

“Low-altitude + Culture Tourism” Creates New Growth Points for Urban Cultural Consumption



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Abstract: With the vigorous development of the low-altitude economy, the deep integration of low-altitude flight technology and the culture tourism industry has given rise to the new consumption scenario of “low-altitude + culture tourism,” which has become an important engine for promoting the upgrading of urban cultural consumption. Based on the background of the transformation of urban cultural consumption, this paper systematically analyzes the mechanisms by which low-altitude flight technology expands the space for cultural consumption, restructures the supply of culture tourism products, and stimulates high-quality consumption. It proposes that “low-altitude + culture tourism” reshapes urban culture tourism scenarios and consumption patterns by integrating immersive experiences with cultural narratives. At the same time, the paper reveals key problems in the current development of “low-altitude + culture tourism,” such as the lag in airspace management mechanisms, incomplete infrastructure, single product supply, and insufficient policy support. On this basis, the paper puts forward suggestions for optimizing the opening of low-altitude airspace, improving the layout of infrastructure, deepening the development of cultural IPs, and perfecting policy and market mechanisms. The study believes that “low-altitude + culture tourism” is not only expected to lead the structural upgrading of urban cultural consumption but will also play a positive role in promoting the intelligent development of the culture tourism industry and enhancing urban cultural soft power.

Keywords: low-altitude + culture tourism, urban cultural consumption, intelligent culture tourism

1. Introduction

In recent years, with the improvement of people's living standards and the upgrading of tourism consumption towards personalization and diversification, the tourism industry has been incorporated into the national key development goals and has become a strategic pillar industry of the national economy. During the “13th Five-Year Plan” period, the comprehensive contribution of tourism to the national economy exceeded 10% (Cheng et al., 2025). The low-altitude tourism industry has ushered in a strategic opportunity and a golden window period. The 2023 Central Economic Work Conference listed the low-altitude economy as a strategic emerging industry, and the 2024 National

People's Congress and Chinese People's Political Consultative Conference (NPC & CPPCC) sessions included the low-altitude economy as a “new growth engine” in the Government Work Report (Zhang, 2025). As an emerging industry, the low-altitude economy has risen rapidly, and the application scenarios of low-altitude flight technology have gradually expanded, especially in the field of urban culture tourism, where it has shown great potential for development. The low-altitude economy is a comprehensive economic form that promotes the integrated development of industries through low-altitude flight activities (Shen, 2024). The low-altitude culture tourism industry is an emerging business form derived from the integration of

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“low-altitude economy + culture tourism” scenarios, combining low-altitude flight with culture tourism experiences to provide tourists with a completely new and unique way of traveling (Wu, 2025). With the increasing demand for personalized and innovative tourism experiences, traditional forms of culture tourism are facing the pressure of transformation and upgrading. Low-altitude flight technology, with its unique perspective and convenient travel methods, has become an important carrier for enhancing the experience of culture tourism and expanding new scenarios for cultural consumption. At the same time, the rise of intelligent culture tourism has further promoted the deep integration of the low-altitude economy and culture tourism, giving rise to innovative models such as aerial sightseeing and virtual cultural displays. Urban cultural consumption is gradually shifting from a single focus on sightseeing to a more diversified and immersive experience, making the “low-altitude + culture tourism” model a new driving force for enhancing the competitiveness of urban cultural industries and promoting local economic growth. Therefore, in-depth exploration of the integration paths and practices of low-altitude flight technology and culture tourism has important theoretical and practical significance.

2. Related Concepts of “Low-altitude + Culture Tourism” and Cultural Consumption

2.1 Low-altitude + culture tourism

Professor Xiang Jinwu from Beihang University believes that the low-altitude economy is a type of flight economic activity that relies on airspace below 3,000 meters, covering multiple fields such as air commuting, logistics, and tourism. It is a comprehensive economic form, with general aviation as the main body of the low-altitude economy and drones as an important driving force for its development (Fu, 2024). “Low-altitude + culture tourism” refers to the creation of new economic growth points and tourism experiences by integrating low-altitude airspace with tourism and culture (Shen, 2025). With the continuous progress of aviation

technology and the increasing diversification of tourism demand, the development of low-altitude airspace is gradually becoming a new direction for the transformation and upgrading of the cultural tourism industry. Promoting the deep integration of “low-altitude + culture tourism” not only helps to enhance the attractiveness of tourist destinations but also drives employment growth, improves residents’ quality of life, and injects new momentum into regional economic development.

