

A Literature Review of Factors Influencing the Development of the Digital Culture Chain

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Abstract

The rapid development of the global digital economy has pushed the digital culture industry chain to become an important support for national economic growth and the enhancement of cultural soft power, and its sustainable development depends on the optimization and efficient operation of the industry chain. However, existing studies mostly focus on content creation, technological innovation, and market expansion, and the systematic research on the development of the industry chain is still insufficient, especially in the gaps in the compilation and comprehensive analysis of key influencing factors. This study adopted the literature review method to integrate the research results on the digital culture industry chain at home and abroad and focused on analyzing the core factors, such as policy support, technological innovation, market demand, human resources, and internationalization. The study indicated that policy incentives and technological progress were the main external driving forces for the rapid development of the industry chain, while market diversity and cultural innovation capacity enhance its resilience and sustainability. In addition, there were significant differences in the impacts of the institutional environment, digital infrastructure, and cross-disciplinary collaboration on the optimization and upgrading of the industry chain in different countries and regions. Future research should strengthen interdisciplinary integration, explore the dynamic evolution of the industry chain under the interaction mechanism of policy, technology, and market, provide theoretical support and empirical evidence for policy formulation and industrial practice, and promote the high-quality development of the digital culture industry chain.

Keywords: Digital Culture; Industry Chain; Theoretical Framework; Literature Review

Introduction

Under the background of the deep integration of the global digital economy and the cultural industry, the digital cultural industry chain, as a new type of organizational form of cultural production factors, has become the core issue of national cultural competitiveness and industrial transformation (Flew, 2012). As the economy with the largest scale of digital culture consumption in the world, China's industry chain development model has an important paradigm reference value for developing countries. Xiaojuan (2023) point out that the sustainable development of the digital culture industry has a significant effect in promoting the export of cultural products and enhancing cultural added value, especially playing a positive role in the export growth of high-value-added content-based cultural products, which makes it an important part of the country's cultural soft power strategy. Gao et al. (2024) further emphasize that the multi-principal structure of the digital culture industry ecosystem and digital content platforms have a central role in promoting cultural diversity and innovative ecosystems, and are key drivers for high-quality economic development.

Despite the continuous increase in research on the digital culture industry chain in recent years, systematic analyses of key driving factors are still insufficient. points out that existing literature mainly focuses on the impact of digital technology on a single industry and lacks a systematic exploration of the driving mechanism in the context of multi-industry integration. Shuai (2024) emphasize that the cultural industry is inherently interdisciplinary in nature, but the introduction and integration of interdisciplinary theories in existing research is still insufficient, limiting a comprehensive understanding of the complexity of the digital cultural industry chain and its dynamic mechanisms.

While the development of China's digital cultural industry plays a crucial role in the country's economy and soft power, as previous research has indicated, a systematic literature review reveals a significant gap. This is particularly evident in the lack of a comprehensive analysis of key driving factors within the context of multi-industry integration and the limited application of interdisciplinary theories. Therefore, this research aims to identify and assess the deficiencies of existing research by reviewing current theoretical frameworks and research methods. This will serve as a foundation for constructing a comprehensive theoretical framework, which will enable a deeper and more complete understanding of the dynamic mechanisms of China's digital cultural industry chain.

Global development of digital culture industry

The digital culture industry has become an important part of the global economy, with far-reaching impacts on social, cultural and economic fields on the global cultural and creative market, and open minds to develop cultural and creative industries (Moa, 2020). The experience of European and American countries shows that the industry plays a key role in enhancing cultural soft power and promoting a knowledge-based economy. For example, Netflix and Spotify in the U.S. have relied on efficient technology ecosystems and mature markets to promote the innovation and dissemination of cultural content (Flew, 2012). These experiences provide important lessons for the development of the global digital culture industry (Li & Chen, 2023).

