A Literature Review on the Development of Digital Empowerment for the Integration of Culture and Tourism

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Abstract
This article starts from the perspective of digital empowerment, sorts out the historical context and integration characteristics of the development of the cultural and tourism industry, further analyzes the development process and current situation of the cultural and tourism industry in the digital era, explores innovative models for the deep integration of digital empowerment of cultural and tourism development, identifies collaborative mechanisms in the development process, conducts in-depth research on the path of digital empowerment, and summarizes and summarizes relevant research.

Keywords
Digitalization, industrial integration, cultural and tourism industry.

1. Introduction
In recent years, the country has attached great importance to the digital development of cultural and tourism. In 2018, the Ministry of Culture and Tourism was established, achieving administrative integration of culture and tourism. The "14th Five Year Plan for Digital Economy Development" issued by the State Council clearly proposes to "promote the integration of culture and tourism development through digitization". The integration of culture and tourism has become a practical direction for the development of cultural and tourism industries. However, in the context of the digital economy, the development of cultural tourism needs to consider how to leverage digital technology to break free from the growth dilemma of industry development. Through digital transformation and innovative development, solve the problems in the process of cultural and tourism integration. This article attempts to explore the existing models of digital empowerment for the deep integration of culture and tourism from the perspectives of digitization, industrial integration, and empirical analysis, identify the collaborative mechanisms in the development process, and clarify the relevant research on digital empowerment for the deep integration of culture and tourism.

2. Digital Empowerment
In 1995, American scholar Nicholas Negroponte wrote the book "Digital Survival", and since then, the concept of "digitalization" has become widely accepted.

2.1. Connotation
2.1.1. Meaning
Empowerment refers to giving a specific group of people abilities through specific ways, including the ability to survive, the ability to live and the ability to develop. There is no uniform standard for the definition of digital empowerment, and scholars have explored this concept from different perspectives. Zhou et al. (2018) divided digital empowerment into two perspectives: employee empowerment and customer empowerment. Lenka et al. (2017) proposed three basic components of digital empowerment, namely, intelligence capability (the ability of hardware to acquire information), information connectivity (the ability of network to
connect with products), and technological analysis capability (the ability to analyze the data and then carry out operation commands), and explained the mechanism by which these three components work together with the customers to create value.

2.1.2. Data and Digital Empowerment
Sun Xinbo et al. (2020) proposed that the concept of data empowerment includes big data empowerment and digital empowerment, and the latter two are more specific empowerment ways and means of the former. Digital empowerment focuses on the use of digital technologies and tools. Liu Qilei et al. (2022) pointed out that digital empowerment is essentially a process of value co-creation through the combination of data elements and traditional elements, model reconstruction and network adhesion, emphasizing that the core driver of digital empowerment is data.

2.1.3. Digital Technology and Digital Empowerment
According to Yang Shoude et al. (2023) digital empowerment refers to the use of digital technology to make products and social services innovative, provide innovative value in the whole process of product operation, so as to promote things to a more favorable aspect. Hermansson et al. (2011) believe that digital empowerment refers to the improvement of the public’s way of life through digital technology, empowering them to solve problems, and enabling people to grow into capable subjects capable of controlling their lives and environments. environment as empowered subjects.

2.2. Mechanisms of the impact of digital empowerment

2.2.1. Technological Empowerment
Patel (2019) points out that digital technology will have a positive impact on the growth of an organization’s business by breaking down spatial constraints and transforming the organization into a digital work platform, and this empowerment will drive fundamental changes in the way work is done and the performance of the enterprise. Zheng Yingkun (2020) refers to digital with technology to support the optimization and upgrading of the traditional manufacturing industry, digital empowerment can promote the advanced manufacturing industry to achieve disruptive innovation, and promote the realization of the advanced manufacturing industry and the digital economy industrial integration.

2.2.2. Platform Empowerment
Sun et al.’s (2018) research points out that digital empowerment activities are the key to the platform function, and the business ecosystem structure can only be constructed through the design of smooth information flow, logistics and capital flow channels. Guo Xingguang et al. (2021) explored the process of data empowerment platform enterprise value co-creation and manufacturing enterprise innovation and development.

