

Innovative Research on the Development of Taohuawu New Year Pictures Enabled By Blockchain NFT Technology

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Abstract:

This research adopts quantitative and qualitative cross research methods to conduct research on the development of Taohuawu New Year pictures enabled by blockchain NFT technology. The research results show that blockchain NFT technology does have practical and theoretical significance in all dimensions of Taohuawu New Year pictures, which is a relatively new path for the development of Taohuawu New Year pictures. It is hoped that this study can provide a reference for the research of intangible cultural arts industry enabled by blockchain NFT technology.

Keywords:

Blockchain, NFT Technology, Taohuawu New Year Pictures, Development

1. Introduction

On January 27, 2022, General Secretary Xi pointed out during his investigation in the ancient city of Pingyao, Shanxi that “historical and cultural heritage carries the genes and blood of the Chinese nation, and belongs not only to our generation, but also to future generations.” Blockchain plays an important role in technological innovation and industrial transformation of cultural development. Intangible cultural heritage culture and art make the world a valuable asset; Therefore, it is of practical significance to combine the two.

2. Current Situation, Level and Development Trend of Practical Research at Home and Abroad

2.1. Research on the Development of Taohuawu New Year Pictures

Taohuawu New Year pictures are bred under the accumulation of Suzhou history and culture. Taohuawu New Year pictures are the epitome of Suzhou’s history and culture. They have irreplaceable significance in intangible cultural heritage projects and are outstanding representatives of art intangible cultural heritage projects.

Scholars proposed that we should observe the new trend of the transformation and development of many intangible cultural heritage, tap the needs of the younger

generation of consumers, and redesign Taohuawu New Year pictures in combination with the “national trend” and cartoon style, so as to seek a new foothold for the contemporary development of Taohuawu New Year pictures; And further explore the cultural connotation, aesthetic value, form of expression and artistic characteristics of Taohuawu New Year pictures, as well as the extraction, re creation and re design of Taohuawu New Year pictures and trying to introduce intangible cultural heritage projects into arts and crafts teaching through school enterprise cooperation [4]; Other scholars are concerned about the operation mode and modern transformation of the protection and inheritance of Taohuawu New Year pictures in the context of “intangible cultural heritage” [7], and are discussing the role of information visualization of intangible cultural heritage projects in promoting the inheritance of intangible cultural heritage [10,13]. Some scholars believe that intangible cultural heritage projects should be combined with tourism [12].

The research results of scholars also show that the development of Taohuawu New Year pictures is facing difficulties. First, the ontology dilemma. The protection of intangible cultural heritage intellectual property is still lacking, and the ownership is unknown; Homogeneity of products and intermingle of good and bad works [6]. Second: technical dilemma. Digital data are not connected, forming a data island; And the industry and product standards are different; The product is weak in technology, easy to copy, and even poorly made, leaving the audience at a loss [2]. Third: development dilemma: backward concept and communication ability, lack of effective top-level design, and lack of intelligent means in the network era [11].

2.2. Research on Blockchain NFT Technology

The blocks in the blockchain NFT technology are formed based on passwords. Each block contains the hash value, corresponding timestamp, transaction records and other information of the previous block. These transactions are recorded through the distributed system. The main logic of blockchain technology is to achieve decentralized, consensus mechanism, tamper proof, traceable and trusted point-to-point transmission of intangible cultural heritage protection through data layer storage and stability, P2P network and consensus algorithm at the network layer, script and smart contract at the contract layer, and decentralized application at the application layer. As a non homogenous digital proof of rights and interests, NFT represents the sole ownership of things, and can certify items similar to art, collections and even real property; At the same time, they can only have an official owner, whose security is protected by the blockchain and has the feature that ownership records cannot be modified [3].