Japan and the Republic of Korea have shaped the influence of the global cultural consumer market through their anime and video game industries. Japan has built a cross-cultural communication system through its ‘Cool Japan’ strategy, which has made the animation industry highly competitive globally (Yano, 2021). South Korea has successfully promoted cultural exports by building K-pop and online games as national brands based on the strategy of ‘culture as a nation’.

China's digital culture industry is developing by leaps and bounds, driven by both policy support and technological innovation, with the added value of the core industries of the digital economy accounting for 9.9 per cent of GDP in 2023, and the digitization strategy of culture leading to an additional market size of 1.6 trillion yuan (Ministry of Industry and Information Technology, 2023). The operating revenue of the culture industry reached 16,550.2 billion yuan in 2022, an increase of 1.0 per cent year-on-year (National Bureau of Statistics, 2023). (National Bureau of Statistics, 2023). The State Council's ‘14th Five-Year Plan for the Development of the Digital Economy’ lists ‘digital culture’ as a key project, and promotes the formation of a whole industry chain system of ‘technology research and development-content production-platform dissemination-consumption services’. The whole industry chain system. In terms of technological innovation, the integration of 5G and artificial intelligence (AI) improves the production efficiency of cultural products and promotes industrial upgrading (Wang, 2024). In addition, blockchain technology has made breakthroughs in the field of digital copyright protection, which can accurately record the creation process and protect copyright rights and interests.

Development Status of China's Digital Culture Industry Chain

China's digital culture industry chain shows a unique development path in terms of platform ecology, consumption mode, technological innovation and internationalization. Relying on the mobile Internet, China has built a highly integrated digital platform ecology. Tencent, Alibaba, Byte Dance and other companies have promoted the integration of cultural content with digital technology, giving rise to short videos, online literature, live broadcasting and cross-border cultural innovation models. Among them, platforms such as TikTok and Shuttle have built a personalized content ecosystem through algorithmic recommendations, which has contributed to the rapid growth of user-generated content (UGC) (Zeng et al., 2021).

Generation Z consumer culture increasingly emphasizes interaction and experience, driving the expansion of industries such as interactive games, virtual idols, augmented reality (AR) and virtual reality (VR) (Bin, 2023). Meanwhile, the rise of the meta-universe concept has further expanded the boundaries of the digital culture industry, with Chinese companies actively laying out in areas such as virtual spaces and digital collections (NFTs) to explore broader forms of cultural products (Yuan, 2024).

Despite the rapid development of the industry, it still faces multiple challenges. The tendency of 'data-only theory' makes the market overly reliant on traffic evaluation standards, undermining the depth and artistic value of cultural products and leading to the prevalence of fast-food content (Jeong & Lee, 2021). In addition, the basic research and development of AI started late, and there is still a technological gap with developed countries; core algorithms, key equipment and infrastructure construction still need to be improved, and the shortage of talents should not be ignored (Kang & Jiang, 2018).

In the process of internationalization, China's digital culture industry faces the dual challenges of cultural adaptation and intellectual property protection. Cultural communication needs to adapt to the needs of international audiences while maintaining local cultural characteristics, and overcome cultural barriers and language barriers. At the same time, the inconsistency of global intellectual property standards makes Chinese enterprises face legal risks and uncertainties when expanding into the international market, and there is an urgent need to establish a more comprehensive global intellectual property protection mechanism (Luo & Zhao, 2024).

Key Influencing Factors of Digital Culture Industry Chain

Existing research shows that policy support, technological progress, market demand and social and cultural factors jointly influence the development of the digital culture industry chain. These factors interact with each other to determine its innovation ability, market competitiveness and sustainable development level.

Policy Support

Policy support is the core external motivation to promote the development of the digital culture industry chain. The government incentivises enterprise innovation through tax incentives, financial subsidies, digital infrastructure investment and intellectual property protection (Song & Wen, 2023). Mao (2020) emphasize that policy guidance is a key guarantee to promote the integration of the digital economy and cultural and creative industries, and that the government can draw on the model of precise poverty alleviation and counterpart support to promote the export of capital and talents from developed regions in the east to the central and western parts of the country to optimize the layout of the regional cultural industry.