2.2 Cultural consumption

Broadly speaking, cultural consumption refers to the consumption of services and goods by consumers to meet their spiritual and cultural needs. In addition to traditional cultural categories such as film, music, publishing, art, and tourism, emerging fields such as short-video platforms, digital art, online education, and online games are also developing rapidly (Liu et al., 2025). With the continuous integration of new technologies such as digitalization and intelligence into the tourism industry, the pace of cultural consumption development in the global service system has accelerated, and the degree of internationalization in some fields of cultural tourism has even exceeded that of traditional manufacturing. Against this backdrop, the role of culture tourism consumption in promoting economic growth has become increasingly prominent.

2.3 The connection between “low-altitude + culture tourism” and urban cultural consumption

“Low-altitude + culture tourism” presents urban cultural resources in a three-dimensional manner through low-altitude flight, breaking the spatial limitations of traditional cultural consumption and enriching urban consumption scenarios. It not only enhances tourists’ immersive experiences but also promotes the visual and narrative dissemination of cultural content. Through forms such as aerial sightseeing, flight performances, and aerial photography interactions, “low-altitude + culture tourism” integrates culture, technology, and tourism deeply, stimulating new vitality in urban cultural consumption and becoming an important engine for

the upgrading of urban cultural consumption.

3. How “Low-altitude + Culture Tourism” Promotes the Development of Urban Cultural Consumption

Against the backdrop of the continuous upgrading of urban cultural consumption, “low-altitude + culture tourism,” as a new model integrating low-altitude technology with the culture tourism industry, is increasingly demonstrating its unique leading role. It not only widens the spatial boundaries of cultural consumption but also profoundly changes the supply structure and experience of culture tourism products. The following analysis of how “low-altitude + culture tourism” effectively promotes the development of urban cultural consumption is divided into three aspects.

3.1 Expanding urban cultural consumption space and creating new immersive tourism scenarios

Traditional cultural consumption is limited by ground space and linear touring routes, presenting problems of spatial flatness and singular experience. In contrast, “low-altitude + culture tourism” utilizes aerial transportation resources to effectively break geographical limitations and present urban cultural landscapes in a three-dimensional manner. For example, through helicopter aerial tours, drone formation performances, and paragliding aerial photography experiences, urban landmarks, natural landscapes, and historical and cultural relics are “re-told” from the air, providing tourists with unique visual impacts and cultural perceptions during flight.

On this basis, low-altitude flight can connect multiple dispersed cultural resources to form more coherent culture tourism routes, promoting the reconstruction of the cultural value of the urban overall space. For example, cities such as Chengdu, Sanya, and Guilin have integrated core scenic spots, ancient towns, museums with surrounding rural areas and natural landscapes by opening low-altitude sightseeing routes, extending tourists’ touring radius and enhancing the depth and breadth of cultural consumption. Meanwhile, “low-altitude + culture

tourism” integrates multimedia technologies such as lighting, music, and audio-visual effects to create new types of immersive cultural consumption products like aerial light shows, drone performances, and aerial live-action performances. These provide highly recognizable and participatory visual feasts for festive activities and urban brand promotion. These novel and strongly sensory-stimulating culture tourism scenarios can quickly attract young people and mid-to-high-end consumers, enhancing the vitality of urban cultural consumption.

3.2 Restructuring the supply system of culture and tourism products and promoting the scenarization of cultural content

“Low-altitude + culture tourism” is not just an extension of transportation methods but also a renewal of the way cultural content is expressed. By embedding cultural narratives into the tourism process through low-altitude flight, static historical and cultural resources are transformed into dynamic “flight experiences,” making cultural dissemination more immersive, interactive, and ritualistic. For example, during low-altitude sightseeing, integrating voice narration and augmented reality (AR) technology allows tourists to learn in real-time about the stories behind cultural sites, ancient buildings, and celebrities’ former residences beneath them while flying, feeling the weight of culture and the unique memory of the city. This “airborne storytelling” method changes the path of cultural dissemination, shifting from “seeing culture” to “participating in culture,” stimulating tourists’ emotional resonance and willingness to consume.

