

Article

Research on Environmental Space and Scene Creation of Hainan City Market from the Perspective of Cultural Tourism Integration and Free Trade Port Dual Focus

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Abstract: The rapid development of the Hainan Free Trade Port has entered a critical stage, with cultural–tourism integration becoming a key engine for high-quality regional growth and industrial upgrading. Within this macro-policy framework, urban markets function as important micro-level platforms that connect tourists, local residents, and diverse cultural resources, and thus play a strategic role in shaping destination image and visitor experience. The environmental space and scene creation of city markets directly influence the depth of tourist engagement, the expression of local cultural identity, and the long-term sustainability of commercial vitality. Based on the dual perspective of free trade port construction and cultural–tourism integration, this study systematically examines the spatial organization, environmental atmosphere, and experiential design of Hainan’s urban markets. Using field investigations, typological comparison, and case analysis, it identifies existing problems in spatial layout, cultural display, and service functions, and summarizes successful patterns of scene innovation. On this basis, the paper proposes optimization paths that integrate cultural narrative, ecological design, and smart technology to build distinctive tourism-oriented market spaces. The research aims to provide theoretical support and practical strategies for enhancing Hainan’s urban markets as new tourism landmarks, thereby contributing to the construction of an international tourism and consumption hub with strong cultural appeal and resilient market competitiveness.

Keywords: hainan free trade port; cultural–tourism integration; urban market space; environmental design; scene creation; tourism experience; place-making

1. Policy Background and Practical Significance

1.1. Empowering Effects of Free Trade Port Opening Policies

The establishment of the Hainan Free Trade Port is fundamentally guided by principles such as "zero tariffs, low tax rates, and simplified taxation systems," which collectively inject substantial vitality into urban markets. The duty-free policy targeting departing tourists has proven to be a significant driver of consumer spending, fostering a dynamic retail environment [1]. Additionally, the "tourism + culture" policy framework mandates that markets evolve into platforms showcasing cultural heritage and experiences [2, 3]. For example, markets in proximity to Sanya Haitang Bay Duty-Free City have successfully merged shopping with cultural engagement through carefully coordinated strategies, leading to a notable increase in tourist dwell time by approximately 40%. The open and inclusive nature of the free trade port not only reduces commercial barriers but also facilitates the transformation of traditional trading venues into multifaceted cultural consumption hubs [4, 5]. These hubs serve as pivotal spaces where commerce and cultural tourism intersect, supported by institutional mechanisms designed to ensure seamless integration between economic activities and cultural enrichment. This strategic approach underscores the broader significance of aligning

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market development with cultural objectives, fostering sustainable growth and enhancing the overall appeal of the region as a global destination.

1.2. Deep-seated Demand for Cultural-Tourism Integration

The principle of integrating culture and tourism emphasizes the importance of mutual enhancement, where cultural elements enrich tourism experiences and tourism serves as a platform to showcase cultural heritage [6]. As a region designated for pioneering cultural-tourism integration, Hainan faces an urgent need to embed the unique traditions of indigenous groups, such as the Li and Miao, into its market offerings. However, many markets in Hainan are still characterized by a simplistic focus on commodity accumulation, where cultural symbols are applied in a rigid and superficial manner. This results in tourist experiences that lack depth and engagement. For example, certain stalls in Haikou's arcade-style old streets merely display Li brocade patterns without incorporating interactive features or storytelling that could bring these cultural elements to life [7]. To achieve true integration, markets must evolve into dynamic spaces that function as "micro-scenarios" for preserving and celebrating cultural heritage [8]. These spaces should offer immersive and participatory experiences, transforming static displays into vibrant cultural narratives. Such an approach aligns with Hainan's strategic positioning as an "International Tourism Consumption Center" under the Free Trade Port framework, while also addressing the growing demand among tourists for meaningful and engaging cultural interactions.