However, regional policy research lags behind practical needs, resulting in insufficient institutional supply and affecting the optimization of the industry chain (Xu et al. 2024). In addition, China's cultural digital development faces challenges such as resource fragmentation, technological constraints, talent shortages, conflicting property rights protection, and industrial transformation. These issues suggest that future policies should be more precise in order to enhance the synergistic development of the digital culture industry chain.

Technological progress

Technological progress is the key driving force for the development of cultural digitization. The core lies in technological innovation, transformation and application promotion (Chen & Shi, 2020). Personalize recommendation algorithms are widely used in short videos and online entertainment services, pushing content based on user behaviour, effectively enhancing user stickiness and increasing platform retention and revenue. Meanwhile, blockchain technology provides a new solution for digital copyright management, with its decentralized, tamper-proof and smart contract features enhancing the transparency and efficiency of copyright validation, transaction and protection (Yuan et al., 2024).

Despite the acceleration of technological innovation, enterprises still face technological, financial and talent bottlenecks in digital transformation. SMEs are hindered from investing in research and development (R&D) and introducing technologies due to lack of capital and limited

financing channels, making it difficult for them to take on high-risk innovation projects (Wang, 2024). In addition, the rapid development of digital society has changed human behavioral patterns and values, and at the same time brought new challenges of rights remedies and social justice, especially algorithmic manipulation has exacerbated the phenomenon of hidden infringement and made the protection of rights and interests more complicated (Xu, 2024).

Market demand

Market demand is the core driving force for the development of the digital culture industry chain. However, due to the lack of technological accumulation and limited innovation ability, Chinese cultural enterprises still fall short of the international advanced level in terms of technological research and development and application, which makes them unable to cope with the fast-changing market demand (Gao et al., 2024). In contrast, Europe and the United States have technology giants such as Google, Amazon, Meta, Apple, etc., forming a mature industrial ecosystem, while China is still in the stage of catching up.

Generation Z has become the main force of digital culture consumption, and its consumption behavior is driven by multiple factors such as the background of the era, technological progress and policy support. At the same time, the development of Internet of Things (IoT) technology has accelerated the arrival of the Web 3.0 era, and digital technologies such as face recognition, autonomous driving, AI, blockchain, and meta-universe have continuously empowered the culture industry and promoted the in-depth fusion of e-commerce, social platforms, and content production. In addition, innovations in policies and mechanisms have optimized the environment of the cultural industry, promoted the integration of social resources, and demonstrated the dual driving force of active government and effective market.

Socio-cultural factors

It is crucial in shaping the digital culture industry chain, which is mainly reflected in cultural identity, value transmission and cross-cultural communication. Cultural identity is the core of digital cultural creativity, which promotes the innovation of cultural products and services based on value judgement and modern information technology. The application of artificial intelligence technology enhances the ability of cultural heritage protection and transmission, enabling audiences to experience cultural history and values more deeply (Shen & Zhu, 2023). At the same time, cultural exports not only promote economic exchanges, but also influence the values of importing countries in terms of 'trust, democracy, individualism, and religious identity', and act as an intermediary for information transfer. As an important vehicle for globalized communication, short

videos have broken through language and cultural barriers and facilitated cross-cultural exchanges due to their speed, convenience and strong visual impact (Zheng & Zheng, 2024).

Main research methods

The case study approach focuses on specific firms or regions to provide contextualized insights into industry chain development. Cai and Tong (2014) analyse how Dafen Village copes with global economic fluctuations through industrial upgrading. Although these methods provide multi-dimensional analytical tools, there are limitations. GVC analysis is difficult to reveal micro-mechanisms, the vulnerability of the case study method is limited, and empirical analysis relies on the quality of the data, which may lead to bias. Future research can combine interdisciplinary approaches, dynamic data tracking and model innovation to enhance the understanding of the digital culture industry chain.

