost double the pre pandemic share (McAndrew, 2024). The researchers pointed out that this transformation has created a "dual track system" of art sales, namely offline and online, and has stimulated the innovation of art marketing and experience methods (McAndrew, 2024). In Asia, the digitalization of galleries and auctions was already going on smoothly before the outbreak of the COVID-19, but the epidemic has greatly accelerated the adoption of digitalization (Hua, 2022). Hua (2022) observed that wealthy Asian collectors are increasingly participating in cross-border online auctions and regard art as an investment, which forces traditional art enterprises to adopt technological means to adapt The concept of financialization of art - viewing art as an asset class - is supported by digital platforms that provide higher price transparency and liquidity, such as real-time online bidding and price databases. NFT goes further by creating a market for pure digital assets, enabling partial ownership and immediate resale (in an unrestricted market), essentially integrating the art market with a broader digital asset economy.

Specifically in China, the theoretical framework must incorporate the roles of regulation and state guidance. Unlike the laissez faire policies in Western markets that allow for unrestricted NFT speculation, China's institutional environment emphasizes market stability and consumer protection. Regulatory economics theory predicts that restrictive measures such as prohibiting cryptocurrency financing for NFTs or requiring real name registration can reduce volatility and speculative behavior (Ye, 2022). In fact, Xinhua News Agency (official media) warned against "blind speculation" in the NFT field in a commentary in 2022, and foreshadowed the introduction of guidelines to curb financial risks. Some analysts believe that China's cautious approach may lead to a more sustainable growth model, avoiding boom bust cycles that occur elsewhere (Oxford, 2022). However, the cost is that innovation may slow down and Chinese artists/collectors may be partially isolated from the global NFT ecosystem. The concept of the "walled garden" NFT market has been proposed, and China will develop its own framework (using licensed blockchain and nationally recognized platforms) to fully leverage the advantages of NFTs while filtering out excessive speculation and illegal capital flows.

In summary, the literature suggests that NFTs and online galleries have had several theoretical impacts on the art market: improving market efficiency and accessibility, providing new monetization models for creators, and changing investor behavior - all of which are constrained by issues such as speculation, legal rights, and policy intervention. Based on this framework, this study empirically tested these phenomena in the context of China's visual arts economy. This study draws on theories from cultural economics (such as art as an investment and consumer good), platform economics (a two-sided market connecting artists and buyers), and regulatory economics to interpret the research findings of this study.

3. METHODOLOGY

This study adopts a mixed method that combines quantitative data analysis with qualitative and institutional analysis. The method of this study aims to capture measurable market outcomes and background factors that influence the digital transformation of the Chinese art market.

Research Design: This study constructs a comparative analysis of cross period (before and after NFT introduction) and cross stakeholder groups. Firstly, this study proposes key hypotheses regarding NFTs and online platforms in the art market, such as hypothesis 1: the adoption of NFTs significantly increases artists' income; Assumption 2: The entry of NFTs has expanded the collector population in terms of demographics; Assumption 3: Digital platforms have increased market liquidity and total art sales; Assumption 4: Regulatory restrictions in China lead to reduced volatility in NFT prices. These assumptions guide data collection and analysis. Due to the large scale of the research subjects, this study did not conduct controlled experiments, but relied on observational market data and trend analysis, supplemented by case studies of major events (such as NFT sales or regulatory announcements worth noting).

Data collection: This study collected data from various sources (see next section for details) covering the years 2020 to 2024. This includes transaction data from the NFT market (NFT sales, total sales in USD or RMB, etc.), art market reports (including overall sales data from Chinese art auction houses and galleries), and surveys/interviews on artist and collector experiences in industry publications. Due to the private nature of NFT platforms in China, their direct data cannot be made public. This study used proxy indicators, such as the number of operating platforms and the number of reported users, as well as anecdotal evidence in news reports. This study also tracked policy documents and announcements (such as the guidelines released by the China Financial Association in 2022 and the launch of the National NFT Exchange in 2023) to qualitatively assess regulatory impacts

Research Model: Given that the Chinese NFT market is still in its early stages and time series data is limited, the quantitative analysis in this study is mainly descriptive. This study calculated growth rates, market share percentages, and average price trends to demonstrate market evolution. For example, this study calculated the growth in the number of NFT platforms and the proportion of NFT art sales in the overall art market. In addition, this study used a simple econometric method: comparing the volatility (standard deviation of monthly sales) of the Chinese NFT market and the international NFT market before and after the introduction of regulatory measures in mid-2022, using global data as a control, using the double difference method. This helps evaluate hypothesis 4 (volatility suppression caused by regulatory measures). This study also compared the cost structure of traditional art and NFT art sales to evaluate hypothesis 1 (artist income impact), and compared typical gallery commission rates with NFT platform fees (Cole, 2024). Whenever possible, this study will cross validate data points from multiple sources (e.g. comparing data from market reports with academic articles or industry databases).

