New Trends in Variety Show Development in the Metaverse Era: How Web3.0 Technology is Transforming the Entertainment Production Paradigm

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Abstract. In the metaverse era, emerging technologies such as Web3.0 are profoundly affecting various fields, and the production paradigm of variety shows has also been affected by this technological change. This technological transformation has brought about new features in content creation, distribution, and consumption—such as the return of user sovereignty, the democratization of communication structures, and value co-sharing. However, this paradigm shift also conceals underlying technological and ethical risks. Based on an analysis of user expression, this paper takes many popular variety shows as examples, tries to analyze the specific performance of the paradigm change in the production of variety shows based on Web3.0 technology, reveals the potential crisis behind the paradigm shift, and puts forward corresponding governance measures. Under the background of the coexistence of opportunities and challenges, the variety show industry need to build a new framework which is driven by technology and guided by humanistic values. Only by returning to the fundamental principle of "technology for good" can the industry achieve innovation and ecological balance in an era where the virtual and the real coexist.

Keywords: Metaverse; Variety Show; Web3.0; Production Change

1 Introduction

Driven by the dual forces of digital and virtual reality technologies, the metaverse has emerged as a virtual world constructed through digital means—either mirroring or transcending the real world, and capable of interacting with it (Liy, 2022)[1]. Web3.0, characterized by blockchain as its core technical architecture, represents the third-generation paradigm of the internet. This paradigm is bringing disruptive changes to both the media forms of traditional variety shows and the production models of the broader entertainment industry. As one of the forms of contemporary art, are also affected by it. In this paper, variety shows that integrate metaverse environments and are built upon Web3.0 technologies are referred to as "metaverse variety shows."

The emergence and development of metaverse variety shows are inseparable from the development of metaverse economy. According to official data, the overall scale of

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China's virtual reality industry has already exceeded 350 billion yuan (Ministry of Industry and Information Technology [MIIT], Ministry of Education, Ministry of Culture and Tourism, National Radio and Television Administration, & General Administration of Sport of China, 2022)[4]. An increasing number of people are showing strong interest in the metaverse as a novel concept. Meanwhile, traditional variety shows are facing the dilemma of audience attrition and stagnating profits, which requires them to create new interactive scenarios and innovate program formats in order to meet the evolving demands of users.

2 Previous Research on Metaverse and Web3.0 Technology

Driven by Web3.0 technology, the research of metaverse variety shows shows a trend of deep integration of technology and culture. Current academic discussions primarily focus on technological innovations within the metaverse, the critical reflection on the dilemmas and concerns arising from these innovations, and the relationship between emerging technologies and socio-cultural systems.

Some international scholars concentrate on technological innovation and its critical reflection. For example, Singaporean researcher Yang and colleagues (2022)[2] explored the integration of blockchain and artificial intelligence within the metaverse, emphasizing their potential in enhancing interactivity and intelligence in virtual environments. And Harvard scholar Zuboff (2019)[3], in *The Age of Surveillance Capitalism*, argues that the empowering narrative of Web3.0 conceals the essence of data exploitation and the metaverse may further commercialize human experience through behavioral data collection and emotional computing., on the other hand, Chinese scholars pay more attention to the relationship between technology and socio-cultural development. Li Jie (2023)[5] suggests that both the metaverse and Web3.0 will contribute to the development of Society 5.0. Professor Yu Guoming from Beijing Normal University and his colleagues (2022)[6] point out that, under the concept of "media permeation," the metaverse is facilitating a form of "re-tribalization" in society and carries transformative mechanisms for both media ecology and social civilization.

Such concerns and reflections are also adapted to the emerging form of metaverse variety shows. The aforementioned scholars' discussions on the technological architecture, application scenarios, and cultural values of the metaverse and Web3.0 have laid a theoretical foundation for exploring metaverse-based variety shows. while, existing research pays limited attention to the specific interactive mechanisms between Web3.0 and variety show production. Issues such as user participation, digital identity confirmation, and cultural governance have also been less emphasized. What's more, The research on the transformation of the variety show production paradigm also lacks comprehensive combing, which indicates an urgent need for new theoretical frameworks to support the emerging governance ecology of variety shows.