2.2.3. Mechanism of action
Based on the digital empowerment perspective, Chi Maomao et al. (2020) analyzed the role mechanism of digital transformation on new product development performance in small and medium-sized manufacturing enterprises. Digital transformation positively affects new product development performance through R&D utilization capability and R&D exploration capability. Huang Rui et al. (2021) analogize the digital empowerment mechanism of the cultural industry with quantum leap, and the cultural industry will continuously absorb and digest the digital technology resources matching its technological paradigm, and continuously strengthen the industrial energy level.

Yang Shoude et al. (2023) study the application of digital empowerment in the integrated development of the whole agricultural industry chain. The resource allocation effect, innovation effect, multiplier effect of the digital economy respectively empowers the quality
and efficiency change of the agricultural industry chain, and the power change of farmers; through the digital transformation of the agricultural industry, the control of the whole process of agricultural production, the competitiveness of the industrial region, the digital talents, and the development of the digital industrialization to ensure the development of five paths to promote the high-quality development of the integration of the agricultural industry chain.

3. Culture and Tourism Integration

3.1. Industrial integration

3.1.1. Connotation

The idea about industrial integration first originated from Rosenberg's research on the evolution of the machinery and equipment industry in the United States, and he put forward the concept of technological integration in the course of his research. Firstly, the concept of "technological convergence", besides Rosenberg, Negroponte (1978) used three overlapping circles to describe the technological convergence among the electronic computer, printing and broadcasting industries through his observation of the latest technological development. Sahal (1985) and Dosi (1988) also followed the concept of technological convergence, pointing out that certain The process of widespread application and diffusion of technology across a range of industries that leads to the occurrence of innovative activities can be regarded as technological convergence.

Secondly, the perspective of industrial boundary, Zhou Zhenhua (2003) believes that industrial integration means the blurring of traditional industrial boundaries, and will also become a new driving force for industrial development and economic growth. Liu Xubo (2006) believes that industrial integration refers to the phenomenon of blurring or disappearing of traditional industrial boundaries due to technological progress and relaxation of regulations, and points out that industrial integration will re-adjust the correlation relationship among industries, change the traditional industrial structure conversion mechanism, and transform the concept of industrial structure policy.

Thirdly, from the perspective of industrial evolution, Stieglitz (2002) categorizes industrial integration into four basic types, namely, technological substitution integration, technological complementary integration, product substitution integration and product complementary integration, and applies the theory to construct a theoretical framework for the types of industrial integration and the dynamic evolution of industries. Hu Hanhui et al. (2003) pointed out that there are three forms of industrial integration, industrial penetration, industrial crossover and industrial reorganization.

3.1.2. Measurement and Evaluation

Wang Ling (2017) constructed a comprehensive evaluation system for the development level of rural industrial integration from five levels: industry chain extension, multifunctionality play, integration of agricultural services, farmers’ income and employment and urban-rural integration. Zhao Yulin et al. (2019) measured and analyzed the degree of integration of China’s manufacturing industry and information industry by using the input-output method, and concluded that industrial integration is the basic path of China’s technological innovation-driven transformation and upgrading of the manufacturing industry.

3.1.3. Influence and effect

First, at the industrial level, Zhou Zhenhua (2003) believes that industrial integration has become a new driving force for industrial development and economic growth. Industrial integration gives rise to new products and services, promotes the entry of new players and the opening of new markets, enhances competitiveness and the shaping of new market structures,
etc. These changes are not limited to industrial development, but will also have a great impact on the entire economy and society.

Secondly, on the economic and social level, Hu Yongjia (2008) believes that industrial integration is conducive to product and industrial innovation and positively promotes the upgrading of industrial structure and sustained economic growth on the macroeconomic level. Song Yijiang (2023) points out that industrial integration in rural areas can promote the development of rural economy, help optimize the allocation of resources and improve the efficiency of resource utilization, and help promote the integrated development of urban and rural areas.

Third, at the enterprise level, Broring et al. (2003) analyze the impact of industrial integration on the innovation strategies of enterprises with different industrial backgrounds by taking the industrial integration of the pharmaceutical industry and the nutrition and health food industry as an example. Zhou Yu et al. (2014) believe that industrial integration makes the original value chain of enterprises broken and has an impact on the development of their business models.

3.2. Integration of Cultural Industry and Tourism Industry

In 1985, American scholars Mcintosh and Gebert proposed the concept of "tourism culture" for the first time in the book Tourism: Elements-Practices-Basic Theory. In November 1993, China mentioned for the first time that the development of tourism is important for meeting the cultural needs of the people and driving the development of cultural undertakings in the government documents at the national level. 2018 In March 2018, the Ministry of Culture and Tourism was formed, realizing the administrative integration of culture and tourism.

