

Industrial Tourism Enabling High Quality Culture and Tourism Development: a Theoretical Framework

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Abstract: While industrial tourism has strong potential to support the high-quality development of culture and tourism, existing research has largely focused on traditional cultural tourism and paid little attention to the cross-sectoral driving role of industrial tourism. Therefore, this paper examines the theoretical logic and practical path for industrial tourism to enable high-quality cultural and tourism development, drawing on a literature review method (N=56). The results of this study show that 1) the theoretical logic behind industrial tourism driving high-quality development of cultural tourism is as follows: revitalization of industrial heritage - scene experience design - integration of industrial ecology - high-quality development of culture and tourism; 2) Key pathways include a shift from sightseeing to immersive and co-creative experiences, a change from "tourism +" to "+ tourism" in industrial integration, a move from information technology to digital tools in management, and a transition from separate efforts to coordinated actions in institutions. Finally, this study offers practical advice for using industrial tourism to help develop high-quality cultural tourism.

Keywords: Industrial Tourism; Revitalization of Industrial Heritage; High-quality Development of Culture and Tourism; New Quality Productive Forces

1. Introduction

In the post-pandemic era, promoting high-quality development of the culture and tourism industry has become a strategic choice for building new competitive advantages and meeting people's needs for a better life [1-3]. However, the traditional research of cultural tourism, which relies mainly on natural and historical cultural resources, faces growing problems such as product homogenization,

shallow visitor experiences, and weak growth momentum. At the same time, industrial tourism, as a new form that combines the hard power of industry with the soft experience of culture and tourism, shows great development potential [4-5]. Consequently, exploring how industrial tourism drives the high-quality development of cultural tourism and understanding its theoretical logic and practical pathways has become an important topic with both academic relevance and practical urgency. Nevertheless, existing research has focused largely on traditional cultural tourism and has paid little attention to the driving role of industrial tourism as a cross-sector.

This study conducted a literature search using keywords such as "industrial tourism" and "high-quality development of culture and tourism" in major academic databases (e.g., CNKI, Emerald, EBSCO, Science Direct, SAGE, Wiley) covering the period from 2021 to 2026. A total of 56 papers related to the theme of industrial tourism and high-quality development of culture and tourism were selected. The inductive method was then adopted for the literature review. Among the publicly published academic papers on this topic, there are 32 conceptual articles, 3 review papers, and 21 empirical studies, which include 12 qualitative studies, 6 quantitative studies, and 3 mixed-methods studies. This study aims to answer two key questions: 1) What is the theoretical logic behind industrial tourism's role in driving high-quality development of culture and tourism? 2) What are the key pathways for achieving this effect? This research not only provides a deep analysis of how industrial tourism enables resource revitalization, industrial cooperation, and value spillover, thus filling a gap in the literature on the bridging role between industrial tourism and high-quality cultural tourism, but also offers practical guidance for different stakeholders. The findings can help government authorities make better decisions on industrial tourism policies, spatial

planning, and industry standards.

2. Literature Review

2.1 Industrial Tourism

Industrial tourism, which integrates industrial heritage, manufacturing, and travel experiences, has attracted growing academic attention. Previous studies have focused mainly on the mechanisms and development strategies of urban industrial tourism. Geographers have examined the spatial distribution and tourismization patterns of industrial heritage. For example, Cheng and Ren analyzed the spatial distribution and influencing mechanisms of industrial tourism in Shandong Province, China [6]. Wu et al. explored the characteristics and determinants of online attention to industrial tourism [7]. In addition, Shi discussed the relationship between postmodern nostalgia and industrial heritage tourism [8]. However, research on visitor experiences in industrial tourism remains limited.

2.2 Revitalization of Industrial Heritage

Industrial heritage revitalization has emerged as a new theme in cultural tourism research. A few studies focus on theoretical development. For instance, Li et al. explained the logic and patterns of value activation in industrial heritage, highlighting resource orchestration strategies driven by value proposition shifts [9]. Most studies, however, concentrate on practical pathways. Chen and Huang discussed the revitalization of industrial heritage in Chongqing from an urban image perspective [10]. Li et al. proposed post-visit evaluation-based strategies using the Taikoo Cang case in Guangzhou [11]. Ding examined the memory reconstruction of China's Third Front industrial heritage [12]. Huang and Zou summarized general pathways for revitalizing traditional industrial heritage in China [13].