2.3. Application Research of Blockchain NFT Technology

The application research of blockchain NFT technology mainly focuses on three directions: first, NFT technology can become a link between technology and reality. Scholars mainly conduct research from the perspective of NFT theory and technology application scenarios. Shianbin [9] and other scholars have analyzed how NFT technology acts as a bridge between the real world and the meta universe to realize the value transfer between the meta universe and art from the perspective of the concept traceability and practical application of blockchain NFT Technology. Second: blockchain technology is highly matched with the openness, scenario, interconnection and other characteristics of the digital culture and art industry. In terms of the external traction of blockchain technology and the internal development needs of the digital

culture industry, blockchain is jointly promoting the great glory of the digital culture industry [8]. Third: NFT technology can empower intangible cultural heritage and help its protection and development. In the field of intangible cultural heritage protection, “Internet + big data” has problems in the collection, identification, counterfeiting, infringement, consensus, sharing, storage, security and other aspects of intangible cultural heritage data information. The characteristics of blockchain NFT technology can just solve the problems of mutual trust in intellectual property identification, product traceability, product development and trading on the chain [3]. However, no one has proposed the integration of traditional art intangible cultural heritage and blockchain NFT technology.

3. Application Mode of Blockchain NFT Technology in the Development of Taohuawu New Year Pictures

The overall framework of the blockchain platform is divided into five layers: network layer, consensus layer, data layer, smart contract layer and application layer. The chain structure based on blocks is introduced, which emphasizes the new distributed data storage technology and establishes a reliable trust mechanism between multi-party databases, which not only prevents data from being tampered with, but also solves the trust problem between multi-party databases without the coordination of third-party intermediaries. As a decentralized self-organization, blockchain has the characteristics of emerging production relations. The evolution of blockchain NFT technology has brought about changes in system and program design concepts, promoted the reconstruction of distribution and trust relationships among consumers, enterprises and capital, and subverted the existing business organization model with community autonomy as the core organizational relationship.

3.1. Protection and Innovative Development of Intellectual Property Rights of Taohuawu New Year Pictures by Blockchain Technology

Based on the credibility and traceability of blockchain, it can store and trace transaction information such as copyright registration, change, authorization and derivation of traditional art intangible cultural heritage. In addition, it can verify the authenticity of traditional art Intangible Cultural Heritage enterprises, transfer and realize intelligent contract management, and improve the efficiency of consensus and value transfer [1] Based on the NFT characteristics of blockchain, the development and trading of traditional art intangible cultural heritage works on the chain are technically led. As a new form of artistic expression of art intangible cultural heritage, works on the chain are more conducive to its product development, trading, communication and innovative development, and become a new path for the innovative development of art intangible cultural heritage.

3.2. Blockchain NFT Technology Enables the Development of Taohuawu New Year Pictures and Brings a Platform with More Vertical Content

More “integration of production and consumption” user groups, more transparent transaction mechanisms, and more authoritative protection of the interests of creatives. However, the existence of NFT artworks is inseparable from the blockchain, let alone the iterative innovation of blockchain technology. Although the continuous research and development of regulatory technology is an important means to ensure the compliance and legalization of NFT, the difficulty of regulatory research lies in the iterative development of technology. As the technical standards of the NFT art

industry have not yet been formed, the problems such as the storage of NFT metadata cannot be effectively solved and the proof of rights of the owners of digital works cannot be quickly realized are difficult to be solved in a short time. It is conceivable that the iterative development of blockchain supervision technology is very difficult. Technology regulation should become the key direction of blockchain development supervision. We must accelerate the pace of research and development as soon as possible to effectively cope with the vigorous development of blockchain digital industry.

4. The Blockchain NFT Application Process is not Without Difficulties

4.1. Practical Application Problems: Blockchain NFT Technology Has Social Communication Problems in the Development of Taohuawu New Year Pictures

Since most users are not familiar with chain operations, the threshold for trading NFT assets is high; At present, NFT is mainly distributed and circulated based on Ethereum network. The problems of network congestion and high handling fees in Ethereum restrict the further development of NFT; At present, the application field of NFT is still relatively single, focusing on a small number of circles such as games, encrypted works of art, card and card collections, and has not yet achieved large-scale application. NFT has the typical problems of early products in the encryption world, and it is easy to spawn a foam.