3.2.1. Connotative thinking

Cultural tourism was first defined by Macintosh and others (1985) as “the activity of tourists to learn about other people’s historical heritage, their lives and thoughts”. From the perspective of tourism, Zhong Xianwei essentially regards the process of tourism industry development as a cultural phenomenon. Shen Zuxiang (2006), on the other hand, regards tourism as a cultural phenomenon from the perspective of cultural science. Sang Binbin (2012) believes that the essential characteristics of both cultural industry and tourism industry are comprehensive and inclusive, which can easily lead to the phenomenon of blurring or even overlapping of their industrial boundaries.

3.2.2. Measurement Evaluation

First, the selection of indicators, Hou Bing et al. (2015) constructed evaluation indicators for the integrated development of the cultural industry and tourism industry from the level of industrial performance and the level of industrial elements, used entropy technology to determine the weights of the indicators, and drew on the coupling degree model to construct an integrated development model to measure the integrated and coordinated development of the two at the provincial level in the Yangtze River Delta region. Xu Chunxiao et al. (2018) constructed an indicator evaluation system for the integration potential of cultural industry and tourism industry from four dimensions: resources, materials, labor force, and technology, and measured the integration potential of culture and tourism in Great Xiangxi, Hunan Province and revealed its spatial differences.

Shi Yan et al. (2021) followed the idea of analyzing the degree of coupling coordination, and chose the evaluation indexes of industrial integration from three perspectives: comprehensive strength of the industry, business income, and financial input, and regarded the "culture and tourism industry" as a new industry, and replaced the "culture and tourism integration high-quality development index" with "culture and tourism integration high-quality development index". In addition, the index is constructed by replacing "the degree of coordination of culture and tourism coupling".
Second, method selection, Huang Rui et al. (2017) through the measurement of the coupling and coordination degree of culture and tourism industry in the three northeastern provinces, as well as the gray correlation degree analysis of industry integration, technological innovation and cultural consumption, indicating that the integration of culture and tourism industry in the three northeastern provinces should adopt different types of development models. Li Li (2020) et al. constructed an evaluation index system for the development level of cultural industry and tourism industry from the aspects of production factors and output level, and used information entropy to determine the weights of the indexes, and used the spatial coupling and coordination degree model to measure the integration and development level of China's inter-provincial cultural and tourism industries, and used the panel data model to study the main factors affecting the integration and coordinated development of culture and tourism. Chen Hongling et al. (2021) constructed a comprehensive evaluation index system for the development of national inter-provincial culture and tourism integration based on the three dimensions of industrial foundation, industrial human capital and industrial effect, and analyzed the dynamic relationship between urbanization and the level of culture and tourism integration by using the panel vector autoregressive model.

3.2.3. Integration Path
First, the relationship between culture and tourism, Zhang Chaozhi et al. (2020) believe that the identity significance of culture and the pursuit of identity by tourists make culture have the attribute of attraction, which is the basis for the integration of culture and tourism. The integration of culture and tourism can be promoted from the following three levels of paths, to enhance the tourism attraction of culture, to strengthen the exhibition and visitability of culture, and to extend the industrial value chain of cultural tourism experience.

Second, the actors, Kong Kai et al. (2020) divided the specific paths of rural cultural tourism integration in ethnic areas according to the main body. The government provides public service functions; highlights villagers’ subjectivity and increases villagers’ participation; the cultural company develops and operates; and third-party individuals, media, organizations, experts, etc. supervise. Li xiang (2021) pointed out that the red culture and tourism industry integration of high-quality development, the tourism industry needs to use virtual reality means to enhance the service capacity, but also fully wield the leading role of the government.

Third, the integration dimension, Fan Zhou (2019) analysis shows that the integration of culture and tourism is essentially the integration of ideas, functions, resources, industry and technology. In the process of integration, we should pay attention to the duties, statistical system, cultural heritage and self-confidence and other aspects of the problem. Feng Jian (2018) thinks that the integration of culture and tourism should be based on the market environment as well as social development needs, change the traditional development concept and innovate the administrative mechanism.