2.3 High-Quality Development of Culture and Tourism

High-quality development of cultural tourism is a central topic in current research. Most scholars agree that it is a multi-dimensional evaluation system centered on people's needs for better, more efficient, equitable, and sustainable tourism products and services. Existing studies mainly focus on four areas. First, the internal mechanisms of high-quality development in cultural tourism. Second, implementation

pathways, such as standardization-driven integration and the role of the business environment in tourism economy growth. Third, regional heterogeneity, including digital empowerment of rural tourism in Hunan Province and the high-quality integrated development of Guangdong-Macau cultural tourism. Fourth, measurement and influencing factors of high-quality tourism development, as examined by Yang and Xin [14].

2.4 New Quality Productive Forces

New quality productive forces, characterized by high technology, high efficiency, and high quality, provide the core driving force for cultural tourism to break free from traditional development paths and achieve transformation and upgrading. They serve as a fundamental support for high-quality development in the sector. Existing studies have begun to explore the concept of "new quality productive forces in tourism" [15-16] or "new quality productive forces in cultural tourism" [17]. However, no broad consensus has been reached. Scholars agree that these forces cannot simply be transplanted from the general concept into tourism; they must be rooted in the unique nature of cultural tourism to generate new theoretical implications. New quality productive forces in cultural tourism are not only derived from the application of general new quality productive forces but also from context-specific innovations. Their basic substance involves the upgrading of tourism workers, tools, and objects, along with their optimized combinations. They are driven by technological breakthroughs, innovative allocation of production factors, and deep industrial transformation. These forces feature high technology, high efficiency, and high quality specific to cultural tourism. Developing them reflects the Marxist goal of achieving free and comprehensive human development [18]. Tourism's new quality productive forces closely integrate supply and demand, being innovation-driven on the supply side and people-centered on the demand side [19].

In summary, existing studies focus mainly on traditional cultural tourism, paying insufficient attention to the driving role of industrial tourism as a cross-sector format. A systematic theoretical explanation is lacking. Most research remains descriptive or case-based, with limited theoretical depth or model building regarding the

underlying mechanisms through which industrial tourism drives high-quality development of cultural tourism. Although introducing new quality productive forces offers an innovative perspective, how this concept can be observed and measured in industrial tourism settings remains unclear. The specific pathways connecting it to technological, factor, and industrial innovation are not well specified, and an empirical testing framework is missing. Current literature often treats industrial tourism and high-quality cultural tourism as separate topics, failing to clearly reveal their theoretical links, especially from the perspective of new quality productive forces.

3. Theoretical Analysis

3.1 Revitalization of Industrial Heritage

Industrial heritage revitalization is the first key logic through which industrial tourism drives high-quality culture and tourism. Industrial tourism breathes new life into dormant industrial remains, turning them into cultural capital that carries collective memory, technological spirit, and period aesthetics. The core task is to activate this potential capital through creative transformation and innovative development, producing experience-based, consumable, and communicable cultural products and services. Second, heritage revitalization breaks the limits of traditional sightseeing by integrating industry with technology, education, art, and commerce. Third, it enhances regional vitality and quality, improves the environment, upgrades public services, and attracts talent and investment, thus promoting urban functional upgrading. By embedding isolated heritage sites into regional tourism networks or national cultural park systems, industrial heritage becomes a key node for telling the story of industrial civilization. Ultimately, through this logic, industrial tourism achieves a comprehensive improvement in the meaning, efficiency, and sustainability of culture and tourism.