1.3. Synergistic Value of Dual Perspectives

The free trade port policy prioritizes fostering economic openness, while the integration of cultural and tourism elements emphasizes the empowerment of cultural identity. These two strategic approaches work in tandem to create a mutually reinforcing dynamic within urban markets. By implementing open policies, free trade ports attract a diverse array of international visitors, thereby boosting global connectivity. Simultaneously, the integration of cultural and tourism initiatives enhances the intrinsic appeal of local traditions and heritage, creating a unique and memorable experience for visitors. This synergy not only mitigates the risk of homogenized competition among markets but also establishes distinctive market identities. For example, the Sanya Night Market exemplifies this dual strategy by blending duty-free shopping opportunities with vibrant performances showcasing the traditions of the Li ethnic group. This approach effectively caters to the needs of duty-free shoppers while simultaneously promoting cultural appreciation and awareness. Through this lens, markets transcend their conventional roles as commercial centers and evolve into platforms that project the free trade port's cultural and economic influence, playing a pivotal role in enhancing Hainan's global reputation and strategic positioning [9].

2. Current Status and Core Issues of Urban Markets in Hainan

2.1. Current Distribution and Functional Characteristics

Hainan's urban markets are predominantly situated in areas that attract significant tourist activity, such as Haikou's Qilou Old Street, Sanya Bay in Sanya, and Boao in Qionghai. The Haikou Qilou Old Street market, characterized by its historical architectural setting, offers a diverse range of handicrafts and local culinary specialties, creating a unique cultural atmosphere. Sanya Bay markets emphasize seafood dining and vibrant nightlife, catering to both domestic and international visitors seeking leisure and entertainment. Meanwhile, Boao in Qionghai capitalizes on its association with the Boao Forum for Asia to foster the development of upscale cultural and creative markets, which appeal to a more refined demographic. These markets collectively serve as multifunctional hubs, integrating shopping, dining, and cultural engagement to enhance the overall visitor experience. Despite their appeal, a significant disparity in market distribution remains evident. Haikou and Sanya exhibit a high concentration of markets,

accounting for over 70% of the region's coverage, while areas such as Qionghai and Danzhou face a notable scarcity of such facilities. This uneven distribution results in a concentration of tourist activities in well-developed areas, leaving other regions underutilized and limiting the potential for broader economic and cultural development across the island.

2.2. Systematic Analysis of Existing Issues

Urban markets in Hainan face several interconnected challenges that hinder their development and appeal. One prominent issue is spatial disorder, where stalls are arranged in a disorganized manner, creating narrow pathways that struggle to accommodate peak-hour foot traffic. This congestion significantly reduces the efficiency of visitor movement, particularly in areas like Haikou's arcade-style old street, where the limited width of pathways exacerbates the problem. Another critical challenge lies in the superficial cultural offerings of these markets. A majority of them rely heavily on traditional symbols, such as decorative patterns, without providing meaningful or immersive cultural experiences. This approach often leaves visitors with a sense of superficiality, as the cultural elements appear more ornamental than substantive [3]. Furthermore, the experiential aspect of these markets is notably lacking. The absence of interactive and engaging designs results in short visitor stays and discourages repeat visits, undermining the potential for sustained tourism growth. At a broader level, these issues stem from an inability to effectively align the advantages of the free trade port policies with the evolving demands of cultural tourism. This misalignment has led to a stagnation in innovation, preventing these markets from transforming into dynamic hubs of creativity and economic activity. Addressing these challenges requires a comprehensive strategy that integrates spatial planning, cultural enrichment, and experiential innovation.

2.3. Multidimensional Perspective on Problem Causes

The challenges faced by the market arise from a combination of interconnected factors. Firstly, insufficient planning results in fragmented and inconsistent standards for market development [5]. Commercial entities often prioritize their own initiatives without adequately accounting for visitor flow dynamics or the underlying cultural framework, leading to disjointed outcomes. Secondly, cultural development efforts tend to remain superficial, relying heavily on symbolic replication rather than delving into the deeper contemporary significance of local resources, such as the rich traditions of Li and Miao cultures or the maritime heritage that could serve as unique differentiators. Thirdly, operational inefficiencies further exacerbate the situation, with a disproportionate focus on attracting investments rather than enhancing the visitor experience [7]. For instance, essential service facilities, including rest areas and guided tour systems, are insufficiently developed, covering less than half of the market's needs. These combined shortcomings hinder the market's ability to evolve into a central hub for cultural and tourism integration within the free trade port. Instead, it inadvertently becomes a limiting factor, constraining the overall quality of tourist experiences and undermining its potential as a transformative cultural destination [1].