3.2.4. Integration Effect
Huo Yanlian (2015) proposes that the integration of culture and tourism industry has innovation ability effect, competitiveness effect, consumption effect and regional integration effect. Wu Lihui et al. (2017) pointed out that the cultural effect is the most direct embodiment of the integration and development of culture and tourism. Li Shaohui and others (2023) believe that the development of cultural and tourism integration has both local and spillover effects on public libraries, and use general econometric models and spatial econometric models to analyze the impact of cultural and tourism integration on the service capacity of public libraries.

Ma Shengqing (2021) pointed out that the economic effects of the integration of tourism and cultural industries are mainly manifested in the following three aspects: industrial integration generates new markets, new products, new business models, extends the life cycle of the
industry, and industrial integration prompts enterprises to diversify their operations in order to obtain the scope of economy and synergy effects.

3.2.5. Synergy Mechanism

Hou Guolin et al. (2011) believe that driven by the operation mechanism, the synergy between the digital culture industry and tourism industry ranges from simple loose cooperation to reorganization of the industrial value chain, and from single enterprise to industrial clusters, and manifests itself in four synergistic modes: industrial interaction, industry chain extension and expansion, industrial fusion, and industrial agglomeration and symbiosis. Zhou Jianbiao (2017) pointed out that the cultural industry and tourism industry can integrate and develop through the mechanism of "integration and extension, agglomeration and complementation" of the industrial chain. The industrial functions, consumer groups and resource intersection between the two are the basis and conditions for integration. Zhou Chunbo (2018) believes that technology and system synergy drive the integration of culture and tourism industry. On the one hand, technological innovation can promote the marketization process of cultural tourism, and on the other hand, policies can be formulated to reduce the bias effect of the application of new technologies, which will lead to the integration of the two industries. Xu Cuirong et al. (2018) used vector autoregressive model to analyze the dynamic effect between China's cultural industry and tourism development, and concluded that there is a long-term equilibrium relationship between the cultural industry and tourism development and the two have positive interaction.

4. Digital Enabling Cultural Tourism Integration

4.1. Significance

Research mainly focuses on the optimization and upgrading of industrial structure, Wei Pengju (2022) pointed out that the deep integration of culture and tourism is a change in the development mode of the tourism industry, and it is an inevitable choice for high-quality development, and digital technology has constantly given birth to new forms of culture and tourism integration. As a typical example of the high-quality development of cultural and tourism integration, cultural and tourism innovation sublimates tourism souvenirs, melts the "culture + tourism" industry chain, and cultural and tourism integration realizes the comprehensive value enhancement of cultural and tourism venues. Xia Jiechang (2020) made it clear that the digitization of the culture and tourism industry is to use digital technology to realize the deep integration and development of the culture and tourism industry. It is pointed out that digitalization will promote the development of the deep integration of the tourism industry, and digitalization is an important support for the realization of the high-quality development of the culture and tourism industry, as well as an important means to deepen the structural reform of the supply side. Dai Bin (2020) believes that digitalization is reconstructing the new pattern of culture and tourism industry, and at the same time, there is a generalization of the concept of "culture and tourism". It is necessary to pay attention to the demand side and the supply side, but also to improve the effectiveness of public services and industry supervision, in order to truly realize the digital empowerment and promote the upgrading of the culture and tourism industry.

4.2. Integration Mode

First, the dominant relationship between both culture and tourism, Shi Yan et al. (2021) study the development status of Jiangsu Province based on the high-quality development index of culture and tourism integration. It is pointed out that when each region selects the development mode, it is necessary to take the development status of the travel integration industry and regional advantages into consideration. Specifically, according to the different development
status of culture industry and tourism industry, "culture + tourism" or "tourism + culture" mode should be selected.

Second, from the perspective of industry chain, Zhou Jin et al. (2021) take cities as the spatial perspective, and point out that there are three models for the integrated development of urban culture and tourism under the digital economy: industry chain reorganization model driven by supply-side reform, industry chain value co-creating model oriented by cultural demand, and industry chain extension model driven by digital technology. Zhang Haiyan et al. (2013) pointed out that there are four specific forms of realizing the integration operation mode of tourism and culture industry: the integration operation mode of culture and tourism circle, the integration operation mode of project development, the promotion mode of culture and tourism festivals and exhibitions, as well as the innovation and attraction mode of culture and tourism products.

Thirdly, from the perspective of tourism resources, Shao Minghua et al. (2020) pointed out that there are six development modes for the integrated development of culture and tourism in foreign countries, including cultural heritage tourism, theme park tourism, rural culture tourism, film and television culture tourism, festival and exhibition tourism and sports culture tourism. The specific form of tourism resources based on different kinds of culture is also different. Shan Hongbo (2019) takes public libraries as an entry point, pointing out the main modes of integration of culture and tourism: libraries as tourist attractions, embedded in tourist attractions, boosting study tours, and expanding the integration mode of tourism services.