3.2 Scene Experience Design

Scene experience design is the second logic through which industrial tourism drives high-quality culture and tourism. Unlike simple site visits or process tours, industrial tourism builds immersive, interactive, and narrative-driven scenarios that turn industrial heritage into living experiences. First, design

integrates space, senses, narrative, and technology to create full-body immersive environments, transforming machines and production lines into tangible, audible, and interactive experiences. Second, layered narrative scenarios and interactive elements, such as puzzle games on production lines or co-creative art workshops, encourage visitors to actively construct personal understandings of industrial spirit and history. Third, core industrial scenarios link with surrounding commercial, community, and natural settings to form functional experience zones. Through these mechanisms, contextual experience design deepens visitor engagement, generates personal meanings, and enables systemic value co-creation, ultimately advancing the high-quality development of culture and tourism.

3.3 Integration of Industrial Ecology

Industrial ecological integration is the third logic through which industrial tourism drives high-quality culture and tourism. As industry boundaries blur, industrial tourism acts as a connector and catalyst that integrates, activates, and restructures multiple industrial elements. First, integration begins by breaking closed value chains, allowing capital, technology, talent, and data to flow freely between tourism, industry, technology, and creativity. Second, industrial tourism attracts and gathers related enterprises around core industrial sites, forming a symbiotic network. Traditional industrial firms gain brand exposure, additional income, and better community relations. Tourism businesses obtain unique attractions and differentiated content. Creative design agencies find space and inspiration, while technology companies get application scenarios. Third, as a key node, industrial tourism generates spillover effects and empowers the entire regional ecosystem. The market attention, visitor flows, and information it brings provide display windows, user feedback, and application scenarios for the intelligent, service-oriented, and green transformation of manufacturing. This, in turn, helps upgrade the industrial base. Meanwhile, cultural tourism learns from industrial culture, including rigor, craftsmanship, and large-scale management, to improve product depth and operational efficiency. In essence, industrial ecological integration not only revitalizes dormant industrial resources but also reshapes inter-industry connections and stimulates

cross-sector innovation, ultimately driving a shift from isolated, extensive growth to a networked, high-value symbiotic development model.

3.4 High-Quality Development of Culture and Tourism

High-quality development of culture and tourism is the fourth logic and ultimate goal of industrial tourism's driving role. During the transition from rapid growth to high-quality development, industrial tourism serves as a strategic lever. First, it shifts value creation from dependence on natural or shallow cultural resources to creative transformation and innovative development. Through design, art, and technology, industrial heritage comes alive in modern contexts, meeting the demand for cultural uniqueness and emotional resonance. Second, industrial tourism uses its cross-sector nature to break internal barriers and integrate with industries such as technology, education, and manufacturing. It provides traditional industry with branding, training, and demonstration platforms, while bringing culture and tourism hard technology and a solid economic foundation, thereby enhancing resilience and innovation. Third, industrial heritage spaces offer ideal sites for creative, digital, and immersive experiences. Their protective reuse avoids resource waste and

environmental harm, aligning with green development. Fourth, industrial tourism empowers regional systems by reshaping cultural identity, repairing social memory, and strengthening community cohesion and pride, thus serving social governance functions. In essence, industrial tourism drives a comprehensive shift from extensive growth to coordinated progress in the economy, society, culture, and environment.

In summary, industrial tourism takes the deep exploration and creative transformation of cultural capital as its value core. It adopts cross-sector integration and structural optimization of the industrial ecology as its implementation path. Technological innovation and green efficiency serve as key drivers of performance. The ultimate goal is to serve coordinated regional upgrading across economic, social, cultural, and environmental objectives. This framework shows how industrial tourism moves beyond traditional growth models by activating dormant industrial heritage, fostering symbiotic industrial networks, and promoting sustainable practices. Through these mechanisms, industrial tourism not only enriches cultural tourism offerings but also contributes to broader regional revitalization, making it a strategic instrument for achieving high-quality development in the cultural tourism sector (see figure 1).