4.2. Theoretical Support: the Development of Taohuawu New Year Pictures Enabled by Blockchain NFT Technology Lacks Sufficient Theoretical Support

The main domestic theoretical systems study the development of digital culture industry from the perspective of contemporary social and economic changes and the application of digital technology, while the research on the combination of NFT technology and the development of Taohuawu New Year pictures is lack of pertinence, and few complete theoretical results have been formed.

4.3. Practical Operation Problems: There are Difficulties in the Governance System of Taohuawu New Year Pictures Under the NFT Technology

With NFT technology, the development of Taohuawu New Year pictures is facing value conflict and fracture, which is prominently reflected in the creation, production and dissemination of digital cultural content. The Value Dilemma of Taohuawu New Year pictures' governance is reflected in the conflict between the urgent need for effective management of digital cultural resources and the absence of current protection, the conflict between the value needs of various subjects in the process of collaborative participation of multiple subjects, and the conflict between the security of digital cultural resources and the application of technology.

The specific research technology line is shown in the Figure 1:

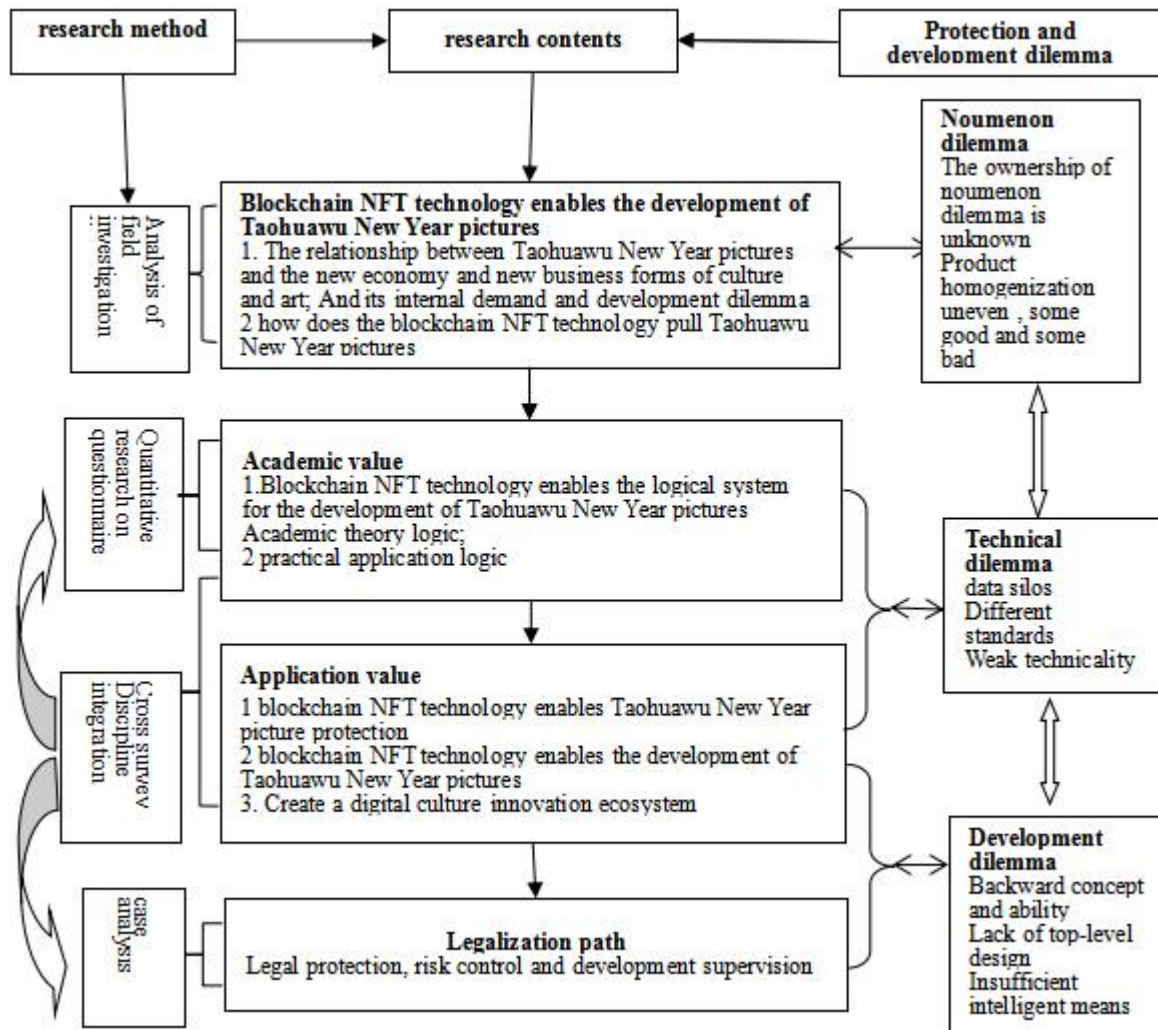


Figure 1. Train of thought of this research framework.

5. Research Results

This study combs and analyzes the existing application cases of NFT technology in the development of intangible cultural heritage culture and art industry and other cultural industries, compares the different characteristics and communication modes of NFT technology application scenarios in intangible cultural heritage culture and art industry and other fields, summarizes the advantages of NFT technology enabling Taohuawu New Year pictures and solves their potential problems. According to the characteristics of Taohuawu New Year pictures, this paper analyzes the cognition and experience of producers and consumers on the blockchain NFT technology, so as to combine Taohuawu New Year pictures with the trend of contemporary cultural new economy and new business forms, make its industrial chain long tail, and explore more development strategies assisted by new media. From the perspective of the state, the government, social institutions and other parties, through the analysis of a large number of relevant literature and specific cases of Taohuawu New Year pictures, as well as cooperative research with relevant units. For example, the value distribution principle of individual creators is not transparent, the supervision of digital cultural and creative products lags behind, piracy and infringement, etc. The research results

