

Research on the Development Path of Rural Cultural Tourism Industry Empowered by Intelligent Aesthetics: An Analytical Framework Based on Industrial Economics

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Abstract

The rural cultural tourism industry has long been trapped by structural problems such as low added value, product convergence, and extensive operation. As an industrial practice integrating digital technology and the aesthetic economy, intelligent aesthetics offers new possibilities for overcoming these dilemmas. From the perspective of industrial economics, this paper examines the mechanisms and realization paths of intelligent aesthetics empowering the rural cultural tourism industry across four dimensions: consumer demand, product competition, business models, and benefit distribution. The study argues that the empowering effect of intelligent aesthetics on the rural cultural tourism industry does not depend on the sophistication of technology itself, but on whether technology can effectively reduce the industrialization transformation cost of cultural resources, create sustainable experience premiums, and build incentive-compatible multi-agent cooperation mechanisms. Drawing on practical evidence from multiple domestic cases, this paper further discusses the application conditions and limitations of models such as asset-light operation, platform-based integration, and composite benefit distribution.

Keywords

Intelligent aesthetics, rural cultural tourism, industrial upgrading, business model, benefit linkage.

1. Introduction

The rural cultural tourism industry is increasingly prominent in the county economy. In 2025, national leisure agriculture operating revenue reached 950 billion yuan, but behind this scale figure lie structural concerns: most rural cultural tourism projects still rely on tickets, catering, and basic accommodation as their main income sources; the industrialization conversion rate of cultural resources is not high; and product homogenization is widespread. A question worth asking is: against the backdrop of the increasing popularization of digital technology, why are a large number of rural cultural tourism projects still unable to escape the path of low added value [12]?

Intelligent aesthetics—that is, the industrial practice of using artificial intelligence, immersive interaction, digital twins, and other technological means to aesthetically express and experientially transform rural cultural resources—is highly expected. However, existing discussions mostly remain at the level of technological application and lack systematic economic analysis of how intelligent aesthetics changes the value creation mode, competitive landscape, and income distribution structure of the rural cultural tourism industry. This paper attempts to fill this gap by shifting the analytical focus from "what technology can do" to "under what conditions technology can produce economic effects," and discusses this from four dimensions: consumer behavior, product strategy, business models, and benefit mechanisms.

2. The Economic Logic of Intelligent Aesthetics Empowering Rural Cultural Tourism

2.1. The Premium Mechanism of Aesthetic Experience

The core judgment of experience economy theory is that when goods and services become homogenized, experience becomes a key source of differentiated competition. This judgment is particularly evident in the field of rural cultural tourism. A 2026 survey by iiMedia Research shows that 53.49% of consumers are interested in "themed activities combining digital technology and traditional culture," and 51.62% are willing to visit smart tourism experience halls [3]. These data indicate that the demand structure of rural cultural tourism consumption is changing—tourists are no longer satisfied with "seeing scenery and eating farm meals," but are willing to pay a premium for experiences with cultural narratives and interactivity.

From the perspective of industrial economics, the internal mechanism by which intelligent aesthetics creates premiums lies in the fact that the marginal replication cost of digital aesthetic content is extremely low, while the uniqueness of the experience can support a relatively high willingness to pay. The core assets of traditional cultural tourism projects are physical space and natural resources, which have limited carrying capacity and high replication costs. Digital content is different—after the initial development investment, the marginal cost of subsequent replication is almost negligible, and continuous iteration can maintain the freshness of the experience. This combination of cost structure and revenue structure enables intelligent aesthetics projects to break through the traditional conditions of "capacity constraints" and "cost rigidity."

However, this logic has a prerequisite: digital experiences must be sufficiently irreplaceable. If digital content simply moves offline displays online, consumers will quickly lose interest, and the premium will be impossible to discuss.

2.2. Value Chain Reconstruction through Industrial Integration

Intelligent aesthetics empowering rural cultural tourism is essentially a process of industrial integration. This integration occurs at three levels: at the technological level, AI, VR/AR, digital twins, and other technologies penetrate cultural tourism scenarios; at the business level, cultural creativity, tourism services, agricultural product processing, and e-commerce retail are cross-reorganized; at the market level, urban consumer demand and rural cultural supply are connected.

An empirical study based on panel data from 30 provinces in China from 2014 to 2020 shows that the rural digital economy, through the mediating mechanism of promoting technological innovation, promotes the precise matching of development needs of the agriculture-tourism industry and business model innovation. Notably, this empowering effect is more significant in eastern regions, southern regions, and regions with higher education levels. This means that the effect of intelligent aesthetics empowering rural cultural tourism is not homogeneously distributed, but is moderated by regional digital infrastructure, human capital level, and market development degree. In other words, the same technological input may produce very different outputs under different conditions. This finding has direct implications for policy making: the layout of intelligent aesthetics projects needs to fully consider the absorptive capacity of the region, rather than simply pursuing the expansion of technological coverage [1, 5, 13].