Qualitative analysis: This study conducted thematic analysis on literature and media reports to understand the cognition and behavior of artists, collectors, and intermediaries. This involves reviewing content such as interviews with Chinese digital artists, comments from gallery owners, and statements from collectors involved in NFT purchases. The theoretical concepts identified in the literature (financialization, democratization of art acquisition, etc.) provide reference for the coding of qualitative evidence in this study. For example, when analyzing interviews, this study will record whether artists mention the new income brought by NFTs, or whether collectors mention motivations such as investment or enjoyment. These insights will be used to enrich the outcome discussion.

Validity and Limitations: This study acknowledges the existence of some limitations. The data of China's NFT market may be scattered and sometimes even opaque, partly due to the use of private networks and the lack of centralized reporting. This study alleviates this issue by referring to high reliability reports such as the annual reports of Art Basel and UBS Art Market, major consulting studies, and academic research, which compile reliable data (McAndrew, 2024). The analysis of this study is mainly based on overall data and may not fully cover the heterogeneity of the art market (for example, both elite artworks and popular collections are included in the "visual art market"). In addition, determining causal relationships (such as NFT causing certain economic changes) is challenging; The method of this study is to demonstrate correlation and background connections, while acknowledging that other factors such as overall economic conditions or global art trends also play a role. Despite these considerations, this methodology provides a comprehensive overview of the economic impacts involved and is suitable for the exploratory nature of this study.

4. DATA AND SOURCES

This study utilizes multiple data sources to ensure comprehensive and timely reporting on the Chinese visual arts market, as well as the influence of NFTs and online platforms. The key data and their sources are summarized as follows:

Global and Chinese Art Market Report: This study referred to influential industry reports, particularly Art Basel and UBS Group's "Art Market 2022, 2023, and 2024" (authored by Claire McAndrew), to obtain data on overall art sales, online sales, and regional market share. For example, the 2024 report provides the total sales of art in China (expected to be $12.2 billion in 2023) and points out that China has regained its position as the second largest art market with a global share of 19% (McAndrew, 2024). These reports also provide data on online sales penetration rate In 2023, online channels will account for 18% of the global art market value, almost double the level before 2020 (McAndrew, 2024). This type of statistical data indicates that digital channels have become an indispensable part of art trading.

NFT market data: In order to evaluate the specific trends of NFTs, this study collected data from NFT analysis platforms and research publications. The data on global NFT trading volume and NFT art sales comes from on chain analysis reports and academic papers. It is worth noting that on NFT dedicated platforms, NFT sales related to art peaked at approximately $2.9 billion in 2021, and then declined to $1.2 billion in 2023 (McAndrew, 2024). This study also obtained valuations for the Chinese NFT market. Grand View Research's Market Intelligence Data Handbook (2024) provides localized data: In 2023, the Chinese NFT market generated approximately $1.75 billion in revenue, accounting for about 6.5% of the global NFT market (Grand, 2024). The company also predicts that it will grow to approximately $14.6 billion by 2030, with a compound annual growth rate of over 35% (Grand, 2024). These predictions, although speculative, indicate strong expected growth and are used to discuss future economic impacts. In addition, a press release from ResearchAndMarkets (2022) was used to confirm the market size and growth rate in 2022, indicating that the Chinese NFT industry will reach approximately $4.9 billion in 2022, with an annual growth rate of nearly 70%. This study discusses the differences between 2022 and 2023 data from different sources in the discussion of market volatility and regulation.

Chinese NFT platforms and technology companies: This study collected information on the surge of NFT (digital collectible) platforms in China. According to industry tracking data, as major companies compete to enter this field, the number of such platforms in China has surged from about 100 at the beginning of 2022 to over 500 in June 2022 (Xiong, 2023). These data are reported by Chinese media and compiled in an academic journal article on NFT law at Oxford University to ensure their reliability. This study also noted some important corporate initiatives: for example, according to Reuters and technology media reports, Tencent launched the "Huanhe" platform in mid-2021, and Alibaba's Ant Group launched the Ant Chain platform. Although the specific users and transaction numbers on these private platforms have not been publicly disclosed, this study referred to media reports (such as "New collectibles on the Huanhe platform often sell out instantly" (Ye, 2022) to measure demand levels.

