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# *Analysis of Digital Asset Business Models: A Case Study of Movie Derivatives to NFTs*

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***Abstract:*** With the rapid development of digital technology and blockchain technology, the application of digital assets in business models has become increasingly widespread. This paper analyzes the evolution and innovation of digital asset business models using movie derivatives to NFTs (non-fungible tokens) as an example. By studying movie derivatives and their traditional business models, this paper explores the role of digital transformation and NFT technology in reshaping their business models. The aim is to reveal the application of NFTs in movie derivatives and the resulting transformation of business models, analyzing the components, advantages, and challenges of NFT business models, and predicting their application prospects in various industries. The research indicates that NFT technology not only opens new commercial pathways for movie derivatives but also promotes business model innovation across the digital asset sector. Finally, the paper proposes future trends in digital asset and NFT business models and discusses their potential impact and business opportunities in the film industry.

## 1. Introduction

This study aims to explore the evolution of business models from traditional movie derivatives to NFTs, analyzing the impact of digital transformation and blockchain technology on the reshaping of the movie derivatives market. By comparing traditional business models of movie derivatives with NFT business models, this paper reveals the advantages and challenges of NFT applications in movie derivatives and predicts future trends in their development. It is hoped that this research will provide valuable insights for the innovation of digital asset business models in the film industry and other related sectors.

## 2. Business Model of Movie Derivatives

### 2.1 Definition and Classification of Movie Derivatives

Movie derivatives refer to various products and services developed based on movie content, characters, scenes, or themes to meet the extended needs of the audience. Movie derivatives can be

classified into the following categories:

(1) Physical Goods

These include toys, clothing, stationery, models, etc., designed and produced based on movie characters and scenes.

(2) Digital Goods

These include e-books, movie soundtracks, digital wallpapers, and virtual reality experiences, existing in digital form.

(3) Experiential Services

These include theme parks, exhibitions, interactive games, etc., allowing audiences to deeply experience movie content through on-site or online interactions.

(4) Licensed Goods

These are various products produced and sold by third-party manufacturers through licensing agreements that grant them the rights to use movie copyrights.

## 2.2 Market Analysis of Traditional Movie Derivatives

(1) Market Size

The movie derivatives market is enormous, especially for popular movies and franchises which can generate significant derivative sales revenue. For example, franchises like "Star Wars" and "Harry Potter" have consistently high derivative sales figures.

(2) Broad Audience

The target audience for movie derivatives is not limited to moviegoers but also includes collectors and various types of consumers, making the audience base broad and diverse.

(3) Life Cycle

The market cycle for derivatives is usually closely related to the popularity of the movie. Sales typically peak during the movie's release period and shortly thereafter, then gradually decline.

(4) Diverse Channels

Sales channels include online e-commerce platforms, offline retail stores, cinemas, and theme parks, among others. These multiple channels operate in parallel, offering wide coverage.

## 2.3 Characteristics of the Business Model for Movie Derivatives

(1) Dependence on Brand and IP

The success of movie derivatives heavily relies on the influence of the movie's brand and IP. Well-known IPs can lead to higher sales conversion rates and greater market recognition.[1]

(2) Innovative Design and Experience

To attract consumers, the design and experience of derivatives need continuous innovation to meet the audience's expectations of the movie content and characters and to provide a unique user experience.

(3) Diverse Partnerships

Through collaborations with different manufacturers and platforms, movie derivatives can enter more markets and channels, achieving broader coverage and sales.

(4) Continuous Operation and Promotion

Effective marketing and ongoing brand management are key to the success of movie derivatives. Various marketing activities help maintain brand popularity and consumer attention.

## 2.4 Case Analysis of Movie Derivatives Business Model

### 2.4.1 The "Star Wars" Series

(1) Types of Derivatives

The "Star Wars" series offers a wide range of derivatives, including toys, models, clothing, books, video games, LEGO sets, collectibles, and more. These products cater to all age groups, from children to adults, ensuring that every fan can find something suitable.

(2) Market Performance

Since the release of the first "Star Wars" movie in 1977, the series' derivative sales have exceeded billions of dollars, becoming a classic case in the movie derivatives market. Its toys and model products are particularly popular and often sell out quickly.