on the development of Taohuawu New Year pictures enabled by blockchain NFT are mainly reflected in the following aspects:

a. It helps to promote the transition from “information internet” to “value Internet” and “trust Internet”. Dig deep into the positive forces of development, protect the ecological order of the Internet world, so as to implement a better governance structure, effectively enable the protection and development of the intangible cultural and art industry, and promote the technological innovation and industrial reform of the intangible cultural and art industry.

b. It helps high-quality personal creativity to continuously drive the development of Taohuawu New Year pictures. It will help to enhance the competitiveness of personal creativity in the cultural and creative industry of Taohuawu New Year pictures, improve the creative product and service originality of Taohuawu New Year pictures, achieve new development, complete the concept of “Digital China” and the goal of “cultural power”, and lead the development of Taohuawu New Year pictures industry to further establish cultural confidence.

5.1. Application Value of Blockchain NFT Empowering the Development of Taohuawu New Year Pictures

a. Reference Value of Government and Enterprise Decision

The development of Taohuawu New Year pictures, as a test field of NFT technology enabling intangible cultural heritage industry, can effectively test the technical defects of the development of intangible cultural and art industry enabled by blockchain technology, help government and enterprises timely grasp and adjust the general direction of blockchain technology development, and avoid repeated mistakes by government and enterprises.

b. Practical Guidance Value

Blockchain NFT technology can enable Taohuawu New Year pictures to gain wider social recognition, richer application scenarios and more advanced technical support, enable more individual users of Taohuawu New Year pictures to be familiar with and actually use blockchain NFT technology, and enable more individual users to join the ranks of creatives, and more individual ideas to be expressed and circulated through cutting-edge technologies.