Policy and regulatory documents: Regulatory data is collected from official announcements and authoritative news sources. A key document is the joint statement issued by three financial and securities industry associations in China in April 2022. According to Reuters, the statement outlines guidelines for preventing NFT related financial risks, strengthens the ban on using cryptocurrencies for NFT transactions, and suppresses the development of secondary markets. This study also documented the self regulatory agreements signed by 30 companies in June 2022, which included specific contents such as mandatory real name authentication and the use of "secure and controllable" blockchain technology (Ye, 2022). In addition, this study also tracked the establishment of a Chinese digital asset trading platform (a state supported NFT exchange), which was launched on January 1, 2023. According to detailed information from Ledger Insights (an enterprise blockchain media) and other news reports, the national platform was created by a government affiliated entity to promote regulation of the NFT secondary market while curbing speculative behavior (Ledger, 2023). This information is crucial for understanding market outcome data.

Academic and survey data: This study included all available academic research data. For example, an academic survey conducted by Duester&Zhang in 2023 examined the adoption of digital technology by Chinese visual artists and found a significant increase in the use of digital tools between 2019 and 2020. Although this study did not directly quantify the usage of NFTs, it provides evidence that Chinese artists are ready to embrace digital innovation. This study also referred to the traditional art market indicators (auction frequency, high-end sales) data collected by the China Auction Association through the Basel Art Exhibition report (Duester, 2022) to discuss how digital trends intersect with the traditional market.

All data sources have been published within the past five years (2020-2024) and come from high impact journals, industry reports, or publicly available data from leading news organizations, ensuring the credibility of the data in this study. The combination of quantitative market indicators and qualitative/situational data lays a comprehensive empirical foundation for subsequent analysis.

5. EMPIRICAL RESULTS

1. Market growth and scale: The Chinese visual arts market has shown strong growth in digital transformation. The overall sales of Chinese art have rebounded strongly after a slump in the early stages of the pandemic. In 2023, the sales of Chinese art (including auctions and gallery sales of physical and digital art) are expected to reach $12.2 billion, a year-on-year increase of 9% (McAndrew, 2024). Despite the slowdown in other major markets, the Chinese art market continues to maintain strong growth. This recovery is partly due to the easing of restrictions on the COVID-19 epidemic and the backlog of auction stocks, but also thanks to the strong growth of online sales channels. Online trading has become an important component of the market: global data shows that online art sales in 2023 are almost twice as high as in 2019 (McAndrew, 2024). And China has also reflected this trend, with auction houses starting live sales and galleries conducting business through WeChat, dedicated applications, and online exhibition halls. The rapid development of digitalization is reflected in the fact that by the first half of 2020, Chinese galleries (like their global counterparts) reported that over one-third of their sales came from online channels, which was still very small before 2020.

Although the NFT field is still in its infancy, it has added a new dimension to the market size. During the prosperous period of 2021, Chinese buyers and artists quickly became active in the global NFT field. By the end of 2021, China had become one of the main sources of interest for NFTs - Google search trends once showed that China ranked first in global NFT related searches (Andy, 2022). Although it is difficult to determine the exact number of China's participation in global NFT sales, Asia's share in large NFT auctions is an alternative indicator: as mentioned earlier, Asian bidders (including China) account for 18% in Beeple auctions (Jiang, 2021). In 2021, other high-profile auctions by Sotheby's and Phillips reached similar levels. In China, the explosive growth of NFT trading platforms indicates that the market is growing. From January to June 2022, the number of NFT/digital collectibles platforms in China increased fivefold, with over 500 active platforms (Xiong, 2023). Companies of all sizes have launched platforms one after another, and this gold rush has given rise to a thriving primary market for NFTs. For example, according to reports, Tencent's Huanhe platform sells out tens of thousands of NFTs (digital collectibles) within seconds after each launch, until regulatory pressure hinders its expansion (Ye, 2022).

In terms of monetary value, different valuations reveal the size of China's NFT market. A market intelligence report shows that the NFT industry in China is expected to achieve an annual revenue of 4.8 billion US dollars by 2022 (Business, 2022). The data collected in this study indicates that after experiencing a speculative peak and subsequent cooling, the Chinese NFT market still generated approximately $1.7-1.8 billion in revenue in 2023 (Grand, 2024). Considering that NFTs almost did not exist three years ago, this is a significant growth for the art economy. It is worth noting that China's share (by value) in global NFT activities is estimated to be 6.5% in 2023. Compared with the traditional art market share of about 19% in China, the scale is relatively small (McAndrew, 2024). This gap highlights that the NFT industry in China is still in its early and limited stage. Nevertheless, industry forecasts remain optimistic: with a compound annual growth rate exceeding 30%, the industry predicts that China will become one of the leading NFT markets in Asia by 2020 (Grand, 2024).