(3) Success Factors

① Strong IP Influence: As a globally renowned sci-fi series, "Star Wars" has a vast fan base and significant cultural impact.

② Diverse Product Line: The range includes products from low-cost toys to high-end collectibles, meeting the demands of different consumer segments.

③ Global Market Strategy: Through global simultaneous releases and international marketing campaigns, the "Star Wars" series has successfully penetrated numerous countries and regions worldwide.

### 2.4.2 Marvel Cinematic Universe (MCU)

(1) Types of Derivatives

The Marvel Cinematic Universe offers a wide range of derivatives, including superhero figurines, clothing, accessories, video games, stationery, household items, and more. These products cover various aspects of everyday life, allowing fans to experience the charm of Marvel in their daily routine.

(2) Market Performance

With its vast fan base and continuous release of movies, the Marvel Cinematic Universe has shown outstanding market performance in its derivative products. Each new movie release triggers a sales peak for related derivatives, and the overall sales revenue continues to grow.

(3) Success Factors

① Continuous Content Output: Marvel releases new movies every year, maintaining fan enthusiasm and market attention.

② Cross-Platform Integrated Marketing: Through integrated marketing across movies, TV series, comics, video games, and other platforms, Marvel expands its brand influence.

③ Innovative Product Design: Consistently introducing novel and exquisite product designs attracts significant consumer attention and purchases.

## 3. The Concept and Technical Basis of NFTs

### 3.1 Definition and Basic Characteristics of NFTs

NFT (Non-Fungible Token) is a type of digital asset based on blockchain technology, which is non-interchangeable and unique. Unlike fungible tokens (such as Bitcoin, Ethereum, etc.) that are interchangeable, each NFT has a unique identifier and metadata that make it irreplaceable by other tokens[2]. The basic characteristics of NFTs include:

(1) Uniqueness: Each NFT is one-of-a-kind with a distinct identifier, making it impossible to be copied or replaced.

(2) Indivisibility: NFTs are usually indivisible, meaning they cannot be broken down into smaller units for transactions like cryptocurrencies such as Bitcoin.

(3) Ownership and Verifiability: NFTs are recorded on the blockchain, where ownership information is publicly transparent and verifiable, ensuring the authenticity of digital assets and the reliability of transactions.

(4) Programmability: Based on smart contract technology, NFTs can embed various functionalities and rules, enabling complex logic and interactions.

### 3.2 Technical Principles of NFTs

(1) Creation and Minting: The process of creating an NFT is known as "minting," which involves recording a specific digital asset on the blockchain through a smart contract. This process typically includes setting the NFT's metadata, images or other media content, and related attributes.

(2) Storage and Distribution: The core metadata and ownership information of an NFT are stored on the blockchain, while media content can be stored on decentralized storage networks (such as IPFS) to ensure data persistence and integrity.

(3) Trading and Transfer: NFTs are traded and transferred through blockchain networks, with all transaction records being transparent and public, ensuring that every transaction is traceable and verifiable. These transactions are generally completed via decentralized marketplace platforms (such as OpenSea, Rarible, etc.).

(4) Smart Contracts: Smart contracts are a crucial component of NFT technology, defining the ownership, transfer rules, and other functionalities of NFTs. For instance, smart contracts can implement royalty mechanisms, allowing the original creator to receive a percentage of proceeds from each resale.

### 3.3 Applications of NFTs in Digital Assets

(1) Digital Art and Collectibles: NFTs provide a platform for the authentication and trading of digital artworks. Artists can sell their original works through NFTs, ensuring the uniqueness and ownership of their creations.

(2) Virtual Real Estate and Virtual Worlds:On virtual platforms like Decentraland and Cryptovoxels, users can own virtual land and assets by purchasing NFTs, engaging in various virtual activities and constructions.

(3) Game Props and Equipment: Unique equipment, skins, and props in games can be traded via NFTs, enabling cross-game compatibility and value transfer. For example, characters and equipment in the game Axie Infinity are managed and traded through NFTs.

(4) Music and Entertainment: Musical works, albums, and other entertainment content can be released in the form of NFTs, ensuring copyright protection and providing new income streams for creators.

(5) Identity and Authentication: NFTs can be used for digital identity verification and credential management, such as digital degree certificates, membership cards, and tickets, ensuring their uniqueness and anti-counterfeiting properties.