3. Core Strategies for Environmental Space Creation

3.1. Scientific Restructuring of Spatial Layout

Market spaces must prioritize visitor experience by optimizing the flow of movement within the area. A highly effective approach is the implementation of a "themed zones and flexible pathways" model. This involves designing a central cultural interaction plaza, which could host activities such as traditional performances, surrounded by distinct functional zones. These zones can be organized into circular sections dedicated to food, handicrafts, and souvenirs. Pathways connecting these zones should be designed with a minimum width of 2.5 meters to ensure smooth pedestrian movement and accessibility.

For example, the renovation of a market space demonstrated that removing unnecessary stalls and introducing circular walkways significantly enhanced the overall visitor experience, doubling the average dwell time. Advanced spatial design techniques, such as digital simulations, should be employed to predict and manage peak traffic conditions. Heat maps can be utilized to identify areas of congestion, enabling adjustments that ensure both safety and comfort for visitors. Furthermore, incorporating the concept of "micro-green spaces" by strategically placing small plant landscapes along pathways can improve the environmental quality of the market. These green installations not only contribute to aesthetic appeal but also help mitigate the effects of heat, creating a more pleasant and sustainable environment for all visitors.

3.2. Organic Integration of Cultural Elements

Cultural development should transition from a passive approach of mere "exhibition" to a more dynamic model of active "engagement." Rather than simply showcasing static patterns, traditional Li ethnic weaving motifs and boat-shaped dwellings should be reimaged as immersive and interactive experiences. For example, a market entrance in Haikou has been creatively designed as a "Li Totem Gateway," where visitors can engage with cultural narratives through digital platforms such as QR codes [6]. Market stalls further enhance this experience by offering eco-friendly bags crafted using traditional Li weaving techniques, with artisans performing live demonstrations to highlight their craftsmanship. To preserve and promote "living culture," structured daily workshops, such as scheduled sessions from 3:00 to 4:00 PM, provide opportunities for visitors to actively participate in activities like coconut carving under the guidance of cultural heritage practitioners. Additionally, cultural integration should reflect the openness and inclusivity of the free trade port by incorporating elements from neighboring Southeast Asian cultures. For instance, the inclusion of Thai hand drums and Vietnamese textiles can enrich the cultural landscape, fostering a global perspective while ensuring that the region avoids cultural insularity. This approach not only preserves traditional practices but also positions them within a broader, interconnected cultural framework [1].

3.3. Practical Pathways for Ecological Sustainability

Free Trade Port initiatives emphasize the integration of green and low-carbon development strategies, ensuring that ecological principles are embedded within market frameworks. A key focus is placed on the adoption of sustainable materials, such as recyclable bamboo and wood, to replace conventional plastic-based options [9]. This shift not only reduces environmental impact but also promotes a circular economy. Additionally, advanced waste management systems are implemented, including smart sorting stations equipped with wet waste processing technologies like food waste shredders, enabling efficient on-site waste reduction [9]. Operational strategies further prioritize local sourcing, exemplified by seafood markets where a significant proportion of products are procured from nearby fishing ports. This approach shortens supply chains, thereby reducing associated carbon emissions. An exemplary initiative includes the installation of solar-powered lighting systems and rainwater harvesting mechanisms in certain markets, which have collectively achieved substantial energy savings of approximately 30% annually. These measures serve as a benchmark for sustainable practices, aligning seamlessly with the overarching goals of Free Trade Port policies. Furthermore, such environmentally conscious efforts enhance the overall experience for visitors, cultivating a perception of responsible and "green consumption" that resonates with modern consumer values and expectations.