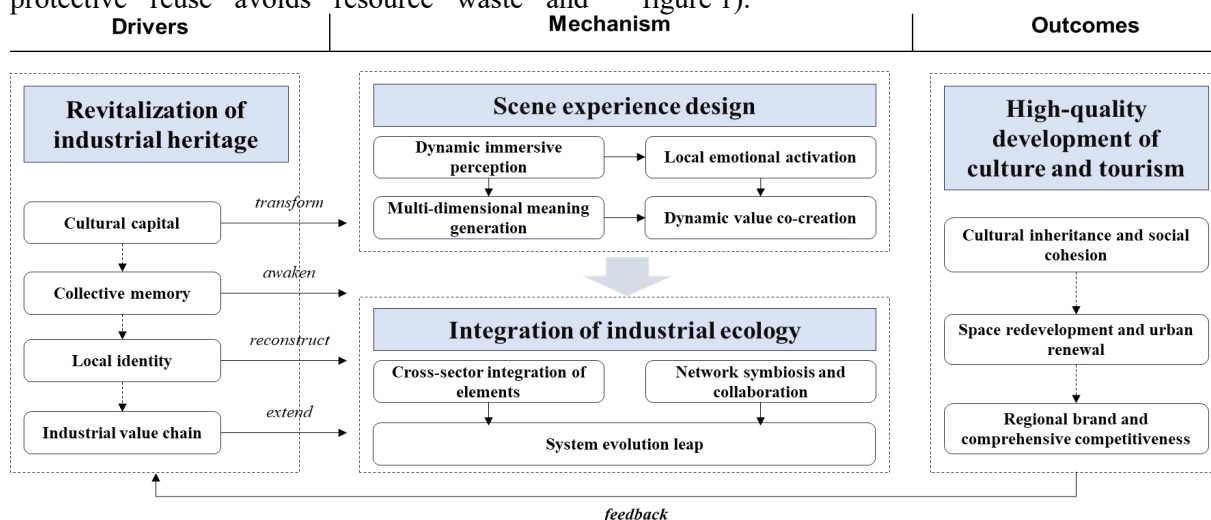


Figure 1. The Theoretical Framework of Industrial Tourism Is Driving the High-quality Development of Cultural Tourism

4. Path Analysis

4.1 Value Deepening: from Sightseeing to Immersion

First, the traditional sightseeing model should be

transformed by constructing a coherent narrative around core industrial cultural IP. Through historical reconstruction, storytelling, and technological evolution, industrial sites become emotionally engaging cultural theatres. Second, advanced technologies such as extended reality,

digital twins, and holographic projection can create multi-sensory immersive environments, enabling visitors to interact with virtual machinery, engage in historical production tasks, and shift from observers to active participants. Third, in collaboration with educational institutions, systematic and standardized study courses should be developed for different age groups, integrating curriculum standards with industrial knowledge and craftsmanship, thus positioning industrial tourism as an important platform for hands-on learning and value education.

4.2 Ecological Integration: from "tourism+" to "+tourism."

First, abandoned factories and warehouses can be transformed into creative spaces such as design studios, contemporary art galleries, experimental theatres, and cultural markets. Hosting artist and designer residencies, along with regular festivals and design weeks, turns these static sites into dynamic innovation hubs. Second, partnerships with operational smart factories and high-tech firms can provide safe visitor routes to showcase intelligent manufacturing, industrial internet, and green production. This enriches tourism while enhancing corporate branding, public education, and talent recruitment. Third, consumption scenarios should be extended both upstream and downstream, including industrial design experiences, branded retail, themed accommodation, and creative products, thereby forming an industry cluster driven by industrial tourism.

4.3 Management Empowerment: from Informatization to Digitalization and Intelligence

First, technologies such as the Internet of Things and building information modeling enable round-the-clock monitoring and preventive conservation of industrial heritage. Smart ticketing and real-time visitor flow management enhance both guest experience and site safety. Second, big data analytics of visitor profiles and behavioral patterns support integrated online-offline marketing. Personalized route recommendations, AR navigation, audio guides, and interactive booking through apps or mini-programs improve service convenience and customization. Third, online digital museums, virtual tours, and live streaming

attract potential visitors beyond spatial and temporal limits. Digital collectibles and online interactive games create new revenue streams, forming an integrated consumption model where online and offline activities reinforce each other.