## 4. Transition from Movie Merchandise to NFTs

### 4.1 The Impact of Digital Transformation on Movie Merchandise

With the acceleration of digital transformation, the production and distribution methods of movie merchandise have undergone significant changes. The impact of digital transformation on movie

merchandise is mainly reflected in the following aspects:

(1) Reduced Production Costs: The application of digital technology has lowered the design and production costs of merchandise, making more creative and small-batch production possible.

(2) Expanded Distribution Channels: The rise of digital platforms (such as e-commerce websites, social media, virtual markets, etc.) allows movie merchandise to be distributed more quickly and widely across the globe.

(3) Enhanced Consumer Interaction: Through digital platforms, movie creators can interact more directly with consumers, collecting feedback and opinions to enhance the user experience.

### 4.2 Application Scenarios of NFTs in Movie Merchandise

(1) Digital Collectibles: Iconic scenes, character images, and posters from movies can be issued as NFTs, becoming unique digital collectibles for fans to collect and trade.

(2) Limited Edition Digital Content: Film producers can release limited edition behind-the-scenes footage, director's cut videos, and exclusive audio materials as NFTs, increasing the scarcity and value of the products.

(3) Virtual Tickets and Experiences: Virtual tickets to movie premieres, fan meet-and-greet events, and other activities can be sold as NFTs, ensuring the uniqueness and anti-counterfeiting of the tickets while providing exclusive online or offline experiences.

(4) Interactive Game Items: Unique equipment, skins, and items from movie-based games can be traded via NFTs, enabling cross-platform compatibility and value transfer.

(5) Copyright and Revenue Distribution: Through smart contract technology, film producers and copyright holders can implement automated revenue distribution, ensuring they receive royalties for each resale.

### 4.3 Comparative Analysis of NFT Business Model vs. Traditional Movie Merchandise Model

The NFT business model has notable differences and advantages compared to the traditional movie merchandise model:

(1) Ownership and Scarcity: Compared to the mass production, high repetition, and low scarcity of traditional movie merchandise, the NFT business model offers significant advantages. Each NFT is unique, with high scarcity and unique ownership authentication, ensuring its distinctiveness and value. This scarcity and ownership authentication greatly enhance the collectible value and market appeal of NFTs.

(2) Trading and Circulation: Traditional movie merchandise relies primarily on physical stores or e-commerce platforms for trading, leading to poor liquidity. In contrast, the NFT model leverages blockchain technology, enabling NFTs to be quickly traded and transferred globally with high liquidity and transparency.

(3) Revenue Distribution: The traditional model relies mainly on one-time sales, making subsequent transactions difficult to track and profit from. In the NFT model, smart contracts can implement royalty mechanisms, allowing the original creators to earn revenue from each resale, ensuring long-term profitability.

(4) Innovation and Interaction: The traditional model offers relatively fixed forms of merchandise, lacking innovation and interactivity. The NFT model, through digital and programmable capabilities, can achieve complex interactive functions and innovative experiences, significantly increasing user engagement. NFTs can contain rich multimedia content and dynamically interact with users through smart contracts, providing a more enriched and personalized experience.

This comparative analysis highlights the transformative potential of NFTs in revolutionizing the traditional movie merchandise landscape, offering new avenues for creativity, engagement, and

sustained value creation.

## 5. Business Model Innovation from Movie Merchandise to NFTs

### 5.1 Innovative Paths and Methods

(1) Product Digitization: Companies or film studios can transform traditional movie merchandise (such as posters and character models) into unique NFT digital collectibles to verify their authenticity and ownership. They can also release limited edition digital content, such as director's cuts and behind-the-scenes footage, ensuring their scarcity through NFTs, thereby allowing fans to purchase these exclusive contents.

(2) Enhanced Fan Interaction: Enhancing fan interaction through NFTs can be achieved by offering unique fan experiences and community engagement[3]. NFTs can grant holders unique rights, such as virtual premiere tickets and virtual reality experiences interacting with movie characters, enhancing their sense of participation. Additionally, film studios or companies can create movie fan communities using NFTs, allowing fans to participate in movie-related activities and decisions, such as voting on merchandise designs or attending special online events.