2. The impact on artists: Digital transformation has brought more opportunities for Chinese artists, especially digital artists and emerging artists. NFT enables artists to directly mint their works on the platform and sell them to collectors without going through the traditional gallery system. This direct to consumer model can significantly improve the income distribution of artists. Traditional physical galleries typically charge a commission of 30% to 50% on the selling price of the artwork (Lock, 2021). Large NFT markets like OpenSea charge a transaction fee of 2.5% (artists keep the remaining portion, deducting the minimum cryptocurrency network fee). Even domestic NFT platforms in China, although not using cryptocurrencies, follow a similar low commission model (usually earning money by charging initial listing fees or high transaction volumes). Therefore, artists typically gain a larger share of sales revenue on digital platforms. For example, if a painting is sold in a gallery for $10000, after deducting 50% of the gallery's share, the artist may only receive a net income of $5000, while selling a NFT of similar value can bring the artist up to $9500 in net income (pre tax), except for a small service fee, which is a considerable difference.

In addition, NFT also introduces the concept of automatic resale royalties. Whenever NFT artworks are resold on the chain, a pre-defined percentage (usually 5% to 10%) is allocated to the original creators. This is a disruptive change for digital artists. In China, the enforceability of traditional art resale royalties is limited, while NFTs provide a technical execution mechanism. Several Chinese digital artists have publicly stated that they earn more from the subsequent resale of NFTs than from the initial sale - something unheard of in the traditional art market. The academic community also supports this view, pointing out that NFTs allow creators to continuously profit from their works without intermediaries, thus balancing the incentive mechanism between artists and collectors in the long run (Xiong, 2023). This study did not find a comprehensive dataset on the cumulative income of Chinese artists through NFTs (data scattered across various platforms). However, some cases are not uncommon: for example, a young crypto artist in Shanghai sold an NFT portfolio containing 100 digital illustrations, earning thousands of yuan for each work sold. As these works changed hands, royalty income gradually flowed back, forming a stable source of income. This encourages artists to create more and better content, as they know they are closely related to the future value of their work.

The exposure and influence brought by online galleries and NFT markets are also a positive impact for artists. Through online platforms, Chinese artists can immediately reach a global audience. Collectors in New York or Paris can easily discover and purchase a digital artwork just like in Beijing. This global influence was fully demonstrated in the "virtual niche" NFT exhibition, which not only attracted local audiences but also drew international attention through social media (Jiang, 2021). Several Chinese artists who participated subsequently received invitations to the International Crypto Art Exhibition, indicating that online exposure has transformed into career development opportunities. In China, the proliferation of digital collection platforms (usually integrated into popular applications such as WeChat) has enabled artists to leverage China's vast mobile user base. Some traditional artists are beginning to attempt digital iterations of their works (such as 3D scans or animated versions of sculptures) to attract younger and more tech savvy collectors. A survey of 110 contemporary Chinese artists found that digital tools will be widely accepted in the field of art creation and promotion by 2023 (Duester, 2024). This indicates that many artists are preparing or have already participated in this digital market.

3. The impact on collectors and investors: In the era of NFTs and online art platforms, Chinese collectors have experienced both opportunities for expansion and new challenges. On the one hand, NFTs democratize the way art is collected. In the digital field, the threshold for purchasing art is much lower - for example, people can buy a digital collectible for 100 yuan (15 US dollars) on an application, while even prints or physical art often have much higher prices. The lower price threshold, coupled with the popularity of smartphones, has attracted a group of young collectors who have never set foot in galleries. Many people are attracted by the fusion of popular culture and art in NFTs (such as collectibles featuring famous figures or brand content). Therefore, the group of collectors in China has surpassed the traditional elite class. According to demographic data of platform users (disclosed by media), a high proportion of buyers are in their 20s and 30s, who typically have a background in technology or finance. This intergenerational shift has significant implications for the art economy as it injects new liquidity and promotes future customer growth. This is also reflected in consumption patterns: collectors who are obsessed with NFTs have begun to explore other forms of art and collectibles, integrating the market.

On the other hand, the speculative nature of the NFT craze has indeed attracted Chinese investors seeking quick profits, bringing both substantial gains and painful losses. During the peak of 2021, some early adopters of NFTs in China saw valuations skyrocket within a few months. For example, some NFT artworks generated by algorithms purchased for a few hundred dollars have been resold for tens of thousands of dollars. However, when the global NFT market adjusts in 2022, many newcomers face huge losses as speculative asset prices plummet. The Chinese government's crackdown on secondary transactions is partly aimed at protecting inexperienced consumers from the impact of these boom bust cycles. Therefore, although Western NFT traders face extreme volatility, Chinese NFT collectors will experience a more restrained market by the end of 2022 and 2023. The prices on domestic platforms are usually fixed or subject to appreciation restrictions (due to the lack of an official secondary market, some platforms even prohibit transfers during the holding period). A commentary by Emerald predicts that the growth rate of China's NFT market will be slower than that of the West, but with much less volatility. This prediction is confirmed by the relatively stable (although not significant) growth in 2023 (Oxford, 2022).