4. Innovative Practice Pathways for Scenario Creation

4.1. *Digital Technology Enriches Scenario Experiences*

Digital technology acts as a pivotal force in advancing and enriching scenario-based experiences. Through the development of specialized application platforms tailored for cultural markets, features such as augmented reality navigation allow visitors to interact with their surroundings in innovative ways. For example, by scanning market stalls, users can access immersive content that delves into cultural narratives, such as the symbolic importance of traditional textiles, or gain insights into the origins and production processes of local goods, such as agricultural practices unique to specific regions [5]. Additionally, the integration of big data analytics plays a transformative role in understanding visitor preferences and behaviors. This enables the dynamic customization of scenarios, such as recommending cultural activities during less crowded periods, thereby optimizing visitor flow and enhancing overall satisfaction [5]. A notable example includes the strategic use of app-based reservation systems to promote themed events, which has been shown to significantly increase attendance and engagement during evening hours. By leveraging these digital tools, static environments are transformed into vibrant, interactive spaces that foster deeper connections and personalized experiences for visitors. This approach not only enhances cultural appreciation but also drives sustainable growth in tourism and related industries.

4.2. *In-depth Design of Interactive Scenarios*

The creation of immersive scenes is centered on transforming visitors from passive observers into active participants, fostering deeper engagement and memorable experiences. Designing immersive experience zones involves crafting unique spaces that encourage hands-on activities, such as culinary workshops where tourists can prepare local dishes like coconut chicken broth, or cultural areas where visitors can engage in traditional crafts, such as Li ethnic pattern rubbing, which allows them to create personalized souvenirs. To enhance accessibility, participation barriers are minimized through streamlined processes, such as enabling craft completion within a short timeframe, ensuring inclusivity for individuals with varying skill levels. Additionally, integrating social sharing features, such as generating personalized digital posters post-activity, amplifies the appeal and encourages broader dissemination of the experience [2]. For instance, interactive installations like marine-themed augmented reality walls enable visitors to draw virtual marine creatures, fostering creativity and attracting significant daily engagement. These experiences should reflect the openness and international appeal of the free trade port, incorporating multilingual guides and culturally inclusive designs to cater to a diverse global audience. By prioritizing interactivity, accessibility, and cultural integration, these scenarios not only enhance visitor satisfaction but also contribute to the broader goal of promoting cultural exchange and tourism development.

4.3. *Routine Operation of Festival Activities*

To address the challenges associated with the transient nature of festival events, efforts have been made to institutionalize themed markets, ensuring their continuity and relevance. Traditional celebrations, such as those observed by the Li ethnic group, have been reimagined into recurring cultural initiatives. For example, the "Li and Miao Culture Week" is now hosted on the first weekend of each month, blending traditional elements with contemporary features, such as modern music performances inspired by Li ethnic traditions. To sustain public interest, daily operations include dynamic cultural activities, such as weekly dance flash mobs showcasing Li ethnic heritage. These events are designed to create a sense of novelty and engagement. Furthermore, strategic collaborations with travel agencies have introduced comprehensive "market experience packages," which combine cultural activities with accommodations to encourage repeat visits. For instance, a market in Sanya successfully increased visitor retention rates by adopting seasonal themes that align with cultural and environmental motifs, such as Li brocade in spring,

ocean-inspired activities in summer, rice farming in autumn, and festive celebrations in winter [7, 8]. By regularizing operations and diversifying offerings, these initiatives extend the lifecycle of cultural markets, fostering sustainable tourism consumption while preserving and promoting cultural heritage in innovative ways.

5. Practical Insights and Recommendations

This study highlights that optimizing urban markets in Hainan necessitates a strategic focus on leveraging free trade port policies while positioning cultural-tourism integration as a central mechanism for achieving dual advancements in spatial design and experiential scenarios [1]. A critical takeaway is that spatial planning should prioritize a "people-centered" methodology to prevent the pitfalls of excessive commercialization, ensuring that urban spaces remain inclusive and functional for diverse populations [6]. Additionally, cultural development must prioritize "adaptive utilization," which emphasizes the practical and meaningful integration of cultural elements into modern contexts, rather than merely accumulating symbolic or superficial representations. Furthermore, scenario innovation should harness advanced technological tools to foster dynamic and immersive interactive experiences, thereby enhancing user engagement and satisfaction. Future strategies should be directed toward three pivotal dimensions, ensuring a balanced and sustainable approach to urban development that aligns with broader economic and social objectives [2].