3. Changes in Consumer Demand and Market Drivers

3.1. From Sightseeing to Experience: The Transformation of Consumption Structure

Rural cultural tourism consumption is undergoing a structural transformation [14]. Traditional rural tourism consumption is concentrated in three links: tickets, catering, and accommodation, with a short consumption chain, low per-customer spending, and few repeat visitors. Digital experiences driven by intelligent aesthetics are different—they lengthen the consumption chain by prolonging tourists' stay time and creating multi-level consumption touchpoints.

The case of Zhaojia Village in Minhang provides persuasive evidence. After the village introduced an immersive digital experience project, the average stay time of tourists doubled, the consumption of surrounding tourism projects increased accordingly, homestay occupancy rates improved, and supporting businesses such as catering and handicrafts also benefited. The significance of this case is that the economic value of intelligent aesthetics projects cannot be measured only by the income of digital products themselves, but should also be seen in their activation effect on the entire rural cultural tourism consumption ecosystem. Digital experience here plays the role of a "traffic entrance" and "consumption catalyst" rather than an independent profit center.

3.2. Three Sources of Willingness to Pay

Consumers' willingness to pay for intelligent aesthetics experiences can be understood from three levels.

First, uniqueness premium. The immersive experiences created by digital technology have a sensory impact that traditional cultural tourism products cannot provide, and consumers are willing to pay a price higher than that of standardized products. During the 2026 Spring Festival holiday, the "Guangdong Romance" Scenic Area in Nanhai, Guangdong, saw tourist receptions and revenue increase by 25% and 37% year-on-year, respectively, with the core support being an immersive performance based on Lingnan culture. The Chang'an Twelve Hours Theme Block in Xi'an, Shaanxi, combines IP narrative with digital scenes, forming a consumption model of "traveling in Shaanxi with performances." These cases show that aesthetic experience premiums are becoming a key variable in optimizing the income structure of rural cultural tourism.

Second, emotional premium. Local cultural symbols, through digital translation, evoke consumers' cultural identity and nostalgia. The willingness to pay brought by this emotional connection often exceeds the functional value of the product itself.

Third, social premium. The shareable content produced by digital experiences—such as AI-generated personalized videos and digital collectibles—satisfies consumers' social display needs and has room for communication premiums. This level of premium is particularly evident among young consumer groups.

4. Product Differentiation and Competitive Strategies

4.1. Transformation of Competitive Logic

The competitive logic of traditional rural cultural tourism is based on the comparative advantage of resource endowments: villages with unique natural landscapes or historical relics naturally have competitive advantages. However, the limitations of this logic are also obvious—resource homogenization leads to "a thousand villages with the same face," the non-replicability of resource endowments limits model promotion, and resource-dependent development can easily cause ecological pressure [2].

[4] Intelligent aesthetics promotes the transformation of competitive logic from "resource endowment" to "creativity-driven." The core of digital art empowering rural revitalization lies not in technology stacking, but in building visual identity, experiential narrative, and long-term operation mechanisms around regional culture, promoting the transformation of villages from a single sightseeing space to a participatory and communicable cultural life space. The industrial economics implication of this transformation is that competitive barriers change from "possessing scarce resources" to "the ability to continuously create differentiated experiences," and the latter is clearly more replicable and scalable.

4.2. Three Paths of Differentiation

Intelligent aesthetics provides three operable technological paths for product differentiation in rural cultural tourism [4].

The first is the digital extraction and redesign of cultural symbols. Through AI image recognition, parametric design, and other means, exclusive cultural elements are extracted from local architectural patterns, intangible cultural heritage crafts, and natural colors to form a unified visual identity system and product packaging system. The economic value of this approach lies in strengthening brand recognition, reducing consumers' choice costs, and avoiding homogenized competition.

The second is the immersive reconstruction of experience scenes. With the help of VR/AR, interactive installations, night tour lighting, and other technologies, static cultural displays are transformed into participatory and interactive immersive experiences. Such products create sensory value that traditional cultural tourism cannot provide and therefore have stronger pricing power.

The third is the large-scale supply of personalized customized services. The application of AI technology makes "one-to-one customization" cost-feasible in cultural tourism scenarios. Products such as AI travel photography and AI cultural creative generation meet consumers' personalized needs at a relatively low marginal cost, which is difficult to achieve under traditional service models.

4.3. The Practical Logic of Asset-Light Operations

The "Ancient Village Aesthetic Education Base" project in Daqitou Ancient Village, Leping Town, Sanshui, Foshan, provides a sample worth analyzing [10]. Jointly built by local enterprises, an international aesthetic education research institute, and an art education group, the project relies on century-old Lingnan ancient architectural resources, integrates AI digital technology and an interdisciplinary study system, and forms an operation model of "space revitalization + digital aesthetic education."

From a business and management perspective, this model has three notable features. First, asset-light logic. The project did not follow the old path of heavy-asset development, but instead completed spatial reorganization and visual upgrading with "Jianwei Di" as the core, adopting a method of "led by professional institutions + collaboration with local resources + co-creation with social forces" to control upfront investment. Second, standardized operation. The project built an SOP system covering the entire process of route planning, content scheduling, community operation, and data tracking, transforming non-standardized cultural experiences into replicable and scalable operation modules. Third, data asset accumulation. Through the digital growth archive of "one butterfly, one person, one file," a single experience is transformed into precipitable and reusable user data assets, providing support for subsequent precision marketing and product iteration. These three points together constitute the core competitiveness of the asset-light model.

