

Research on the path of digital intelligence technology to promote the development of new forms of cultural industry

Yanhui Guo

Communication University of China Nanjing, Jiangsu Nanjing 211100

Abstract: In the context of the deep integration of digital technology and cultural industry, digital intelligence technology, as the core driving force, is comprehensively innovating and reshaping the production, dissemination and consumption of cultural content, and at the same time giving birth to new formats such as digital collections, digital publishing, and VR exhibition halls, injecting new momentum into the innovation and transformation of the cultural industry. Therefore, based on the policy orientation and practical needs of the current national cultural digitalization strategy, this paper will focus on the emergence and implementation of new formats of cultural industry promoted by digital intelligence technology, analyze the new trends and new characteristics of digital intelligence technology to empower the cultural industry, sort out the main problems and challenges faced in the practice process, and put forward feasible paths from multiple dimensions such as ecological construction, technology application, and basic guarantee, and explore more possibilities for the link development of digital intelligence technology and cultural industry.

Keywords: digital intelligence technology; cultural industry; the development of new business formats; path

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Introduction

XiJinPingThe general secretary emphasized: "Explore effective mechanisms for the integration of culture and science and technology, realize the digital empowerment and informatization transformation of cultural construction, and transform the advantages of cultural resources into cultural development advantages." Under the guidance of this strategy, with the rapid development of digital intelligence technology represented by 5G, artificial intelligence, virtual reality, etc., new technologies have been promoted from "selective intervention" to "overall integration", and the construction of a digital cultural power has been promoted from the five elements of ideology, system, culture, technology, and industry ^[1], pointing out the trend and direction of this development era. This driving force has led to the emergence of new formats such as digital collections, cloud exhibitions, and AI cultural and creative products, which are gradually becoming new growth points for the high-quality development of the cultural industry. However, the development of new business formats still faces constraints such as uneven regional infrastructure, potential data security risks, and shortages of cross-border talents. It is urgent to strengthen systematic research, analyze the causes and explore paths, so as to support the in-depth implementation of the cultural digitalization strategy.

1.The new trend of digital intelligence technology empowering the cultural industry

Digital intelligence technology is providing strong support for the cultural industry from multiple dimensions, and the cultural industry is showing new trends such as intelligent content production, immersion in communication channels, and personalized consumption patterns.

The integration of content technology has added more intelligent tools for content production, and its wide application has significantly improved creative efficiency and expression. AI painting tools can quickly generate animation and cultural and creative design materials based on text descriptions, greatly shortening the first draft cycle; The film and television industry adopts an intelligent script evaluation system to optimize plot design based on audience preference data; In the field of intangible cultural heritage protection, the Kunqu opera body is digitally collected and preserved through 3D scanning technology to build a reusable cultural material library.

About the authors:Guo Yanhui (1993-) female, lecturer at the School of Cultural Management, Nanjing University of Communication, research direction: cultural industry management, art management.

In terms of communication channels, immersive and interactive experiences have become the main characteristics. short video platforms such as Douyin and Kuaishou have helped the Forbidden City achieve popular cultural dissemination in the form of "15-second science popularization"; Through the VR digital exhibition hall, Suzhou Museum allows users to immerse themselves in cultural relics anytime and anywhere, expanding the time and space boundaries of traditional exhibitions.

In terms of consumption patterns, there is a significant trend in personalization and digitalization of cultural experiences. NetEase Cloud Music's "Private FM" relies on algorithms to achieve accurate audio recommendations, and the market size of our country's digital collections will exceed 20 billion yuan in 2023, showing strong consumption potential; The immersive drama "Sleepless Night" uses Internet of Things technology to provide the audience with a unique experience of "one person, one plot" and reconstructs the participation mode of cultural consumption.

2.The main problem of digital intelligence technology promoting the development of new formats of cultural industry

In the process of digital intelligence technology promoting the development of new formats in the cultural industry, a series of thorny problems have gradually emerged. The integration of culture and technology is only superficial, the online display content of some museums is empty, cultural and creative products have not been able to tap the deep-seated value, and digital intelligence technology and cultural core cannot be closely integrated. The uneven development of digital infrastructure between regions and the insufficient network coverage in remote areas have seriously hindered the digital collection, dissemination and sharing of cultural resources, and further exacerbated the "digital divide" in cultural access. The homogenization of business models is widespread, and the form of digital collection platforms and cultural live broadcasts is relatively simple, lacking a sustainable profit model and user attraction. The construction of governance systems and security mechanisms is lagging behind, and there are problems such as unclear copyright ownership of AI creations and the risk of cultural data leakage. There is an extreme shortage of compound talents, existing practitioners often lack interdisciplinary integration capabilities, it is difficult to achieve the organic combination of technology application and cultural expression, and the public's awareness and use of digital cultural products are limited, which also limits the expansion and deepening of new formats to a certain extent.

3 Research on the path of digital intelligence technology to promote the development of new formats of cultural industries

3.1 Break the "technology labeling" and build a new paradigm of deep integration of culture and technology

In order to promote digital intelligence technology to truly activate the development potential of new forms of cultural industry, it is also necessary to start with the core links of the industry to promote the deep integration of culture and technology. For example, support intangible cultural heritage protection units to unite scientific and technological teams, and use motion capture, holographic projection and other technologies to transform the core elements of traditional opera such as performance body and singing voice into interactive and disseminated digital assets, which can not only preserve the essence of art but also expand its dissemination and expressiveness in the digital context. The second is to focus on the whole chain development of high-quality cultural IP, with classic literary IP and local characteristic cultural symbols as the core, relying on artificial intelligence technology to generate multi-form derivative content, build a metaverse theme community, and form a value-added closed loop of digital content creation, scenario-based experience, and derivative service development, making technology a tool for cultural dissemination, and becoming the core driving force for exploring the deep value of culture and expanding industrial boundaries.