6. Conclusion

Building on the free trade port opening-up policies and the strategy for cultural-tourism integration, this study systematically explores optimization pathways for environmental space and scene creation in Hainan's urban markets. The findings underscore that market upgrading requires a holistic approach that integrates spatial design, cultural elements, and technological applications, rather than relying on isolated functional enhancements. Spatial planning must prioritize visitor flow patterns to achieve seamless functional zoning and ecological harmony, ensuring that spaces are both efficient and inviting. Cultural integration should focus on preserving living heritage, emphasizing authenticity over superficial symbolism to create meaningful connections with visitors. Scene creation, on the other hand, necessitates leveraging digital technologies to craft immersive and interactive experiences that captivate audiences. Practical validation reveals that transforming markets from mere consumption hubs into culturally resonant spaces significantly enhances tourist dwell time, repeat visit intentions, and cultural identification. This evolution aligns with the strategic goal of positioning the free trade port as an "International Tourism Consumption Center," demonstrating the potential for markets to serve as dynamic platforms for cultural and economic exchange.

The interplay between economic vitality and cultural depth highlights the dual importance of open policies and cultural-tourism integration in shaping the future of Hainan's urban markets. These two dimensions are mutually reinforcing, creating a foundation for sustainable development. Moving forward, the success of these markets will depend on advancing three critical dimensions: precise and adaptive government policy guidance, innovative practices by operational entities, and the preservation of authentic community cultural heritage. By transforming policy advantages into spaces that resonate emotionally, cultural resources into experiences that engage deeply, and technological advancements into tools for participatory enjoyment, markets can evolve into vital components of cultural-tourism integration. These spaces will not only drive tourism consumption but also serve as platforms for storytelling, showcasing the unique identity and charm of Hainan. As these markets rejuvenate through openness and cultural integration, they will contribute to the global tourism landscape by offering a distinctive model for destination development. This transformation will enhance Hainan's international image, positioning it as a leader in sustainable and culturally enriched tourism, while also reinforcing its role as a hub for meaningful global exchange.

References

1. C. Xiu and T. Li, "Construction of the Hainan Free Trade Port from the perspective of regional cultural development," *Frontiers in Earth Science*, vol. 10, p. 1032953, 2023.
2. Q. Dang, Z. Luo, C. Ouyang, L. Wang, and M. Xie, "Intangible cultural heritage in China: A visual analysis of research hotspots, frontiers, and trends using CiteSpace," *Sustainability*, vol. 13, no. 17, p. 9865, 2021.
3. M. Fu, X. Que, and L. Feng, "Innovative development of regional cultural tourism projects in Hainan," *culture*, vol. 3, no. 11, pp. 34-40, 2021.
4. J. Shen and R. J. Chou, "Rural revitalization of Xiamei: The development experiences of integrating tea tourism with ancient village preservation," *Journal of Rural Studies*, vol. 90, pp. 42-52, 2022.
5. J. Du, "Research on the Training Mode of New Tourism Talents under the Background of Hainan Free Trade Port," *Educational Innovation Research*, vol. 3, no. 2, pp. 56-62, 2025.
6. X. Cao, "Research on Tourism Agglomeration and Development in Hainan under the Background of Free Trade Port," *Academic Journal of Business & Management*, vol. 5, no. 22, pp. 190-194, 2023.
7. W. Liu and X. Fang, "Study on the high-quality development of the Hainan Free Trade Port," in *Studies on China's Special Economic Zones*, vol. 6. Singapore: Springer Nature Singapore, 2024, pp. 161–171.
8. K. Zhang, J. Zhu, H. Wang, and W. Zhang, "Research on tourism destination development and countermeasures of Hainan island without residents against the background of free trade zone construction—Taking Jiaping Island as an example," in *Proc. 2020 Int. Conf. Social Science, Economics and Education Research (SSEER)*, 2020, pp. 216–223.
9. R. Zhang, "Changing beach destination image schemas through storytelling: A study of Hainan Island, China," 2018.

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