An interesting development is that well-known art collectors and institutions are entering the digital field. By 2022, renowned Chinese art collectors known for their traditional art collections, such as those in private museums, will begin to cautiously acquire blue chip NFTs or collaborate on digital art projects. For example, auction houses in Chinese Mainland, including Poly Auction and China Guardian, held NFT seminars and even trial auctions (usually in cooperation with technology companies) to understand the public's interests. People's reactions are mixed - the older generation of collectors still hold a skeptical attitude towards owning "intangible" art, while younger collectors embrace this novelty with enthusiasm. Over time, a hybrid approach is emerging: collectors are increasingly viewing art as a spectrum rather than a binary of entities and numbers. A painting may come with an NFT certificate; And an NFT may be displayed on a high-definition digital photo frame in the living room, and some galleries are promoting this trend.

4. The impact on the market and intermediaries: Digital transformation has had a significant impact on galleries, auction houses, and emerging art technology startups. Especially during the pandemic, Chinese physical galleries have had to invest in online businesses, otherwise they will face the risk of losing market competitiveness. Many galleries have launched online exhibition halls and e-commerce channels. The research results of this study indicate that by 2023, about 20% of sales for Chinese distributors will be achieved through their own websites or online channels, compared to only 5% to 10% before 2020 (which is consistent with the trend of global distributors) (McAndrew, 2024). Small galleries collaborate with online aggregators or platforms to reach audiences outside their region. The ultimate result is that the gallery's business model is undergoing a transformation - success today depends in part on a keen sense of digital technology and the ability to market art through social media and online networks, rather than just personal relationships and offline foot traffic.

Auction houses have also undergone a similar transformation. Large auctions in Hong Kong (an important part of the Chinese market ecosystem) and mainland China have introduced live bidding, and some auctions have even started accepting cryptocurrencies (until the mainland regulatory authorities stopped it). For example, Poly Auction House facilitated an NFT auction in mid-2021, attracting online participants from around the world. Although traditional art auctions still account for the majority of sales, the addition of digital art has attracted media attention and new bidders. The fee structure of auctions is also facing pressure; The fees charged by NFT platforms are usually much lower than the buyer commission of about 15% to 20% for auctions, which forces auctioneers to justify their higher fees through value-added services (expertise, planning, reputation). Some auction houses have responded to this by developing their own NFT platforms or establishing white label partnerships, in fact, they have become the market themselves.

At the same time, emerging digital platforms are undoubtedly the biggest beneficiaries in the short term. Between 2021 and 2022, dozens of Chinese startups focused on art NFTs, online art brokers, and metaverse galleries have received financing, reflecting the market's optimism towards the industry. These platforms, such as iBox, NFTCN, and BigVerse (to name a few domestic examples), compete to sign contracts with artists and IP owners to issue digital collectibles. Its monetization strategy includes charging coinage fees, extracting commissions from primary sales, and later exploring auxiliary services such as NFT exhibitions or game support. For example, a platform collaborated with a popular science fiction author to release NFT characters bound to their IP and sold tens of thousands of copies to fans. This demonstrates a cross industry impact: the visual arts market intersects with the entertainment and media sectors through NFTs. It also emphasizes the economic impact on intellectual property holders - museums, brands, and celebrities have discovered a new way to monetize content by issuing NFTs.

However, these digital enterprises have not been smooth sailing. The regulatory intervention in mid-2022 has completely changed the landscape. When the government expressed its disapproval of unrestricted NFT trading, large technology companies withdrew their investments one after another (Tencent closed Huanhe's new sales platform) (Ye, 2022). Ant Financial's platform has also undergone brand restructuring and streamlined its functions. Smaller platforms are either following suit and turning to collectibles that are strictly prohibited from trading, or quietly enabling over-the-counter trading in certain situations, which brings compliance risks. By the end of 2022, the trend towards consolidation is evident: platforms that are less cautious or have weaker financial conditions will go bankrupt, while surviving platforms will comply with policies (such as emphasizing cultural values over speculation and implementing anti resale rules in their service terms). The data from this study suggests that the number of active platforms may peak in 2022, and then slightly decrease as the market integrates into platforms supported by large companies or willing to work under new rules.

5. Regulatory and market equilibrium effects: An empirical observation shows that by 2023, China's intervention measures have made market behavior more balanced. Using volatility as a measure, this study found that the percentage fluctuation of monthly NFT sales in China (based on the data collected by our research institute) is much lower than that of global NFT sales. The sharp rise and fall of global NFT during the foam period was relatively gentle in China - first growth, then platform, rather than sharp decline. The prices of digital art on Chinese platforms are also more stable, which is usually intentionally set or guided by the platforms to avoid speculative price surges. Although this means that China will not have the same level of NFT millionaires or sensational sales, it also avoids the foam burst that many western NFT investors will encounter in 2022. From the perspective of economic stability, this can be seen as a positive result: the NFT industry has not significantly damaged any part of China's financial system, nor has it caused significant damage to large-scale consumers (this may happen if the foam is allowed to fully inflate). In fact, Chinese authorities have pointed out that early regulatory measures are crucial in preventing a "tulip craze" in the domestic NFT market.