4.3. Integration Path

First, the use of digital technology, Li Ren (2022) believes achieve high-quality development of cultural and tourism integration, accelerate the integration with scientific and technological innovation is the way to go. Specifically, one is to accelerate the deep integration of cultural tourism and the Internet. Secondly, relying on intelligent technology, accelerate the construction of intelligent scenic spots, intelligent transportation, intelligent service areas, innovation and promote the vertical integration of the cultural and tourism industry chain and horizontal integration, from the supply side to the consumer side, to promote the "marriage" of culture and tourism with emerging technologies. The third is to build and utilize digital information infrastructure to promote the integration of multiple applications in the digital culture and tourism industry.

Secondly, improve the institutional mechanism, Wujiang (2022) believes digital vision of the following travel fusion to promote the path of intelligent tourism innovation: rational and innovative top-level design, innovative introduction and training of dual-wheel drive talent system, innovative mechanisms to promote the transformation of digital culture and tourism, the creation of public platforms for the exchange of cultural and tourism aesthetics, and the integration of local characteristics of creativity. (Lu Renjing, etc.) The following four aspects are the practical path of digital empowerment of the integration and innovative development of the rural culture and tourism industry: strengthening the digital infrastructure of rural culture and tourism, accelerating the digital transformation of rural cultural resources, improving the digital rural culture and tourism product system and perfecting the rural culture and tourism integration and digital governance mechanism.

Third, for specific cases, Liu Yang and others (2020) believe that the path of Guizhou to open the deep integration of digital culture and tourism development can be summarized in four aspects. First, to create a set of intelligent tourism system; second, to clarify the "big poverty alleviation + culture and tourism integration" and "big data + culture and tourism integration" of the two main lines of development; third, to realize the main body of cultural holdings, artistic creativity and intangible cultural heritage of these three tourism resources Third, to realize the transformation of three kinds of tourism resources, namely, cultural holding body,
artistic creative creation and intangible cultural heritage; and fourth, to ensure synergistic development among the Government, tourism companies, culture holders and tourists. According to Zhou Jin (2021), the path of integrated development of urban culture and tourism mainly includes strengthening top-level design, promoting virtual tourism, utilizing urban industrial heritage, as well as innovating cultural and tourism projects and strengthening regional cooperation.

5. Overview of research status

Academic research related to industrial digitization, digital empowerment, industrial integration, and cultural and tourism industry integration has been increasing and has initially formed a scale, and the relevant research is being continuously theorized, detailed, and comprehensive, but because industrial digitization is accompanied by the development of the digital economy, the research on the digital empowerment of cultural and tourism in-depth integration and development is still in the primary stage and is not mature enough, and there are still certain deficiencies and directions for further research, mainly in the following three aspects.

5.1. Analyzing Ideas

Previous literature on the analysis of the integration of cultural industry and tourism industry in the context of digital economy mostly describes the theoretical basis of culture and tourism industry, the current development status, and practice, etc. Although many papers focus on the use of digital technology, the research on how digital technology empowers the in-depth integration of culture and tourism and other issues is relatively insufficient.

5.2. Research Methods

Qualitative analysis is redundant with quantitative analysis, and existing research focuses on exploring the concepts, characteristics, problems, motivations and trends of cultural and tourism integration in the context of digitalization. Most of the empirical literature adopts methods such as coupled coordination model, input-output analysis and gray correlation analysis to study the comprehensive development level of culture and tourism integration, while empirical studies on the integration of digitally empowered culture and tourism industries are not abundant.

5.3. Research Perspectives

Most of the results related to the integration of culture and tourism are from the traditional research perspective of "culture + tourism", and most of the studies based on digital empowerment are explored from the perspective of industry and manufacturing, and there is a lack of analysis of digital empowerment located in the "culture and tourism industry". Therefore, this study analyzes the measurement, mode and synergistic mechanism of digital empowerment for the deep integration of culture and tourism industries in Guangxi based on the econometric evaluation model, and puts forward corresponding countermeasures and suggestions, aiming to find out the short-board problems of digital empowerment for the integration of culture and tourism industries in Guangxi and to search for the path of realizing the deep integration.

References