Moreover, low-altitude flight projects also provide new pathways for the development of urban cultural IPs. Cities can customize low-altitude theme tours around local characteristics, historical legends, film and television works, ethnic cultures, and other elements. For example, “red aviation routes” connect revolutionary memorial sites, “historical routes” display ancient capital ruins and museum clusters, and “mountain-water-humanity routes” integrate natural scenery with intangible cultural heritage. These differentiated, symbolic, and storied culture

and tourism products can significantly increase the market conversion rate of cultural resources. It is worth noting that with the deep integration of low-altitude technology and culture and tourism services, a number of new job positions and service forms have emerged, such as low-altitude photographers, flight tour guides, aerial live broadcasting, and customized flight route planning, promoting a comprehensive upgrade of urban cultural consumption in both products and services.

3.3 Driving high-quality culture tourism consumption and cultivating new growth poles for urban consumption

Firstly, low-altitude culture tourism has high technological barriers and service added value, naturally meeting the needs of mid-to-high-end consumer groups, and is expected to become an important carrier for high-quality urban cultural consumption. On the one hand, low-altitude culture tourism projects are usually not cheap, with products such as helicopter city tours, customized aerial photography, and aerial marriage proposals costing hundreds to thousands of yuan, showing strong profitability. On the other hand, consumers' continuous pursuit of novel experiences and rare scenes also provides a stable market space for low-altitude culture tourism.

Similarly, the development of low-altitude culture tourism has strong driving power and industrial agglomeration effects. Around the operation of low-altitude projects, it is also necessary to improve aviation infrastructure, introduce professional flight service companies, and establish standardized safety supervision systems. This will drive the coordinated development of multiple upstream and downstream industries such as aviation manufacturing, training, insurance, culture tourism operations, and intelligent culture and tourism platforms, forming a composite consumption ecosystem centered on "flight + culture + service." For example, while Hainan Free Trade Port is promoting low-altitude openness pilots, it is vigorously developing aviation resort projects. This not only drives traditional service industries such as

tourism reception, accommodation, and transportation but also enables the local area to create a number of new consumption landmarks centered on aviation culture, such as aviation theme parks, aerial exhibition halls, and flight clubs. These new scenarios and new forms of business continuously attract local residents and tourists to consume, expanding the total amount of urban culture and tourism consumption.

At the same time, "low-altitude + culture tourism" has strong dissemination power and traffic-driving effects and can become an important means of shaping urban images and exporting cultural soft power. Driven by social media and short-video platforms, the scarcity and visual impact of low-altitude flight are naturally suitable for content dissemination. They can form a consumption closed loop of "scenic spots as dissemination points, experiences as check-in points," continuously igniting cultural topics and hot points, helping urban cultural consumption to become popular.

4. Challenges in the Development of "Low-altitude + Culture Tourism" in Promoting Urban Cultural Consumption

Despite the huge potential of the "low-altitude + culture tourism" integration model in promoting the upgrading of urban cultural consumption, its development still faces a series of practical difficulties and structural barriers. To achieve sustainable development, it is urgent to systematically solve the following problems from multiple dimensions, such as policy, market, technology, and management:

4.1 The airspace management system is not yet sound, and the flight approval mechanism is complicated

Airspace is a key factor affecting the development of the low-altitude economy, and the development of the low-altitude economy is first restricted by the airspace resource management system (He, 2025). In China, airspace has long been dominated by the military, with relatively limited civil aviation resources. In particular, aerial activities

in the core areas of large and medium-sized cities are strictly restricted, resulting in slow progress of low-altitude flight projects and high operating costs. At present, the low-altitude airspace is not clearly divided, the approval process is cumbersome, and the management entities are diverse, which makes it time-consuming and laborious for enterprises to apply for routes, set up takeoff and landing points, and obtain flight permits. For example, an aerial sightseeing project may involve multiple regulatory departments (the Civil Aviation Administration, the Air Force, local governments, etc.), and each needs to be approved one by one, which seriously affects the flexibility and innovation ability of culture and tourism enterprises. In addition, uncertainties such as temporary air traffic control adjustments during flights, sudden weather disturbances, and overlapping routes also pose challenges to the safety and stability of culture and tourism projects, restricting the possibility of large-scale and regular operations of “low-altitude + culture tourism.”