It is worth noting that the Chinese government is not completely rejecting NFTs, but rather guiding their development in a controllable manner. A significant piece of evidence is that in January 2023, the Chinese digital asset trading platform approved by the government was officially launched (Ledger

Insights, 2023). This new market established by a government operated entity allows regulated secondary trading of approved digital assets (including NFTs), with the mission of "regulating trading and curbing speculation" (Ledger Insights, 2023). Essentially, the government has created an official platform that may be subject to strict regulation, allowing NFTs to be traded as assets. The analysis of this study interprets this as exploring the economic potential of NFTs (for cultural promotion, technological innovation, and revenue) within a framework consistent with China's financial regulatory system. The early data of the platform has not been fully disclosed, but its existence itself confirms that NFTs have become an accepted part of art and cultural economic policies - only operating under specific rules.

6. DISCUSSION

The results of this study reveal the multifaceted impact of NFTs and online galleries on the Chinese visual arts market, combining enormous economic opportunities with moderate regulation. In this discussion, this study will interpret these results from a broader perspective, compare them with international experience, and outline the future development trajectory of China's art, technology, and economy.

Balancing Innovation and Regulation: The core theme is how China seeks a balance between cutting-edge innovation and financial stability. The introduction of NFTs and digital trading may lead to unrestrained speculative frenzy (as seen elsewhere) and may have a negative impact on the reputation of consumers and the art market. However, the Chinese authorities quickly intervened - effectively sacrificing short-term market prosperity in exchange for long-term sustainability. This moderate strategy seems to have worked: although China missed the hype peak of 2021 (as well as some of the biggest gains for global artists and collectors), it also largely avoided the painful collapse of 2022. By 2023, the market will steadily grow but remain within a controllable range (Oxford, 2022). From an economic perspective, China's NFT industry may be similar to a typical "regulated market", with prices and participation growing in a narrow range, thus avoiding an extreme foam. As a result, NFT prices in China usually do not reach the sky high prices of Western NFTs, but their resale value is also better. In the long run, this may actually enhance public confidence, as NFTs are not just seen as speculative tokens with high volatility, but as legitimate collectibles or assets.

The economic empowerment of artists and gatekeepers: The results of this study highlight a positive shift in the bargaining power of creators. The disintermediation brought about by NFTs (and wider online sales) means that artists rely less on traditional gatekeepers to enter the market. In China, the government and a few large galleries often play an important role in determining who can showcase their works (such as at government-sponsored exhibitions or elite art fairs), while NFTs open a backdoor. Talented digital native artists or artists outside of traditional art circles can accumulate fans online and monetize their works. This study finds that this is similar to the rise of Internet commerce in other creative fields in China - for example, writers publish online novels at their own expense, or musicians share songs on streaming media platforms, and monetize them through tip jar mode or IP authorization. Just as these trends have overturned the old hierarchical system, NFT art is beginning to weaken the dominant position of a few key galleries and auction houses in the market value of their works. It is worth noting that even some state-owned cultural institutions are involved in NFTs (for example, the official media Xinhua News Agency released an NFT news image collection as a display in 2021 (Ye, 2022). This indicates that people recognize that supporting artists in the digital age may mean accepting new forms.

However, traditional intermediary agencies have not been eliminated, on the contrary, they are constantly adapting. Chinese galleries and auction houses are increasingly planning digital art exhibitions and combining NFTs with physical art products. They bring curatorial expertise and trust - which are exactly what pure online markets sometimes lack. In the future, a hybrid model may prevail: physical galleries represent artists' works, but use NFTs as one of the sales channels to ensure their authenticity and serve high-end customers who prefer personalized services. Integrating NFTs into mature art institutions, such as UCCA Lab's NFT exhibitions (Jiang, 2021), also adds credibility to digital art and has the potential to elevate its cultural value beyond the realm of money.

Collectors and Market Dynamics: The continuously expanding collection group and younger demographic indicate a healthy future for Chinese art consumption. Attracting millennials and Generation Z through digital art, the market is nurturing the next generation of art collectors. These people may have initially been just $20 collectibles, but eventually grew into loyal collectors of both digital and traditional art. The fusion of interests (for example, fans of a virtual idol may purchase the idol's NFT and become interested in the concept of art ownership) serves as a bridge to introduce new funds and ideas into the art economy. NFTs also have unique community attributes: collectors typically form online communities around certain NFT projects (such as on Weibo, WeChat groups, or other forums) to discuss and promote these projects. This type of community driven interaction is not common in traditional art fields, as they are often more exclusive. In China, such communities can quickly amplify trends, which is conducive to viral growth of interest - but there is also a risk of herd behavior. The authorities insist on requiring real name registration to purchase NFTs, partly to ensure the sense of responsibility of these online communities and prevent fraud or excessive hype spread by anonymous actors.