Application of AHP method in industry chain analysis

AHP is widely used in the analysis of industry chain influencing factors. Luo Yue (2014) used AHP to assess the key factors of science and technology innovation in private enterprises in Zhejiang, and Fujian Province Mechatronic Architectural Design Institute (2020) combined AHP and SWOT methods to optimize regional development strategies. Zhan et al. (2024). explore the application of AHP in the green transformation of enterprises. Although AHP is widely used in industry chain research, its application in the field of digital culture industry chain is still relatively limited, and future research can further explore its potential to optimise culture industry chain decision-making.

Knowledge from Research

Theoretical Foundation

In constructing the theoretical framework of the digital culture industry chain, this study is based on the TOE theoretical framework, the correlation effect theory, the industry chain theory, the synergy theory, and the correlation effect theory, which describe how factors such as policy, technology, economy, demography, income, consumption, and enterprise capacity interact and promote the development of the industry chain. These theories provide theoretical support for analysing the relationships and interactions of different variables and help reveal the complex interactions of internal and external factors in the industrial chain.

Key Variables and Definitions

Variable Name	Definition	Data Source	Literature	Mechanism of Influence
Policy Support	Government supports the development of the digital cultural industry through tax incentives, financial subsidies, infrastructure investments, intellectual property protections, etc.	Government websites, policy documents, industry reports	Dunn (2018)	Government policies that promote innovation and direct market demand, fostering the optimization and expansion of the cultural industry chain.
Technological Innovation	The development and application of new technologies, promoting the efficiency and competitiveness of the digital cultural industry.	Technology development reports, industry surveys	Mankiw (2021)	Technological innovation improves production capacity, reduces costs, and enhances the effectiveness of content and distribution, expanding market demand.
Economy	The overall economic situation of the country or region, including GDP growth, industrial structure adjustment, and investment flow.	National statistics, World Bank	Kuznets (1955)	Economic growth drives consumption demand, market scale, and promotes the expansion and upgrading of the digital cultural industry chain.
Population	The demand for cultural products is influenced by total population, age, gender, education level, etc.	National statistics, United Nations Population Fund	Lee and Mason (2017)	Changes in population scale and structure influence the demand for digital cultural products, especially among the younger demographic.
Income	Average income levels and income distribution directly affect consumption capacity and market demand.	National statistics, World Bank	Barro and Xavier (2004)	Income distribution directly determines the purchasing power of consumers, influencing demand for digital cultural products.
Consumption	The demand for digital cultural products and services from consumers, reflecting the strength of market preference.	National statistics, industry reports	Mankiw (2021)	Consumption changes directly affect demand for digital cultural products, pushing forward industry growth and product diversification.

Variable Name	Definition	Data Source	Literature	Mechanism of Influence
Enterprise Capability	The ability of enterprises to innovate in technology, brand construction, and market expansion, determining their competitiveness in the cultural industry.	Corporate annual reports, industry analysis	Porter (1990)	Enterprise technological capabilities and market competitiveness shape the capacity for innovation in the cultural industry, enhancing sustainable development.

Conclusion

The development of the digital culture industry chain is a multifaceted process shaped by the dynamic interaction of policy, technological innovation, economic conditions, demographic structure, income distribution, consumption behavior, and enterprise capacity. Policy serves as a macro-level driver, directly influencing technological advancement and market expansion, while technological progress enhances the efficiency of content production and distribution, thereby stimulating market growth. Economic development fosters cultural consumption and encourages enterprise investment, further strengthening industrial competitiveness. Demographic and income variables determine market potential, particularly among younger consumer segments, whereas evolving consumption patterns drive innovation in products, interactive experiences, and business models. Enterprise capabilities, especially in technological development and brand building, are pivotal to ensuring the sustainability of the industry chain. The mutual reinforcement between technological innovation and market demand underscores the need for integrated strategies. Drawing upon the TOE, Synergy, Industry Chain, and Enterprise Capability theories, this framework elucidates the complex interrelationships among key variables and provides both theoretical and practical implications for promoting sustainable and high-quality growth of the digital culture industry chain.

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