4.2 Infrastructure construction is lagging, and the supporting service system is incomplete

The development of “low-altitude + culture tourism” is highly dependent on infrastructure, including general aviation airports, takeoff and landing points, aprons, fueling stations, and aviation communication systems. However, at present, most cities have not yet established a sound low-altitude aviation infrastructure network, especially in areas with dense cultural tourism resources such as scenic spots, urban suburbs, and cultural ancient towns, where there is a lack of standardized takeoff and landing platforms and aerial route planning. In the projects that have been opened, there are also common problems such as single flight routes, lack of shuttle services, and unsmooth tourist experience processes. For example, some tourists have to drive tens of kilometers to the suburban takeoff point, but the flight time is less than ten minutes, which seriously affects the overall culture and tourism experience. In addition, the safety guarantee system is also not mature, including the imperfect pilot training mechanism, insufficient aviation insurance

coverage, and weak emergency response capabilities, which further weaken tourists’ willingness to participate and market confidence.

4.3 Single product supply and insufficient cultural content exploration

At present, most “low-altitude + culture tourism” projects are still at the sightseeing level of “viewing the scenery from the air,” with similar product forms, lacking cultural depth and emotional connection, and are unable to form a high-frequency, high-stickiness, and high-repurchase cultural consumption pattern. On the one hand, many cities have not deeply integrated local cultural resources when planning low-altitude tourism routes and have not effectively embedded historical culture, intangible cultural heritage elements, and local stories into the flight experience, resulting in products that “have form but lack connotation.” For example, tourists view the ancient city from the air, but there are no synchronized audio explanations, AR assistance, or story-based guides, and the effect of cultural dissemination is limited. On the other hand, there is serious homogenization in product design and a lack of innovation, which cannot meet the increasingly diversified and segmented consumer demands. The current market lacks low-altitude culture and tourism products targeting segmented groups such as families, the elderly, the nighttime economy, and business team-building, as well as composite product designs that combine popular consumption scenarios such as festivals, performances, and camping.

4.4 Imperfect policy support and market mechanisms

Although some regions have introduced policies to support the development of the low-altitude economy and the integration of culture and tourism, overall, the relevant institutional design is still in the early stage of exploration and lacks a stable and predictable policy environment. For example, support policies such as flight subsidies, financial incentives, tax preferences, and industrial guidance funds have a small coverage range and limited implementation strength, making it difficult to form a good policy traction force. In terms of market

mechanisms, most low-altitude culture and tourism enterprises are still in the start-up or trial-operation stage and lack mature business models and replicable experience. Problems such as financing difficulties, long operating cycles, and unclear profit models are common. In addition, the low public awareness of low-altitude culture and tourism also leads to slow market cultivation and insufficient consumption activity.

5. Path Optimization for Empowering Urban Cultural Consumption through “Low-altitude + Culture and Tourism”

To effectively address the practical difficulties encountered in the development of “low-altitude + culture tourism” and to promote it as a new growth pole for urban cultural consumption, it is necessary to exert efforts from multiple dimensions, such as policy top-level design, industrial ecosystem construction, technological application innovation, and in-depth exploration of cultural content. The following suggestions are proposed in four aspects:

5.1 Accelerate the reform of the airspace management mechanism and promote the rational and orderly opening of airspace resources

To solve the core obstacle restricting the development of “low-altitude + culture tourism,” it is essential to accelerate the reform of the low-altitude airspace management system at the national level and promote coordinated development between the military and civil aviation. On the one hand, the establishment of a classification management and dynamic adjustment mechanism for low-altitude airspace in pilot cities or regions should be accelerated. Civil low-altitude routes for tourism sightseeing, performance, and flight training should be scientifically delineated, and an exclusive “culture and tourism airspace” should be set up. Drawing on the experience of documents such as the “Low-altitude Airspace Classification Management Implementation Plan (Pilot),” a routine and transparent airspace approval system should be gradually formed to shorten the flight approval process and improve airspace utilization efficiency.

On the other hand, it is recommended to establish an “Office for the Coordination of Low-altitude Economic Development” or a similar mechanism to coordinate resources from the Air Force, civil aviation, local governments, culture and tourism authorities. This will promote the coordinated development of airspace opening and urban culture and tourism, enhancing policy implementation efficiency and safety supervision levels.