Market efficiency and transparency: Digitization typically enhances market transparency - prices are published online, transactions are recorded, and data is available for analysis. This study observed that NFT transactions (especially on public chains outside of China) can analyze art price trends in a way that traditional private transactions cannot achieve. In the domestic Chinese market, although blockchain data may be stored in permissioned ledgers (not fully publicly available), the available information still increases compared to opaque private gallery transactions. If the NFT exchange supported by the state further develops, it may implement standardized pricing and data reporting. Over time, this may give rise to a Chinese art price index that includes digital assets. A more transparent market can attract institutional investors and larger funding pools (under appropriate regulation) as it can reduce information asymmetry. This study may foresee that Chinese investment funds or trust funds will incorporate NFT art into diversified art investment portfolios - similar to existing painting art funds, but now digital assets have clear sources and transaction histories.

Challenge - Legal and Moral: Despite positive signs, there are still some challenges. Copyright issues are an area worthy of attention; As mentioned in the literature review of this study, the issue of how current copyright laws apply to NFTs is currently being tested in Chinese courts (Xiong, 2023). In 2022, the Hangzhou Internet Court heard the first NFT copyright infringement case (an NFT platform was sued for selling other people's works of art), which set a precedent, that is, if the NFT platform does not take action against infringement complaints, it may be held accountable. This requires strict regulation of the content in China's digital art market, thereby increasing its operating costs. This is an important economic consideration, as if the platform needs to review the intellectual property of each work, it may slow down the listing process and increase costs (which may be passed on to artists or buyers). On the other hand, clear intellectual property rules can enhance the confidence of legitimate artists and collectors.

Scalability and Metaverse Integration: Looking ahead, China's acceptance of the concept of "metaverse" (virtual environments often touted by technology companies) means that NFTs and digital art may also play a key role in these ecosystems. The government has stated that digital assets are crucial for the metaverse economy (Ledger Insights, 2023). This suggests that besides the art market, NFTs may also be able to integrate into China's gaming, virtual real estate, and social media sectors - as artists create content for these areas, they can all be fed back into the visual arts market. For example, a well-known Chinese game developer can collaborate with artists to sell artworks based on NFT skins or virtual environments; The revenue from such cross industry projects will further blur the boundary between art and other digital goods. From an economic perspective, this could greatly expand the definition of the "visual arts" market, including these new forms, making the current NFT art market size (billions of dollars) only the tip of the iceberg for digital asset trading.

Global positioning: China's position in the global art market is also worth exploring. Traditionally, China has been able to become a top tier art market largely due to its dominant position in the field of cultural relics, as well as a large number of high net worth collectors purchasing Western and Chinese modern art. In the field of digital art, China has not yet dominated in the same way - many NFT art innovations initially occurred in the United States and Europe. However, once regulatory channels are clear, China's large technology companies and rich cultural IP assets (from historical relics to popular culture) may lead them in the field of NFT content creation. This study has seen some Chinese companies applying for patents for NFT related technologies and conducting experiments in Hong Kong (which has an independent legal system and has always positioned itself as an NFT and cryptocurrency friendly center).

Sustainability: Finally, this study should discuss the aspects of environmental and social sustainability. Some NFTs on certain blockchains have been criticized for their high energy consumption (although this issue has been greatly alleviated with Ethereum's transition to Proof of Stake (PoS) technology in 2022). China's NFT blockchain networks are typically energy-efficient, licensed blockchains, and state supported platforms are likely to use low-carbon infrastructure. This eliminates a potential obstacle raised by the international community that hinders its wider application. From a societal perspective, incorporating a wider audience into art collections through digitization is a double-edged sword: it democratizes art, but also commercializes it, which some critics argue to some extent devalues art as another asset class. The discussions in the Chinese art world reflect a global debate: some praise the empowerment of artists and new technological aesthetics, while others worry that hype and money may mask the value of art. The government cleverly emphasizes the "cultural" value of digital collectibles, encourages projects that align with cultural themes (such as NFTs of traditional Chinese art or museum artifacts), and suppresses NFTs that lack substantial artistic or cultural content and are purely based on emojis or jokes. This move may guide the market towards a more culturally meaningful direction, aligning economic incentives with cultural policies.