3.2 Reshape the new pattern of digital culture: promote balanced development with synergy and infrastructure

In order to promote the balanced development of digital culture in different regions and between urban and rural areas, it is necessary to systematically exert efforts from both mechanism coordination and infrastructure construction. For regional coordinated development, a "digital cultural assistance and pairing" mechanism can be established to guide the technology and channel resources of eastern enterprises to connect with the characteristic culture of the central and western regions, jointly develop animation, metaverse scenes and other products, and promote them to the market with the help of the eastern platform, and at the same time build a cross-regional resource sharing platform to avoid duplicate construction. At the urban and rural levels, through the "Digital Culture to the Countryside" plan, digital experience points equipped with VR equipment can be set up in township cultural stations, and a simple version of the cultural APP can be developed to provide services such as "cloud tour" museums, agricultural science popularization, and intangible cultural heritage live broadcasts, which not only guarantees the right of rural residents to obtain culture, but also provides a window for them to display local culture, and realizes the two-way flow of urban and rural areas. In terms of underlying support, priority is given to the deployment of 5G and optical fiber networks at key nodes such as township cultural stations and intangible cultural heritage workshops, and the government takes the lead in building a public technical service platform to provide inclusive technical support for small and medium-sized cultural entities and systematically bridge the digital divide.

3.3 Business model innovation: build a diversified value realization mechanism

To break through the dilemma of "profitability obstacles and short life cycles" faced by new forms of cultural industry, it is necessary to get rid of a single profit model, closely integrate the characteristics of cultural consumption, and meet user needs and industrial characteristics. The change of market game power has led to the rise of consumer sovereignty, and the key points of competition in the cultural market have gradually shifted to the grasp of consumers' personalized needs and derivative needs. ^[2] In the field of digital collections, it is possible to enhance user participation by building a business ecology of "distribution-circulation-derivative", launching a "blind box synthesis" gameplay in combination with cultural IP in the distribution process, and improving asset liquidity by building a compliant secondary market, binding digital collections to offline services to extend the lifeline, such as providing exclusive museum tours, cultural and creative product discounts and other rights, forming a closed loop of online and offline linkage consumption. in the field of cultural live broadcasting, it can be upgraded through the integration of content, social networking and consumption; The differentiated services of membership system can be reflected through exclusive cultural live broadcasts, offline intangible cultural heritage experiences and other activities, and create an immersive cultural community; At the same time, it promotes the deep coupling of live streaming and cultural content, realizes the organic unity of cultural communication and commercial transformation, which can not only improve user stickiness, but also create sustainable revenue, and realize the benign combination of characteristic culture and diversified profits, and the dual improvement of social benefits and economic benefits.

3.4 Establishment of cultural digital governance and security guarantee system

To build an institutional defense line and a security line of defense for the healthy development of the new format of the digital cultural industry, it is necessary to focus on the two aspects of clear rules and risk prevention and control, so as to resolve the governance problems brought about by the application of technology. It can accelerate the improvement of targeted laws and regulations that can adapt to the characteristics of digital culture, focusing on clarifying the copyright ownership of AI-generated cultural content, standardizing the issuance and circulation mechanism of digital collections, and establishing and improving platform qualification review standards. In terms of data security and risk prevention and control, the whole process of monitoring and management of the collection, storage and use of core resources such as cultural relics scanning data and intangible cultural heritage skills materials can be carried out through the establishment of a cultural data supervision and service platform.

3.5 Strengthen the training of compound talents and the improvement of cultural and digital literacy

To fill the talent gap in the integration of digital intelligence technology and cultural industry, it is necessary to promote the two paths of "professional talent supply" and "national literacy improvement" at the same time, so as to build a talent support system that can adapt to the development of new business formats. It can promote universities and digital cultural enterprises to establish "order-based" training projects, open courses such as AI cultural content production and digital protection of intangible cultural heritage in related majors, arrange technical backbones to participate in teaching work, and provide internship positions to master practical skills such as digital development of cultural IP and VR cultural scene construction. Carry out special training for existing cultural practitioners, such as teaching cultural relics data collection and safety management techniques to museum staff, and explaining short video operation and live broadcast skills to intangible cultural heritage inheritors. In addition, it can also rely on community public welfare lectures, digital culture practice classes in primary and secondary schools to popularize the use of digital collections, online exhibitions and other products to the public, improve the public's awareness and acceptance of digital culture, and cultivate sufficient talent reserves and broad market soil for the development of new business formats.

4.Epilogue

Digital intelligence technology brings transformation opportunities to new formats of the cultural industry, and also profoundly reshapes the form of cultural production, dissemination and consumption. In this process, there are still multiple challenges such as insufficient integration, single model, and lack of talents, and in view of these key issues, the focus is on building a healthy and sustainable digital cultural ecology from the multi-dimensional levels of integration, infrastructure, innovation, governance, collaboration, and talents.

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