5.2 Improve the layout of general aviation infrastructure and extend the service network to culture and tourism scenarios

The experience quality of “low-altitude + culture tourism” is closely related to the level of infrastructure construction. Localities should accelerate the layout and construction of supporting facilities such as general aviation airports, temporary takeoff and landing points, and flight camps in combination with urban master planning and tourism development. In particular, infrastructure should be extended to key cultural and tourism areas, core scenic spots, cultural ancient towns, and other tourist-dense regions. In addition, the construction of a flight shuttle service system should be strengthened. For example, the “air-ground linkage” tourism shuttle model should be promoted to connect the entire process of transportation from airports to scenic spots and hotels. At core takeoff and landing points, tourist service centers, immersive display spaces, and cultural consumption shops should be built to create a compound consumption space integrating flight, leisure, and shopping, extending the culture and tourism consumption chain. In terms of safety assurance, a unified low-altitude flight safety supervision platform should be established to integrate functions such as flight monitoring, emergency warning, meteorological services, and complaint handling. At the same time, the routine popularization of aviation insurance and flight liability insurance products should be promoted to provide risk - bottom - line protection for tourists and enterprises.

5.3 Enrich the supply system of culture and tourism products and promote the deep integration of cultural IPs and low-altitude flight

Low-altitude flight should not remain at the primary stage of “viewing the scenery from the air.” It is essential to deeply develop and creatively design around cultural connotations to enhance the content’s added value and emotional connection. First, local culture departments are encouraged to jointly explore local cultural resources with culture and tourism enterprises, focusing on intangible cultural heritage skills, historical figures, local legends, and ethnic customs to develop characteristic low-altitude theme routes. For example, “viewing the Great Wall from the air,” “flying over the Grand Canal,” and “red aviation tour” can meet tourists’ novel experiences while improving the efficiency of cultural dissemination. Second, technology-enabled product innovation should be promoted. AR/VR, digital twins, and immersive imaging technologies can be used to “move cultural scenes into the sky.” Functions such as multilingual audio guides, live-in-air interpretation, and mobile-end interactive interpretation should be provided simultaneously to achieve “cloud-based guidance” and “intelligent narration” during flights. In addition, a diversified range of products should be developed for different groups: for example, low-altitude study tours for families, night - time light - and - shadow flights, health-oriented flights for the elderly, and aerial love declarations for couples. This will achieve product diversity, segmented customer groups, and precise demand, enhancing tourists’ participation and repurchase rates.

5.4 Improve policy support and market mechanisms to create a sustainable industrial ecosystem

To promote the high-quality development of “low-altitude + culture tourism,” a systematic policy support and guidance mechanism should be introduced to create a favorable environment for enterprise innovation and market expansion. First, strengthen financial and financial support. Localities can set up “low-altitude culture tourism innovation

special funds” or “general aviation culture and tourism industry development funds” to focus on supporting infrastructure construction, product research and development, technological innovation, and safety assurance. Commercial banks and investment institutions are encouraged to provide low-interest loans and equity investment to high - quality low - altitude culture and tourism projects to alleviate initial funding pressure. Second, improve tax and land use policies. Eligible low-altitude culture and tourism enterprises should be given tax exemptions and reductions in business tax and land use tax. Support should be provided for temporary land use and a “green channel” for takeoff and landing point approval to provide enterprises with a stable development expectation. Third, encourage pilot projects and model replication. Several representative cities (with rich tourism resources and good airspace conditions) should be selected to carry out “low-altitude + culture tourism” innovation pilots to explore replicable policy mechanisms, operation models, and standard systems. This will promote cross-regional experience dissemination and accelerate the formation of industry standards and evaluation systems. Fourth, strengthen publicity and brand shaping. The government should work with mainstream media and new media platforms to create a series of communication IPs, such as “viewing China from the air,” to improve public awareness and acceptance of low-altitude culture and tourism. At the same time, organize urban “aerial culture festivals,” “flight carnivals,” and “low-altitude photography exhibitions” to create a good consumption atmosphere and expand the city’s cultural influence.

Conclusion

In summary, “low-altitude + culture tourism,” as a new model integrating the low-altitude economy with culture and tourism, is gradually becoming an important driving force for the transformation and upgrading of urban cultural consumption. By creating immersive experience scenarios, innovating cultural communication methods, and extending the culture and tourism industry chain, this model

effectively expands the urban consumption space and pathways for cultural content expression. However, it currently still faces practical problems such as inefficient airspace management, insufficient infrastructure, product homogenization, and imperfect policy mechanisms. To achieve high-quality and sustainable development, it is urgent to promote institutional reform, technological empowerment, and content innovation through multi-party collaboration, and to build a sound industrial ecosystem to assist in enhancing urban cultural soft power and optimizing the consumption structure.

Conflict of interest

The authors declare that they have no conflicts of interest in this work.

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