5.2. Blockchain NFT Enables the Theoretical Value of the Development of Taohuawu New Year Pictures

a. Enriching the Theoretical Research Results Related to the Development Mechanism of Intangible Cultural Heritage Digital Culture Industry

The inheritors of Taohuawu New Year pictures empowered by NFT technology have created more high-quality digital cultural products rich in story connotation and content emotion. With the help of NFT technology, the inheritors of intangible cultural heritage have also continuously realized the iterative replacement and connotation upgrading of artistic content, reshaped the value chain construction of intangible cultural heritage digital culture industry, enriched the core connotation of intangible cultural heritage digital culture industry, and promoted the sustainable development of intangible cultural heritage digital culture industry mechanism.

b. Improved the Theoretical Research Results of Taohuawu New Year Pictures

The research on the development practice of Taohuawu New Year pictures is conducive to the follow-up in-depth study of “Internet + intangible cultural heritage industry ecology and policy system”, to deepening the technological innovation of intangible cultural heritage art and the reform of cultural and creative system, to looking for a new driving force for the development and growth of intangible cultural heritage, and to the exploration and change of the governance mode of China’s fine arts intangible cultural and creative industry.

c. Innovative Blockchain NFT Technology Application Research Results

It helps to strengthen the decentralization of the blockchain NFT technology in the practical application of the development of Taohuawu New Year pictures, improve the distributed consensus technology, establish multiple security mechanisms, make it possible for multiple subjects to cooperate and participate in the digital culture governance, and help to subdivide the industry application scope and application path of the blockchain NFT technology on the basis of the full introduction of the blockchain technology’s multi center governance mechanism and incentive mechanism.

As an NFT art collection, in addition to the vigorous development abroad, domestic artists have already paid attention to and started their creation. In terms of innovative development of intangible cultural heritage of traditional art, Dunhuang Cultural Innovation cooperates with digital collection platforms such as Beijing Art narrative, Xi Xi zero design platform, magic core and Shang Tang. It is planned to release four rounds of digital collections in 2022. At present, the first round of digital collections with Dunhuang as the theme has been released. In the “Dunhuang Cultural Creation - Millennium Splendor” project released at magic core, there are five digital collections, namely, “all living beings fulfill their wishes, all living beings are at ease, all living beings are wise, all living beings fulfill their wishes, and all living beings protect their thoughts”. The limited number of copies issued is 8000. At present, the number of participants has far exceeded the number of issuers. (Figure 2)



Figure 2. Pay attention to the current and future possibilities of domestic NFT (baidu.com).

Taohuawu New Year pictures, as woodblock prints, have long existed in the mode of Engraving - colored ink - paper printing. Their main original functions have developed to modern times, and have long been divorced from the uniqueness of celebrating the new year. They more reflect the aesthetic value of traditional art works. Therefore, of course, its carrier is no longer limited to paper. NFT digital art can appear as its new communication and business model. (Figure 3)



Figure 3. Bing Dwen Dwen makes NFT digital collections popular again? (sohu.com).

6. Reflection and Suggestions

Blockchain NFT technology does have its practical and theoretical significance in empowering all dimensions of Taohuawu New Year pictures, which can be regarded as a relatively new path for the development of Taohuawu New Year pictures. However, at present, there are few domestic researches on the combination of blockchain NFT technology and Taohuawu New Year pictures, and there are also few market practices. Therefore, the specific implementation methods and long-term results of this path need to be further verified. It is suggested that future researchers should study such content from the perspective of market reflection, and use more empirical cases to prove its effectiveness and long-term results.

In addition, as a new scientific and technological path, blockchain NFT technology empowerment can act on almost all cultural and creative products and intangible cultural heritage art forms. Therefore, it is suggested that researchers can start from this perspective, deeply study their relevant contents, further confirm the role and implementation method of blockchain NFT technology empowerment, and provide detailed reference materials for future research, It also provides more ideas for the development of China's cultural and creative industries.

Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

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