3 The Deconstruction and Practice of the Variety Show Production Paradigm in the Metaverse Era Driven by Technology

Web3.0, which encompasses technologies such as 5G, virtual reality (VR), big data, artificial intelligence, and blockchain, represents a preparatory phase for the next generation of industrial development. It builds upon Web 2.0 and offers an internet framework that better reflects the value of users' digital labor while enabling a more equitable distribution of value (Yu Guoming Academic Studio, 2022)[7]. Web3.0 is widely regarded as the next evolutionary stage of the internet. Compared to the centralized platform-dominated media ecosystem of the Web 2.0 era, Web3.0 relies on decentralized infrastructures like blockchain and smart contracts to establish an open network architecture where “creation equates to ownership” and “participation leads to rewards.” The comparison of Web1.0, Web2.0 and Web3.0 in terms of user roles, media forms, content production and dominant power is shown in **Table 1**.

Table 1. Comparison of User Roles, Media Forms, Content Production, and Dominant Power Across Web 1.0, Web 2.0, and Web3.0

Era	User Role	Media Platforms	Content Production Type	Dominant Power
Web 1.0	Passive information receivers; limited interactivity and creation	Search engines, portal websites	Professionally Generated Content (PGC)	Monopoly by professional media outlets
Web 2.0	Active participants in content production and distribution	Platforms like Weibo, WeChat, TikTok (Douyin)	User-Generated Content (UGC)	Platform-controlled
Web3.0	Autonomous control over content and data; rule co-creation	Decentralized networks	Decentralized content production	Equal power between users and platforms

Driven by Web3.0 technologies, metaverse variety shows are becoming a significant creative mode of content creation, propelling a paradigm shift in the production of variety programs.

American futurist Alvin Toffler proposed the concept of "Prosumer" in The Third Wave, which refers to individuals or entities that both produce and consume goods or services. Within the context of metaverse variety shows, users are A consumer transforms into a consumer. This transformation is made possible by the technological infrastructure of Web3.0.

Decentralized Autonomous Organizations (DAOs) have restructured the traditional production process of variety shows, allowing users to participate in various aspects of show production through on-chain voting mechanisms. Users’ creative contributions can be validated for value through Non-Fungible Tokens (NFTs), transforming their identities from passive viewers to collaborative producers and property owners.

This identity shift is exemplified in the avatar competition show “2060”, which empowers users through virtual character IP, and fans have the right to participate in the derivative development of IP. This change of identity reflects the “return of sovereignty” in the variety show production landscape.

An empirical analysis of the idol-survival show *Youth With You 2* reveals three major pain points typical of the Web 2.0 era:(1)Most of the funds from fans' monetary support (often in the form of in-app purchases) are absorbed by the platform, providing minimal real support for contestants' debut opportunities. (2)The likelihood of debut is strongly correlated with the capital investment of contestants' original entertainment companies.(3)Platform recommendation algorithms significantly influence the voting outcomes, forming a technological “black box”. Despite branding itself as participatory, the show offered only pseudo-participation.

By contrast, metaverse variety shows based on Web3.0 technologies can construct DAO-based governance systems that convert fans' monetary input into credentials for participation in show governance. This enables fans to have decision-making power over key aspects such as topic selection, guest recruitment, and plot design so that these shows could fundamentally dismantle the centralized monopoly of platform-controlled content production.

Creator economy refers to the economic form in which independent content creators publish their own original content and obtain benefits through platforms or communities, which can promote the decentralization of revenue distribution. (Zheng, 2022)[8]. Metaverse variety shows is increasingly being practiced within the realm of metaverse variety shows. In these shows, users' entertainment behaviors can be partially transformed into acts of value creation, facilitating a shift in the variety show industry from a model based on “attention extraction” to one centered on “value sharing”. From the perspective of user rights and interests, this transition allows individuals to exercise their rights on an equal and independent footing with internet corporations (Yu Guoming Academic Studio, 2022)[7].