(3) Film studios or game developers can combine movies with games by issuing movie-related game items and character skins as NFTs, enhancing the interactive experience for fans and players. These can be used across multiple gaming platforms, increasing their value and appeal. Film studios, game developers, or brands can collaborate with other brands to release co-branded NFTs, expanding market influence and audience reach, attracting a more diverse user base, and boosting brand recognition.

(4) Optimized Revenue Models: Smart contracts can automate revenue distribution, ensuring that creators and copyright holders receive continuous earnings from secondary NFT transactions. Original creators can earn a percentage of the proceeds each time the NFT is resold. The royalty mechanism ensures that the original issuer benefits from every resale, guaranteeing long-term profitability and motivating creators to continuously produce high-quality NFTs.

(5) Innovative Marketing and Promotion: Film studios, game developers, or NFT creators can promote NFTs through social media platforms, leveraging influencers and fan effects to increase exposure and market hype.The extensive reach of social media can rapidly boost the recognition and market impact of NFTs. Film studios, game developers, or NFT creators can adopt a limited edition strategy to create scarcity and market demand, enhancing the value and appeal of NFTs. Limited editions can increase the scarcity of NFTs, attracting collectors and investors.

### 5.2 Business Opportunities and Risks Brought by Innovation

#### 5.2.1 Business Opportunities

The transition from traditional movie merchandise to NFTs presents numerous business opportunities. Firstly, by issuing limited edition digital collectibles and virtual experience tickets, movie companies can open new revenue streams while ensuring continued earnings from NFT secondary transactions. Secondly, NFTs grant fans unique rights and experiences, enhancing fan engagement and community interaction. Additionally, through cross-industry collaborations and social media promotion, movie companies can significantly boost brand influence and market buzz. The application of blockchain technology and smart contracts can also improve transaction transparency and operational efficiency, driving technological innovation within the industry.

### 5.2.2 Business Risks

This innovation is not without risks. The volatility and speculative nature of the NFT market can lead to instability, impacting the revenue of movie companies. Moreover, the complexity and potential vulnerabilities of blockchain and smart contract technologies introduce technical risks[4]. Uncertainties in legal regulations and issues related to intellectual property protection can also pose legal and compliance risks. Finally, the general lack of awareness and high technical barriers related to NFTs and blockchain technology may affect user experience and market acceptance.

## 5.3 Impact on the Film Industry

### 5.3.1 Diversified Revenue Streams

The application of NFTs and blockchain technology opens up new revenue streams for the film industry. By issuing limited-edition digital collectibles, virtual experience tickets, and other exclusive content, movie companies can generate new income before and after movie releases and continue to benefit from secondary market trading. This diversified revenue model provides more stable financial support for the film industry.

### 5.3.2 Fan Engagement and Interaction

NFTs grant fans unique rights and experiences, such as access to unreleased content and participation in virtual meet-and-greets, greatly enhancing fan engagement and loyalty. Movie companies can utilize NFTs to build closer fan communities, driving fan interaction and increasing brand loyalty and user activity. This interaction brings not only immediate economic benefits but also long-term brand value.

### 5.3.3 Copyright Protection and Transparency

Blockchain technology ensures the rarity and immutability of digital assets, effectively protecting movie intellectual property and copyrights. This is significant in combating piracy and helps to enhance the overall transparency and credibility of the industry. Additionally, smart contracts automate transactions and revenue distribution, reducing the complexity and cost associated with traditional models, thus enhancing operational efficiency.

### 5.3.4 Market and Technical Challenges

Adopting NFTs and blockchain technology also presents several challenges for the movie industry. Market volatility and high technical barriers make it difficult for some movie companies to adapt. Furthermore, the complexity of legal regulations and intellectual property protection increases industry risk[5]. Therefore, movie companies need to deeply study relevant technologies and markets, formulate comprehensive compliance strategies, and user education plans to gradually overcome these obstacles.

# 6. Conclusion

Driven by emerging technologies, the film industry is undergoing unprecedented transformation. The application of NFTs and blockchain technology brings rich business opportunities to movie companies, enhances fan interaction, and provides more effective means of copyright protection. However, this evolution is not without risks. Market volatility, technological complexity, and regulatory uncertainties all pose challenges to the industry. Movie companies need to balance between

technological innovation and risk management, achieving sustainable development through in-depth research and proactive responses.

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