4.4 Institutional Guarantee: from Single-point Breakthrough to System Synergy

First, a joint mechanism involving tourism, industry, development and reform, natural resources, housing and urban-rural development, and education departments should be established to address complex issues such as heritage ownership, cross-sector safety standards, and function conversion approvals, thereby forming a coordinated policy framework. Second, an investment and financing model led by the market and guided by the government should be explored, encouraging the establishment of industrial tourism development funds and attracting private capital and professional operators. A fair benefit-sharing mechanism should be designed to protect the rights of original property owners, investors, operators, and local communities, promoting sustainable operation. Third, national or industry standards for service quality, safety management, and interpretation systems need to be developed to guide standardized and professional growth. Universities and vocational schools are encouraged to offer relevant programs and strengthen industry-academia-research cooperation to cultivate interdisciplinary talent. In summary, the innovation pathway for high-quality development driven by industrial tourism is a systemic project covering product experience, industrial integration, technology application, and governance. Only through continuous multi-dimensional innovation can industrial tourism realize its potential as a cultural resource and city brand, thus supporting national strategies such as building a manufacturing powerhouse and a culturally strong country, as well as urban renewal and rural revitalization, forging a high-quality development path with Chinese characteristics.

5. Conclusions and Implications

5.1 Conclusions

This paper analyzes the theoretical logic and key pathways through which industrial tourism drives high-quality development of cultural tourism. The main conclusions are as follows.

First, the theoretical logic follows a sequential process of industrial heritage revitalization, contextual experience design, industrial ecological integration, and high-quality cultural tourism development. The core lies in deeply mining and creatively transforming cultural capital as the value foundation, adopting cross-sector integration and structural optimization as the implementation path, and relying on technological innovation and green efficiency as key drivers. The ultimate goal is coordinated regional upgrading across economic, social, cultural, and environmental objectives. Second, the innovation pathways form a four-dimensional system covering product experiences, industrial integration, technology application, and governance. The key paths include a value deepening shift from sightseeing to immersion and co-creation, an ecological integration shift from "tourism +" to "+ tourism", a management empowerment shift from informatization to digital intelligence, and an institutional guarantee shift from isolated efforts to systemic coordination.

5.2 Implications

Industrial tourism should move beyond superficial sightseeing by building a coherent narrative around core industrial culture. Collaboration with operating smart factories and high-tech firms can provide safe access to showcase cutting-edge technologies such as intelligent manufacturing and green production. Big data analytics enable precise marketing and personalized services by profiling visitor behavior. Digital tools like online museums, virtual tours, live streaming, digital collectibles, and interactive games create new value and blend online and offline consumption. A mixed investment model led by the market but guided by the government and involving community participation is recommended. Specialized industrial tourism funds can attract private capital and professional operators. Finally, national or industry standards for service quality, safety management, and interpretation systems are urgently needed to guide professional and standardized development.

5.3 Limitations and Future Research

Although this paper provides a theoretical analysis of how industrial tourism drives high-quality cultural tourism, further empirical and contextual research is needed. Future studies

may adopt theoretical perspectives such as evolutionary economic geography and path creation to examine the stage characteristics, transition conditions, and potential traps in this process, thereby enhancing theoretical predictive power. In addition, future research can develop an indicator system and apply quantitative methods, including social network analysis, structural equation modeling, and difference-in-differences, to accurately assess the scale, network structure, and net policy effects of the driving mechanism. These efforts will help validate and extend the theoretical framework proposed in this study.

Acknowledgments

This research was jointly supported by the Guangdong Philosophy and Social Sciences Planning Project (No. GD25CSG35), the Key Discipline Scientific Research Capacity Improvement Project of the Education Department of Guangdong Province (No. 2025ZDJS080), the Innovation Team Project (Humanities and Social Sciences) of the Education Department of Guangdong Province (No. 2024WCXTD019), and the Foshan Philosophy and Social Sciences Planning Project (No. 2025-GJ095).

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