5. Business Models and Industrial Organization

5.1. Organizational Form of Multi-Agent Collaboration

The key to industrial organization innovation in intelligent aesthetics empowering rural cultural tourism is to build a value network of multi-agent collaboration among "government—universities—enterprises—village collectives—villagers." Different from the traditional model of "government investment and construction, enterprise contracting and operation," this collaborative model emphasizes the complementary allocation of knowledge, capital, resources, and labor factors among various entities.

Two key issues need to be solved here. First, the docking of technical capabilities and local knowledge. Universities and research institutions provide technology R&D and creative design capabilities, while villagers and village collectives provide local cultural knowledge and service labor. The two achieve knowledge complementarity through project-based cooperation. Second, the coordination between external capital and local interests. Enterprises provide capital investment and market channels, while village collectives participate in benefit distribution through resource equity participation, transforming external resources into local development capacity through contractual cooperation. How well these two issues are solved directly determines the sustainability of the project.

5.2. Asset-Light Operations and Platform-Based Integration

The business model of intelligent aesthetics projects tends toward asset-light operations and platform-based integration. The practice of Lishantou Village in Lishui, Zhejiang, provides a reference. The village "does not wait for investment promotion, verifies the market with minimal cost input, and then uses 'performance betting' to screen high-quality teams," achieving a low-risk transformation from a "hollow village" to a rural innovation community. In 2025, tourists exceeded 120,000, overnight tours increased by 23.4%, and village collective income reached 688,000 yuan [11]. The economic significance of this path lies in reducing upfront investment risk through "small-step trial and error, rapid iteration," and replacing subjective judgment with market verification to screen operation teams.

Platform-based integration is reflected in the construction of a closed loop of "online traffic attraction—offline experience—e-commerce monetization." Relying on local cultural tourism brands, a unified operation rural cultural tourism e-commerce platform is built, integrating intangible cultural heritage cultural creative products, specialty agricultural products, and boutique homestay resources to complete the value transformation of digital cultural tourism products. The economic advantage of this model lies in reducing transaction costs through digital platforms, efficiently matching scattered rural cultural tourism supply with fragmented urban consumer demand, and achieving dual benefits of economies of scale and scope.

5.3. Design of Benefit Linkage Mechanisms

Whether intelligent aesthetics empowering rural cultural tourism can be sustained ultimately depends on whether the income distribution mechanism can achieve win-win results for multiple parties. Several representative models have emerged in practice [6, 7].

The composite distribution model of "guaranteed return + dividend by shares + labor income" is widely applied [8]. In the case of Xianju, Zhejiang, Lanxiang Rural Tourism contributed 36%, Baita Town contributed 34%, and Xianjing Village contributed 30% with resources valued as equity. The three parties established a joint venture operation company, and the benefit distribution was clearly defined as "guaranteed return + dividend by shares + labor income." The advantage of this model is that it accommodates differences in risk preferences among parties: enterprises obtain operational leadership and reasonable returns, village collectives

obtain stable guaranteed returns and asset appreciation, and villagers obtain dual benefits through labor income and dividends.

The "joint operation revenue sharing" model achieves benefit sharing at the merchant level. The 103 shop merchants at Hengshan Ferry in Hunan do not need to pay fixed rent in advance, but instead share according to an agreed proportion with the operator based on actual operating income. This model lowers the entry threshold and operating risk for merchants, while binding the operator's income to the merchants' operating performance, forming an incentive-compatible cooperative relationship [9].

From the perspective of industrial economics, the essence of the above mechanisms is to solve the problem of "incentive incompatibility" in the rural cultural tourism industry through institutional design. Under the traditional leasing model, there is a zero-sum game between the operator and merchants—the higher the rent, the greater the operator's income, but the greater the operating pressure on merchants. The revenue-sharing model transforms it into a positive-sum game—the operator has the incentive to improve the overall operating environment to increase merchant income, and merchants have the incentive to improve service quality to attract more customer flow. The significance of this transformation is no less than any innovation at the technical level [15].

6. Conclusion

The core of intelligent aesthetics empowering the development of the rural cultural tourism industry lies not in how advanced the technology itself is, but in whether technology can effectively reduce the industrialization transformation cost of cultural resources, create sustainable experience premiums, and build incentive-compatible multi-agent cooperation mechanisms. Transforming rural cultural resources from the attribute of "public goods" into "tradable cultural products and services," and realizing the release of market value while maintaining cultural authenticity, requires not only technical capability but also a deep understanding of the logic of industrial organization.

Future research can be advanced in two directions. First, construct a measurement framework for the economic effects of intelligent aesthetics empowering the rural cultural tourism industry, and empirically test its impact on village collective income, farmer household income, and employment structure based on county-level or village-level panel data. Second, focus on the differentiated effects of intelligent aesthetics projects in different regions and different types of villages, providing empirical evidence for differentiated policies. Both tasks require more detailed field surveys and more solid data accumulation, and cannot be completed overnight.

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