The foundation of this paradigm shift lies in the application of smart contracts and the circulation of Non-Fungible Tokens (NFTs) which are driven by Web3.0 technologies . The smart contract mechanism automatically executes the revenue distribution clause, which can ensure the clarity and transparency of users' property rights, which is conducive to promoting the process of "copyright democratization" in the entertainment industry. NFTs, by virtue of their uniqueness and exclusivity, serve as tokens in metaverse variety shows. Through purchasing or minting NFTs, users can build their own digital assets, which may be pegged to real-world economic indicators and exchanged bidirectionally with physical economic assets (Yuan & Yang, 2022)[9].

Taking *Youth With You 2* as an example, in the traditional variety show consumption models, fans' voting rights did not yield any corresponding financial return and functioned merely as “data fuel” for the program. Under a Web3.0-based technological architecture, metaverse variety shows can not only establish clear value ownership over user voting rights but also transform viewing behavior into verifiable digital credentials. This realization of the attention economy’s monetization potential breaks the centralized, platform-dominated media ecosystem of traditional variety shows and

creates a new consumer model where “creation equals ownership, and participation yields rewards.”

4 In the Face of the Dual Challenges of Technology and Ethics, Metaverse Variety Shows Must Be Comprehensively Governed

While Web3.0 technologies are driving structural transformations in the production paradigm of variety shows, they also give rise to new technical crises and ethical challenges.

Although the advancement of cutting-edge technologies provides strong technical support for constructing metaverse-based variety shows, the technical challenges facing metaverse variety shows are still serious in practical application. On the one hand, data security vulnerabilities on platforms expose users to risks such as hacking, tampering, or data theft. On the other hand, as current internet, communication, virtual reality, and blockchain technologies approach their developmental peaks, making it difficult to break through its development bottleneck and fully meet users' growing demands for authenticity, immersion, and interactivity in metaverse variety shows.

Beyond technical risks, a range of emerging ethical issues have surfaced, which are challenging existing social norms and legal frameworks. By controlling protocol rules, Core developers of metaverse variety shows gain disproportionate influence over program governance that raises concerns about operational logic and resource distribution. Some programs carry out securitization in the name of NFT, which disrupts the normal financial order of the real world and causes financial chaos. Furthermore, in the process of immersively participating in metaverse variety shows, users may only know the metaverse but not the real world, and the power boundary, emotional belonging and security issues of digital avatars may lead to an identity crisis. What’s more, the storage of program data on overseas blockchains poses significant risks to national data sovereignty.

In order to cope with the deeper crises that are brought about by the transformation of variety show production paradigms, a comprehensive and collaborative governance approach is required to carried out so that can ensure the sustainable development of the industry.

First, national governance should be strengthened by establishing a robust legal framework about metaverse-based variety shows that includes enhancing international legal cooperation, regulating the cross-border data transfer of public blockchains, and guiding the orderly circulation of capital in the field of variety show production, dissemination and consumption The second is to return to the essence of the fundamental principle of “technology for good” , treating technology as a tool and using advanced technology to innovate the creative logic and expression of variety shows to product higher-quality, more meaningful programming. Third, cultural grounding must be deepened by upholding culture as the core and technology as the means. Variety show content should align with universally accepted values and consciously filter out content that violates mainstream values.

5 Conclusion

With the ongoing development of metaverse infrastructure and the circulation of decentralized assets such as NFTs, the production paradigm of variety shows is rapidly evolving toward a model of user creation, user ownership, and user governance. The traditional boundaries of variety show production are being dismantled, giving way to a collaborative governance framework characterized by openness, shared responsibilities, and equitable rights.

However, while variety shows based on the metaverse and Web3.0 offer innovative breakthroughs, they also expose a range of pressing challenges, including risks of technological control failures and ethical dilemmas. These issues not only challenge the boundaries of the existing variety show governance system, but also restrict the healthy and sustainable development of the variety show industry, it is urgent to coordinate and cooperate with multiple subjects at the legal, institutional, technological, cultural and other levels to promote the coordinated evolution of the governance system and technological change. By returning to the core principle of technology for good, the industry can forge a forward-looking and positive ecosystem for the future of variety show productio.

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