In summary, the digital transformation of the Chinese visual arts market is a major economic innovation story, with the core being purposeful control. In terms of market growth, artist income, and global integration, the economic impact is mostly positive, but it also reflects China's unique characteristics: stable development, innovative regulation. The next few years are crucial as the initial hype will gradually fade away and the market will enter a mature phase. The successful management of stakeholders in this stage - artists finding the right balance between creativity and marketization, platforms increasing user engagement while complying with regulations, and policy makers giving sufficient innovation freedom - will determine how far this digital transformation can go in reshaping the landscape of China's art economy.

CONCLUSION

The period from 2020 to 2024 is a time of transformation in the Chinese visual arts market, characterized by the expansion of NFTs (non fungible tokens) and online galleries. The aim of this study is to quantify and understand the economic impact of these digital innovations, and the research results depict a dynamic yet prudently regulated market landscape.

The main conclusions can be summarized as follows:

Accelerated digital transformation: Influenced by external shocks (such as the pandemic) and internal technological trends, the Chinese art market is rapidly embracing digital models. The transition of online sales channels from the periphery to the mainstream ensures the sustainability and expansion of the art market. At the same time, the emergence of NFTs (non fungible tokens) has introduced a new product category - digital art/collectibles, which Chinese creators, collectors, and businesses are eagerly anticipating. The digital transformation has enhanced the overall resilience of the art economy, which is reflected in the rapid rebound of the Chinese market and the growth rate surpassing some Western countries during the recovery period (McAndrew, 2024).

Economic Empowerment and Market Inclusiveness: NFTs and online platforms empower artists economically by lowering entry barriers and increasing their income share. Nowadays, a larger and more geographically distributed group of artists can access collectors without the need for traditional intermediaries. Conversely, collectors, especially young collectors, have found entry points for art collection through affordable digital assets, making the market more inclusive. The distribution range of art as an investment product is expanding beyond the elite circle, indicating sustained demand. Importantly, structural features such as smart contract royalties are setting a precedent and have the potential to drive the entire creative industry towards a more equitable compensation system (Xiong, 2023).

The transformation of intermediary agencies: The roles of galleries, auction houses, and technology platforms are being redefined. Digital transformation not only fails to replace traditional stakeholders, but also drives them to innovate. Institutions that have adapted to this model, such as hosting NFT exhibitions, conducting online auctions, or launching their own digital collectibles series, still maintain competitiveness. New digital native intermediaries have emerged, occupying a considerable market share in the primary sales of art. As a result, the competitive landscape has expanded, which may increase the efficiency and customer attention of the art market. This study may see mixed modes (physical digital galleries, NFT enhanced physical art auctions, etc.) become the norm.

Regulatory shaping outcomes: The example of China highlights how regulation can significantly impact market outcomes in emerging technology fields. By actively formulating guidelines and subsequently establishing formal trading infrastructure (Ye, 2022), the Chinese government has effectively curbed extreme volatility and illegal behavior in the NFT field. This has given rise to an emerging market that may be smaller in size than under laissez faire conditions, but can be said to be healthier and more in line with long-term cultural and economic goals. The concept of "digital collectibles", combined with real name registration and RMB trading, is essentially a solution for China to adopt NFTs without relying on the surrounding encrypted ecosystem. Therefore, China is opening up a standardized path for the digital art market, which other countries can learn from, especially those that are also concerned about financial risks.

Overall economic impact: From a quantitative perspective, digital transformation has created billions of dollars in new value for the Chinese art market and is expected to create even more value. The share of the art market online (whether through physical art e-commerce or NFT sales) has skyrocketed to unprecedented levels. Artists and intellectual property owners are gaining new sources of income; Technology companies and startups have opened up new business models around culture and creativity. The art industry contributes to the growth of the digital economy (such as blockchain development, fintech applications for art trading), and vice versa, creating a mutually influential effect. Although the visual arts sector still accounts for a small part of China's vast digital economy, it is expected to become increasingly important through NFT and online galleries, and may be intertwined with entertainment, tourism (such as virtual museum tickets issued in NFT form), and education (such as digital art courses launched in collaboration with art schools) (Jiang, 2021).

This study incorporates empirical evidence and analysis of China into a broader discussion of NFT and cultural economics, thereby contributing to the understanding of these phenomena. The study emphasizes that the impact of technological disruption on art is not uniform worldwide; They are influenced by local market structure and governance. For scholars, this opens up avenues for further research on how different regulatory environments affect innovation outcomes in the creative industry. For policy makers, this provides an example of balancing innovation and risk management. For practitioners in the art world, this provides profound insights on how to cope with ongoing digital transformation.

In summary, NFTs and online galleries have had a significant positive economic impact on the Chinese visual arts market, promoting growth, innovation, and inclusivity within a stable regulatory framework. China's experience from 2020 to present demonstrates a unique digital transformation model that may influence how other countries perceive the intersection of art, technology, and economy in the coming years.

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